

Imperial College
London

staying connected

*ISSUE 25 WINTER 2004_ IN YOUR SILVER JUBILEE ISSUE_
THE MAN BEHIND PSION_ TIM BRENNAN WALKS TALL_
IMPERIAL COLLEGE ASSOCIATION WEEKEND 2005_ PLUS NEWS
AND VIEWS FROM ALUMNI GROUPS AROUND THE WORLD*

IMPERIALmatters

Alumni magazine of Imperial College London including the former Charing Cross and Westminster Medical School, Royal Postgraduate Medical School, St Mary's Hospital Medical School and Wye College.

in this issue ...



REGULAR FEATURES

- 1 editorial by Sir Richard Sykes
- 2 letters

NEWS

- 4 news from Imperial
- 7 business news
- 8 faculty news
- 10 OAD news

FEATURES

- 12 **Psion's Huckleberry Finn**_a profile of David Potter
- 14 **the water feature**_the latest water-related projects at Imperial
- 18 **walking tall with Tim Brennan**_an alumnus shares his inventive footwear
- 19 **wisdom of age**_a new multidisciplinary Centre for ageing disorders
- 20 **run don't walk**_redevelopments at the Sports Centre

ASSOCIATION

- 22 group news
- 25 international news
- 26 alumni focus
- 29 books
- 30 obituaries
- 33 honours

IMPERIALmatters

DESIGNED AND PRODUCED BY IMPERIAL COLLEGE COMMUNICATIONS FOR THE OFFICE OF ALUMNI AND DEVELOPMENT

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DISTRIBUTION MERCURY INTERNATIONAL

building the connection IS COMPILED BY THE OFFICE OF ALUMNI AND DEVELOPMENT

IMPERIAL MATTERS IS PUBLISHED TWICE A YEAR. THE NEXT ISSUE WILL BE PUBLISHED IN JULY 2005 AND THE COPY DEADLINE FOR THIS ISSUE IS FRIDAY 13 MAY 2005

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editorial



DEAR ALUMNUS

Welcome to the 25th issue of *Imperial Matters*, the magazine set up in 1990 in response to alumni requests.

Looking through the back issues, it is interesting to reflect on the differences at Imperial between then and now, mainly in the increase in our size and scope of activities. However, it is also interesting to look at the similarities. In the first issue, for instance, we were looking at how the College could strengthen its financial position by charging full cost for work carried out for external bodies, and how we could manage our assets as efficiently as possible. This is even more relevant today than it was back then.

We also marked the Reactor's 25th birthday. In this issue, you are invited to take part in the 40th anniversary in 2005.

In issue 17 we were looking forward to hosting the British Association Festival of Science and celebrating our spin-out activity. In this issue you will find the latest business success stories on page 7.

We have always featured stories about our outstanding alumni. This issue is no exception. Read about Tim Brennan on page 18, who has combined engineering, design and the arts to great effect. On pages 12 and 13, we profile David Potter, founder of Psion, distinguished alumnus and donor to the College.

We greatly value the help you give us, whether it is for funding new research facilities, as David has done, or by contributing to the Student Opportunities Fund. I know, as a personal donor, how this money really makes a difference to the beneficiaries. We have enclosed a form for you to make your own contribution. If we are

to maintain our commitment to enable entry to Imperial for talented students, regardless of ability to pay, this money is critically important. Please take a moment to read *building the connection*, our donor relations newsletter, included with *Imperial Matters* to see what I mean.

In this issue, we have responded to your comments in the readership survey (read the results on page 11) by including a themed research feature. The chosen topic is water. Do look at pages 14-17 to see the latest work at Imperial.

Keep up to date with your alumni groups – they are active and play a key role in the life of Imperial. Read about the latest developments at the Sports Centre (pages 20-21) and how you can benefit when we open our splendid new facility next autumn.

This year has been extremely eventful for all who work here at Imperial. Many have achieved great things and we are proud of all of them. Change has been a constant theme in the way we do things, and at times these changes have been challenging. However, I believe we are now set on a clear course to achieve excellence in teaching, research and administration over the years to come and we have a lot to look forward to.

A very Happy New Year to you and your family.

letters

letters

Imperial Matters welcomes letters for publication, by post or by email. We reserve the right to edit them for length. Unless you specify otherwise, letters may also appear on the Imperial College alumni website as part of the online edition of *Imperial Matters*.

Future of Wye campus

Recent press items have indicated the forthcoming closure of the Department of Agricultural Sciences at Wye Campus. Sad as this news is to those of us who had the privilege of studying there; it is also hard to understand.

Issue 24 of *Imperial Matters* tells of £350 million which is to be spent on new facilities and refurbishments in London and elsewhere. It also mentioned the pressing need for agricultural investment to alleviate the sub-Saharan Africa crisis. Wye College and its alumni have played key roles in agricultural development at home and abroad for over 100 years. In these circumstances would it not be justifiable to devote some of the money to continue and sustain the work that Wye has proved itself so capable of?

JOHN JENKIN (Agricultural Sciences 1949)

Turn to page 22 to read a report from the Agricola Club.

The view from the tower

I was very interested to read the account of a student going up the Queen's Tower (*A tall tale, issue 24*) as I myself went up it several times in 1920. Ilford Ltd was then making a new emulsion with sensitivity to infrared to be used over a camera lens when photographing through mist and fog, possibly for military purposes. As a keen photographer since the age of eight, I wanted to try it out on the polluted air over London.

Having attained the necessary permission, I climbed the tower with my equipment. I aimed my camera in the direction St Paul's and the Tower of London (the former being visible on a good day).



Unfortunately, the results were rather disappointing; showing little, if any, improvement over normal negatives although I did have quite an interesting view over London. Amidst my belongings I also own some rather amusing photos of Profs and Deans in their lighter, unguarded moments, which are always good for a smile!

WILLIAM F H RAWLES (Botany 1935)



The article by John Hone in the last issue of *Imperial Matters*, recounting his experiences up the Queen's Tower, reminded me of my days in College in the mid 1960s. This was after the Imperial Institute had been demolished, but before restoration of the Tower.

A favourite occupation of some of my friends and I, after a Saturday evening in Southside Bar (not, alas, then an award-winning real ale mecca!), was to climb the Tower and see London by night. Access was via the service tunnels, which carried (and presumably still do) the heating pipes to all the College buildings. A small door in Southside afforded entrance to the tunnels and one came out into the base of the Tower. Apart from a rickety wooden ladder and having to squeeze through a half-open door, probably not the one John Hone describes, ascent of the Tower was quite straightforward and the view was stunning.

I have climbed the Tower legally in recent years, but it really doesn't compare with our nocturnal, semi-inebriated trips of 40 years ago!

DR DAVID COOPER (Physics 1967; PhD Chemical Engineering 1970)



Working life at Hursley

I was intrigued by the article (*A breeding ground for innovation, issue 24*) as there was a much earlier breeding ground for innovation at Hursley.

As a graduate of 1950, I joined the aerodynamics section of the design team at Vickers Armstrongs Supermarine at Hursley under the Chief Designer, Joe Smith. I was concerned with the aerodynamics of the Swift and Scimitar jet fighters and the ill fated TSR2. In all I spent seven very enjoyable years at the then leading edge of aerodynamics and control and jet propulsion technologies. I don't recall any other Imperial College alumni at Vickers and, soon after I had moved on, the company left the Hursley site completely.

RON ANTHONY (Aeronautics 1950)



Waltzing with the King

Your reference to the royal visit on 24 June (*Rector's editorial, issue 24*) – a rare honour indeed – reminded me of a long ago visit in

which I unwittingly played a tiny but, to me, unforgettable part.

In November 1945, having just started my course, King George VI and Queen Elizabeth visited Imperial College's Centenary Ball in the Albert Hall. At that stage of my life my knowledge of ballroom dancing was on a par with that of mining geology but such an opportunity was not to be missed and my cousin offered to provide a crash course in waltz and quickstep on the condition that I took her as my partner.

By pure chance we found ourselves dancing on a sparsely populated promenade arena when the King and Queen appeared in the stalls immediately above us. I retain the vivid image of a smiling King then turning to the Queen, proffering his hand in an invitation to dance and how they began to dance, with not a single security person in attendance, in a close proximity to a few couples – including ourselves.

Many people sitting in the stalls noticed what was happening and a surge of dancers entered from all access points, inevitably pushing us towards the royal couple. As a result, I experienced what was clearly a royal elbow in the small of my back whilst, almost simultaneously, members of the royal entourage, having spotted the danger, ushered the couple back up the stairs to an accompaniment of much applause and cheering. A rare honour indeed!

MANFRED KOSTEN (Mining Geology 1949)

Institute for Mathematical Sciences

Journalists tend to get more brickbats than bouquets, so I want to send you one of the latter and say how much I enjoyed *Imperial Matters* and look forward to the next edition.

Regarding your article about the new Institute for Mathematical Sciences (*Maths comes home to tackle global problems*), my recollection is that Prince's Gardens was occupied by statistics rather than pure mathematics. The building was taken over by the College at the instigation of Professor Barnard (Imperial's first Professor of Statistics).

Pure mathematics, along with the rest of the department, was situated in the old Huxley Building, rented from the Victoria and Albert Museum. The department was reunited when we moved to the present, and new, Huxley Building circa 1975 which was opened by Sir Andrew Huxley, president of the Royal Society 1980-1985.

PROFESSOR WALTER HAYMAN FRs (Senior Research Fellow, Department of Mathematics)



Imperial College knowledge

As an Imperial College alumnus in my 70th year, I have to wonder where all the other elderly Association members are as we never seem to appear within the pages of the magazine.

How can we 'Stay Connected' if we are not mentioned? True, we build no more bridges and make no great discoveries, but there is life after retirement! Take myself – I escaped early and bought a remote valley in Cornwall. Take a look at www.cornishbooks.com and see what your Imperial College knowledge can do for your retirement!

GORDON CHANNER (DIC Civil Engineering 1964)

We would love to hear from our more mature alumni. Everyone has a story to tell – let us know yours... ed.



Reviving old memories

Glancing through the magazine, the photo with Bill Gardner's obituary on page 30 (*Obituaries, issue 24*) seemed instantly familiar. Surely I had taken this? And checking back to an old file of negatives, I see it is one of many I took 50 years ago around the College, in this case at a Royal College of Science Carnival called 'Nightmare' on 13 February 1953.

As an illustrator of obituaries, it is clear that I have now achieved the pinnacle of my Imperial College career!

PETER WARD (Electrical Engineering 1953)

Please send your letters to:
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or by email to matters@imperial.ac.uk

Ferrari F1 team – Imperial graduates



The power behind Ferrari cheered their team to victory in the 2004 F1 Constructors Championship in Hungary. The Ferrari F1 team, consisting of Imperial graduates from the Department of Aeronautics, are pictured at the celebration party at the Maranello HQ in Italy.

Left to right: **Tony Heenan, Rhodri Moseley, Alex Cinelli, Barney Garrod and Guiseppi Pesce.**

Imperial – up there with the best in the world

The latest league table has confirmed Imperial's position as a world leader. The College is among eight UK universities included in a list of the world's 50 best universities, published by *The Times Higher Education Supplement*.

The table places Imperial 1st in Europe and 5th in the world for engineering and IT; 3rd in Europe and 10th in the world for science; and 5th in Europe and 14th in the world overall. This is in front of two other University of London institutions, University College London at 34 and the School of Oriental and African Studies at 44. In addition, the *Financial Times'* Executive MBA ranking has placed Tanaka Business School at number 10 in the world, second only in the UK to the London Business School.

Rector, Sir Richard Sykes, commented: "It sends a strong message to people here, and to people who want to come here, that we are one of the top universities in the world. It shows our branding is working and we are being recognised. We're sandwiched between Chicago and Texas so they certainly know we exist! The placing of Tanaka Business School is also very good – we've moved quite significantly in a short space of time."

Universities were placed in the table with the help of findings from a survey of 1,300 academics in 88 countries. They were asked to name the best institutions in the fields about which they felt knowledgeable.

The table also included data on the amount of cited research produced by faculty members as an indicator of intellectual vitality, the ratio of faculty to student numbers and the university's success in attracting foreign students and internationally renowned academics in the global market for education.

Spotlight on R&D

University researchers and engineers from industry met last month to discuss R&D problems and technological solutions in the power and automation field.

The ABB day at Imperial brought together over 50 staff from both university and ABB, the leading power and automation technologies company. They examined joint approaches for developing optimal power infrastructure, reliable power grids, and optimal manufacturing and customer processes.

The research themes included Automatic Model Generation, Flexible AC transmission systems (FACTS) controllers, plant wide diagnostics and disturbance analysis, and work on a turbocharger design for unsteady state systems.

The departments working closely with ABB are all within Imperial's Faculty of Engineering.

Dr Julia King, Principal of the Faculty of Engineering said: "Working with industry is integral to Imperial's mission and has been a part of our heritage since our foundation. Our ABB day gives us a chance to talk and hear about results from our collaborations so far, and to map out exciting future research directions."

Dr Markus Bayegan, Chief Technology Officer of ABB said: "Cutting-edge technology gives our core businesses in power and automation a distinct advantage over our competition. A central task of ABB's R&D team is to transform university research into industry-ready technology



platforms. This concept, honed in recent years, comes to life in more than 50 university partnerships in the US, Europe and Asia. Long-term, strategic relationships with Massachusetts Institute of Technology, Carnegie Mellon

>> NEWS IN BRIEF >>

Honorary citizenship

Sir Richard Sykes, Rector, has been made an honorary citizen of Singapore in recognition of his contribution to the development of the country's biomedical sciences industry.

The award, presented in Singapore, represents the highest recognition by the Singaporean government for outstanding contributions towards the growth and development of Singapore.

"I am delighted to become an honorary citizen of a country that is fast becoming a world centre for biomedical sciences," said Sir

Richard. "Singapore is entering a very exciting phase of its development and I'm thrilled and honoured to be part of that journey."

New Chairman of the Court and Council

Lord Kerr of Kinlochard is the new Chairman of the Court and Council of Imperial College. He was the UK's Permanent Representative to the European Union from 1990-95 and then Ambassador to the United States. From 1997-2002 he was Permanent Under-Secretary of State at the Foreign and Commonwealth Office and head of the diplomatic service.

He succeeds Lord Vincent of Coleshill, Chairman from 1996-2004, and takes over the role this month (January 2005).

RAE appointments

Professor Sir Leszek Borysiewicz, Deputy Rector, and Professor Dame Julia Higgins, Professor of Polymer Science, Department of Chemical Engineering, have been appointed to chair the main panels for the next Research Assessment Exercise, due to take place in 2008.

Professor Borysiewicz will cover the sub-panel for cardiovascular medicine, cancer studies, infection

and immunology, other hospital-based clinical subjects and other laboratory-based clinical subjects.

Professor Higgins will cover the sub-panel for earth systems and environmental sciences, chemistry and physics.

Appointment Gordon Conway, former president of the Rockefeller Foundation who has been appointed to a part-time position as Professor of International Development at Imperial, has been appointed the first chief scientific advisor to the UK's Department for International

University, Stanford University, Cambridge University and now Imperial College underline the importance of this approach.”

Dr Bayegan delivered the day’s keynote lecture in which he highlighted examples of ABB’s cutting edge technology, outlined guidelines for open innovation between industry and universities, explained the forces that drive R&D at ABB and detailed current research programmes.

CERN: 50 and counting



AS CERN, the European Laboratory for Particle Physics, celebrated its 50th anniversary, Jim Virdee of the Department of Physics, who works both at CERN and at Imperial, stands by a model of CERN’s next generation particle accelerator, the Large Hadron Collider, which will use a 27-kilometre-long tunnel, through which particles travel at high speed before crashing together.

Its aim is to recreate the conditions that occurred a fraction of a second after the Big Bang. Jim explained how preparations for the detector he is working on, the Compact Muon Solenoid or CMS, are advancing towards the anticipated first proton-proton collisions in the second half of 2007.

“There are still many challenges to overcome, mainly stemming from industrial companies trying to meet schedules for mass production of components, along with the stringent quality requirements on these components. Despite the enormous complexity of the LHC machine and its detectors, there is every confidence that the data from CMS and its sister experiment, ATLAS, will change the face of particle physics for good.”

Signing unites Imperial and Thai government

A Memorandum of Understanding between the Thai government and Imperial College has established a new PhD scholarship programme for the Institute of Biomedical Engineering.

Professor David Ewins, Pro Rector, International Relations, thanked Dr Vikrom Koopirochana, Thai ambassador to the UK, for his help in arranging a programme for up to five PhD scholarships per year for five years, which will enable the best Thai students to carry out



research in biomedical engineering.

Mr Sima Simananta, Secretary General of the Office of the Civil Service Commission, Prime Minister’s Bureau, signed the Memorandum on behalf of the government of Thailand.

Professor Chris Toumazou, Director of the Institute of Biomedical Engineering, said: “These prestigious scholarships will be known as the Imperial-Royal Thai scholarships in biomedical engineering, marking the first of their kind in Thailand.

“The Institute and the Department of Bioengineering will ensure that the scholarships help to bring together interdisciplinary programmes of biomedical engineering between all Imperial faculties.”

Promoting nanotechnology

Collaboration to promote bio-nanotechnology projects has been announced by Imperial and Advance Nanotech, a US-based company which has provided £3.4 million for the Institute of Biomedical Engineering.

Professor Chris Toumazou said: “We are very excited that Advance Nanotech, which acquires and commercialises nanotechnology applications worldwide, has chosen to partner us.”

“Given Imperial’s excellence in medicine and technology, we are ideally positioned to push forward the barriers of this new field of science. This collaboration will enable us to focus on combining nanotechnology with other powerful technologies such as tissue engineering, and make breakthroughs of great social and commercial significance.”

Magnus Gittins, chief executive officer of Advance Nanotech, added: “Our collaboration with Imperial is the first step in creating new product lines that will make a real difference to people’s lives. Working in partnership with the Institute, we are pleased to provide resources to bridge the gap between first class innovation and marketable solutions to serious medical conditions.”

Sir Richard Sykes, Rector, summed up: “The Institute of Biomedical Engineering brings together the best engineers, biologists and clinicians to work towards improving human health. This injection of funding from Advance Nanotech is hugely important and will enable the Institute to develop technologies to revolutionise healthcare in the future.”

In the next phase of the collaboration, Advance Nanotech plans to partner the Institute and leading research organisations in the USA and Singapore in a series of collaborative projects.

>> NEWS IN BRIEF >>

Development (DFID).

The agricultural ecologist has spent most of his career working on development issues. His role at DFID will be to identify areas where science and technology can be applied to poverty reduction and improvements in health, food security, and other aspects of the UN Millennium Development Goals.

Guardian book prize for study of human mutations_Dr Armand Leroy, Reader in Evolutionary Developmental Biology at Imperial, won the £10,000 Guardian First Book award.

Mutants: on the form, varieties and errors of the human body, was mentioned in the last issue of *Imperial Matters*.

“The book has appeal because it is about something that is ubiquitous and yet hidden, and then reveals its meaning,” he said. “I’m delighted to receive the prize as it’s a literary prize, and the first time that a science book has won it.”

World tiddlywinks champion_Andy Purvis, Biological Sciences, Silwood Park, won the world title in singles tiddlywinks.

The Imperial College lecturer went head to head against American Larry Khan who was defending his world title. Andy won by 30 and a third to 11 and two thirds after becoming hooked on the game almost 20 years ago as a student at the University of Cambridge.

A spider called Sarah_Sarah Zylingski, a gap year student from Imperial, has had a white spider named after her. She discovered the new genus while cave diving for cockroaches in the Australian bush.

After trapping it in an air pocket near an underground lake, she sent

the spider for analysis and was told she had found a new species which she could name.

Virtual learning in patient safety drive_Health Minister, John Hutton MP, opened the £500,000 virtual learning multidisciplinary Clinical Skills Centre at St Mary’s Hospital. It offers a range of undergraduate and postgraduate training programmes including hands-on virtual reality simulators where clinicians practise surgical and endoscopic techniques.

The Centre’s staff have also pioneered scenario-based learning

IDEA League

Happy fifth birthday

ON 6 OCTOBER 2004 THE IDEA LEAGUE CELEBRATED ITS fifth anniversary.

Five years on, the first recipients of the IDEA League scholarship programme have begun their studies. This scholarship, launched at the end of 2003, gives newly graduated students studying at one IDEA League university the opportunity to study for a master's degree at one of the other partners.

The scholarships are awarded to students who have completed a three-year bachelor's degree (or bachelor level equivalence) at one of the IDEA League universities – Imperial College London; TU Delft, the Netherlands; ETH Zürich, Switzerland, and RWTH Aachen, Germany.

In line with the Bologna Declaration project, the IDEA League partners share common goals over proposed changes in science and technology degree courses. The new scholarships are a practical demonstration of these common aims.

Establishing and implementing a set of common educational quality management principles was fundamental to setting up the scheme. One important aspect was to describe and assure the aims and objectives of the study programmes. From these, a desired academic profile for graduates was jointly defined. Based on these competence profiles, the IDEA League partners signed an agreement on convention of titles at the end of 2003.

We use examples of partners' good practice and share expertise, not only in teaching and research, but also in areas such as communications, internationalisation and equality issues. IDEA League provides a framework for benchmarking at all levels.

We also run extramural activities. For example a yearly sports event is hosted by each institution in turn. The 2005 event will be hosted by ETH Zürich, and takes place 19-21 January in Davos. Results and pictures will be available on our website. Check now for programme details.

For future development, we intend to use the collective power of the four institutions for better access to funding; to attract the best students; to influence policy in education and research in Europe; and to continue to elicit best practice in an even wider range of activities.

By learning from each other, sharing expertise and experience, each individual institution develops and we also learn about differences in culture and functioning. This is key in today's global world.

Visit www.idealeague.org for more information.

>> NEWS IN BRIEF >>

with actors as patients and a virtual chaperone which records students' and healthcare professionals' practice. More than 500 healthcare professionals are expected to use the services each year.

Minor surgical skills training for nurses, including learning to remove skin blemishes, will be available, together with a training programme which teaches nurses about complex endoscopy procedures.

A new healthcare professional is also being trained. The perioperative specialist practitioner will support patients before, during and after

operations and carry out duties previously the responsibility of junior doctors.

Royal Society Prize for astronomer Imperial astronomer Professor Michael Rowan-Robinson, Department of Physics, and collaborators, have received the 2004 Daiwa Adrian Prize at a Royal Society ceremony.

The £10,000 Prize was awarded for their pioneering work on the Japan-Anglo-Dutch ASTRO-F satellite, a powerful new space telescope which will make a map of the sky in far-

infrared light. Scientists from University of Kent, University of Sussex, Universities of Tokyo, Nagoya, and the Japan Aerospace Exploration Agency, JAXA, were involved.

"This is the first all-sky survey at far-infrared wavelengths for more than 20 years and only the second such survey of its kind," commented Professor Rowan-Robinson. "We expect to find the most luminous infrared galaxies in the universe and map the three-dimensional galaxy distribution out to a distance of a billion light years."

ASTRO-F will be launched in

autumn 2005. It aims to detect 10 million galaxies, trace the structure of the universe out to very high redshifts, detect the most luminous objects within the observable universe, map the structure of the Milky Way in our own galaxy, and detect young stars being born.

Prizewinning mathematics

Dr Darren Crowdy and Dr Richard Thomas, two lecturers in the Department of Mathematics, were awarded the Philip Leverhulme Prize for outstanding scholarship. They each received a grant of £50,000.

Developing business

With both the College and the UK government placing emphasis on significantly increasing industry-funded research in the next few years, Business Development at Imperial faces a tough challenge, but one it is well-equipped to meet.

We currently receive around £25 million of research funding from industry per year, and are consistently the largest recipient of funding from this source in the UK university sector. In terms of research development and intellectual property, we can quote impressive statistics:

- there are 10-12 inventions per month;
- we file around 50 patents per year;
- there are 90 licence agreements, currently produced at a rate of 20 per year, resulting in an annual licence revenue of over £1.5 million;
- a portfolio of over 60 spin-out companies, for which we have raised investment of over £170 million, creating over 550 jobs, resulting in a spin-out portfolio in excess of £300 million.

Business Development forms the core interface between Imperial's world-class strengths and the needs of industry, facilitating subsequent technology transfer via Imperial College Innovations. Innovations serves to maximise the value generated from the College's intellectual assets by building a portfolio of intellectual property, developing and licensing technology, forming spin-outs and supporting their growth, and managing investments in these companies.

With around 3,000 academic and research staff members, Imperial provides rich expertise across all disciplines, as the following licence deals demonstrate:

Therapeutic target and screening assay for obesity – Cytrx Corporation

Nuclear hormone co-pressor to regulate fat accumulation, based on silencing a target gene in mice, resulting in the conversion of fat tissue to a more metabolically active form which burns fat rapidly, resulting in slimmer mice.

Evaluation of monoclonal antibody for cancer – Seattle Genetics

Evaluation of the therapeutic potential of an antibody for a variety of haematologic malignancy and solid tumour (breast, colon and bladder) cancers.

Therapy for malignant diseases – Ganymed

The use and production of cytotoxic T cells for treatment of cancer.

MiniMax software – licensed to Citigroup

Software enabling fund managers to utilise forecasts, risks and benchmarks to provide the most suitable strategy for a worst case scenario.

Chemical photosensitisers

A range of novel chemical photosensitisers, supplied to a major German pharmaceutical company in June 2004.

CMR tools technology

Technology which aids the analysis of cardiovascular magnetic resonance data obtained from medical imaging equipment.

Imperial spin-out floats on stock exchange

A company which spun out of research at Imperial College, started dealings in its shares on the Alternative Investment Market of the London Stock Exchange.

Ceres Power, founded in 2001, is developing fuel cell technology to produce a method of energy supply that is secure, sustainable and low polluting. Professors John Kilner, Alan Atkinson and the late Brian Steele, Department of Materials, spent the last 10 years developing the technology alongside Professor Nigel Brandon, Department of Chemical Engineering.

Prior to the flotation on 25 November 2004, Ceres Power raised £9.3 million of investment. Based in Crawley, West Sussex, where it has purpose-built development, testing and pilot production facilities, it currently employs a team of around 25 people.

"We believe that Ceres Power has the potential to transform the power generation industry, so we are delighted to see it reach this significant step," said Susan Searle, Chief Executive Officer of Imperial Innovations, the College's technology transfer company.

"To be involved in every stage of the progression of this technology, from the point when the inventors initially approached us and during the pre-company formation activities to the flotation, makes this a very exciting moment for everyone."

Sir Richard Sykes added: "Imperial is committed to commercialising its innovative research and Ceres Power is one of our great successes. It is becoming widely recognised as a leader in pioneering low carbon technologies and has considerable commercial potential. This is an important landmark in its development."

Spotlight on spin-outs

GlaxoSmithKline (GSK) Cheminformatics have licensed InforSense technology, developed by an Imperial spin-out, to provide an innovative environment for discovery scientists capable of assisting in the decision-making process.

The £800,000 deal will establish and deploy the next generation of flexible, user-friendly informatics environment, allowing GSK scientists to capture, standardise and accelerate decision-making across their discovery research organisation.

Using InforSense technology, GSK researchers will be able to access existing in-house cheminformatics tools, combining data sources, methods, tools and web services, and integrate them as needed using InforSense's powerful open discovery workflow technology.

Professor Yike Guo, CEO of InforSense and Professor of Computing Science at Imperial, commented: "This deal with GSK is a major milestone in our corporate development. It is also proof that our vision of open discovery workflow addresses a critical unmet need in the pharmaceutical industry.

"Working closely with leading pharmaceutical organisations like GSK will ensure our technology is developed into a standard infrastructure to facilitate world class pharmaceutical research."

Stephen Calvert, Vice President Cheminformatics at GSK added: "An organisation like GSK must also ensure that the IT infrastructure we build is both scalable and maintainable. InforSense workflow technology provides a scalable integration solution, enabling our scientists to develop, enhance and share discovery services."

ON THESE PAGES, WE FOCUS ON OUR TWO NEWLY-APPOINTED FACULTY PRINCIPALS, IN ENGINEERING AND MEDICINE, WHO SHARE THEIR PLANS WITH US.

engineering the future

BY KATE FIELDING

UNLIKE HER ORCHIDS, JULIA KING IS THRIVING WITH HER LATEST move. Six weeks into her new job as Principal of the Faculty of Engineering, there is plenty for her to get her teeth into.

“Who wouldn’t want to come and facilitate the development of the largest and best group of academic engineers in the UK?” she says. Her enthusiasm is genuine, and she is soon expanding on the opportunities she sees for the faculty to extend its lead.

“We’ve got all these world class departments, and we could be doing the interdisciplinary bit much more effectively than we are. That includes integrating with the medics, as we are in the Department of Bioengineering and the Institute of Biomedical Engineering. I think both of those are real jewels in our crown.”

She has had a distinguished engineering career, both in academia and industry. Stints at Nottingham and Cambridge universities were followed by a number of senior positions at Rolls-Royce. She joined the College from the Institute of Physics, where, as chief executive, she championed the cause of science education.

King sees exciting possibilities in making use of the business school, and its strengths in innovation and entrepreneurship. “What a way to advertise an engineering course—you can get a world class engineering degree and you can do business options in one of the leading business schools. That’s a fantastic plug—it’s something that Oxford and Cambridge can’t offer.”

Undergraduate provision is also high on her agenda. “I know the Faculty has been looking hard at undergraduate training. I think we should start to look very seriously at courses where students have a common first or a common first and second year.

One of her key concerns is to increase the diversity of the students entering engineering courses. “It’s hugely exciting that we actually have 50 per cent women on the bioengineering degree course—women are one of the relatively untapped sources.

“It would also be nice to see more ethnic minority students from the UK. We have a good ethnic mix, but the diversity is almost entirely brought in by our overseas students.”

For King, the key to attracting more bright kids into engineering lies

in making links with ‘the future.’ “It isn’t necessarily going to be genomics or structural biology that’s going to save the world, or be the only exciting place for research. They aren’t going to deliver solutions to global warming or clean water. With the sort of integration we’ve got here, for example in civil engineering with our new Chair in waste management, in earth science and engineering, and with life sciences’ expertise in the environment, Imperial is terrifically well placed to get that message out and also do the research that will actually help deliver those solutions.”

So what will she tackle first? “I think we’ve got to get the support to the departments sorted out. I can sympathise a lot with heads of department who don’t feel that the Faculty is actually supporting them very much. I’ve worked both as the head of a business and also essentially in an engineering function that is a service to the business.”

A great role model for women in science and academia herself, does she feel that it is harder for women to reach senior positions? “I think in some areas they’re doing a very good job to try and make sure there isn’t a glass ceiling. But when you look at the numbers of women at senior levels, clearly there is something stopping them. It’s important in an organisation for women to see that there are women at all levels. It’s a great message for Imperial that there’s a woman running the engineering faculty.”

King admits that the new job will perhaps make it even harder to balance work and home life, and leave her with less time to pursue her passion for gardening. But she is determined to sort out her orchids. “I’ll get them settled down soon. I just need to get the conditions right, find the right places in the house.” You get the impression that she’ll soon have a lot of things flourishing.

new pulse for medicine

BY TANYA REED

PROFESSOR STEPHEN SMITH, NEW PRINCIPAL OF THE FACULTY OF Medicine, admits he has ‘loved every single minute of medicine, and I still do. It’s a fantastic career.’

What is the main challenge for you at Imperial?

To provide the setting for others to keep Imperial as one of the top research-based medical schools in Europe. There’s a culture at Imperial of not wishing to be second best and as long as everyone is pointing in the same direction, it’s for the benefit of patients. We should never lose sight that medical research is for a reason. It’s not just a disinterested pursuit of knowledge. I’m passionate that we have a range of opportunities, often at different sites, where we can achieve that goal.

Which specific areas will you focus on to achieve your aims?

Applying cross faculty strengths will give us a competitive advantage and I’d also like to think our business approach will allow us to link more comfortably with industry.

While remaining strong in classic research areas such as molecular and cellular biology, we need to bring into play other strengths such as links with engineering, maths and life sciences.

In London, one sees the two issues of long term benefits of research alongside very immediate issues of health improvement. This provides exceptional opportunities for the benefit of patients through better treatments, better application of treatments, and the development of new diagnostics. There is a whole host of issues you wouldn’t see in other medical schools.

How do you maintain the success of RAE results?

We received extra money for getting a sixth star rating for our research. We’re in the top three with Oxford and Cambridge and would expect to be pretty high up internationally with comparative medical schools if results existed for medical schools alone, but we’re not as high as we’d wish to be in terms of teaching.

What is the best way to recruit top staff?

To create the feeling that we are the place for high quality international research. The idea of living in a big city and the regeneration of an urban environment is quite important. London, for all its warts, is probably the most exciting city in the world these days, possibly only on a par with New York. It’s much more positive to live in a city nowadays and we need to flag this up to individuals.

Is there a glass ceiling in medicine?

No – between 60 and 70 per cent of medical students are now women. It’s partly to do with changing the requirement needed for studying medicine. Thirty years ago, many students entering medicine took maths, physics and chemistry A levels. Removing the requirement for maths and physics had a large impact in encouraging women to study.

Are you planning to introduce the graduate entry course soon?

We are looking at the possibility of introducing a graduate entry course. Our main competitors – Oxford, Cambridge and UCL already have one. The focus of the College is obviously on science and we are particularly interested in recruiting students who are similarly interested. A graduate entry course would allow us to further enhance this goal.

Will you continue using roadshows to keep staff informed?

Yes, they are a vital way to meet people, get known, reinforce divisional strategy and pick up on campuses’ themes which may reflect how they see themselves as fitting into the divisional structure.

When you’ve such a large medical school with more than 700 principal investigators, and 4,500 staff and students, it’s imperative to keep everyone informed. It’s a very important job of the principal to ensure our direction reflects the opinion of different campuses and helps them see where they fit into the broader picture.

WE ARE PLEASED TO ANNOUNCE THE FIRST IMPERIAL COLLEGE ASSOCIATION WEEKEND. THIS IS A TWO-DAY GATHERING ENCOMPASSING A SERIES OF EXCITING LECTURES AND A LIVELY RECREATIONAL PROGRAMME.



Imperial College Association Weekend

Saturday 9 – Sunday 10 July 2005

TAKING PLACE AT THE COLLEGE'S SOUTH KENSINGTON CAMPUS, the Weekend will give you the opportunity to reunite with fellow alumni and re-engage in the life and work of Imperial today.

The new main entrance of the College, opened in June 2004, will be the focal point for Saturday's programme, where you will be able to see speaker exhibits and displays of College activities. The Weekend itself will begin with a welcome address by the Rector, continuing through Saturday morning with a speaker programme built around Imperial's key interdisciplinary strengths, and delivered by some of the College's finest speakers.

Saturday afternoon has been set aside to give you the opportunity to catch up with friends and colleagues, visit your old departments and tour the campus. Evening events, including a delicious dinner and entertainment, will be served up in Beit Quad, providing you with a further opportunity to socialise in the relaxed and informal atmosphere of the Union's bars and quad.

An optional recreational programme has been planned for the Sunday, including the chance for attendees to enjoy a round of golf at one of the south east's finest courses or the opportunity to visit attractions on London's South Bank.

Tickets for Saturday's packed programme of events, including all lectures, departmental tours, entertainment, lunch, dinner and refreshment breaks, are £135 each.

Accommodation is available on campus at very reasonable rates, and includes some of the College's refurbished *en suite* double rooms – a far cry from the residencies of old! Accommodation costs are separate from the Weekend's ticket price, giving flexibility to those travelling from out of town to extend their stay.

Booking your place for the Imperial College Association Weekend could not be simpler. Make your booking online via our dedicated website, www.imperial.ac.uk/alumni/weekend2005. If you would prefer to be sent a paper booking form, please contact Paula Lowdell on p.lowdell@imperial.ac.uk, +44 (0)20 7594 6131.

The website will have full information about the speaker and recreational programmes on offer. We will be updating the site regularly with attendee lists, so bookmark it and visit often!

A important element of the Weekend is the opportunity to meet up with your former classmates and College friends. You can play a key

role in encouraging and reuniting your former classmates and friends by nominating yourself as a Weekend Representative. If you're interested in taking part, please see the website for further details.

We look forward to welcoming as many of you as possible back to the College, so book your place and spread the word about what promises to be a very special weekend.

An overview of the Weekend's activities

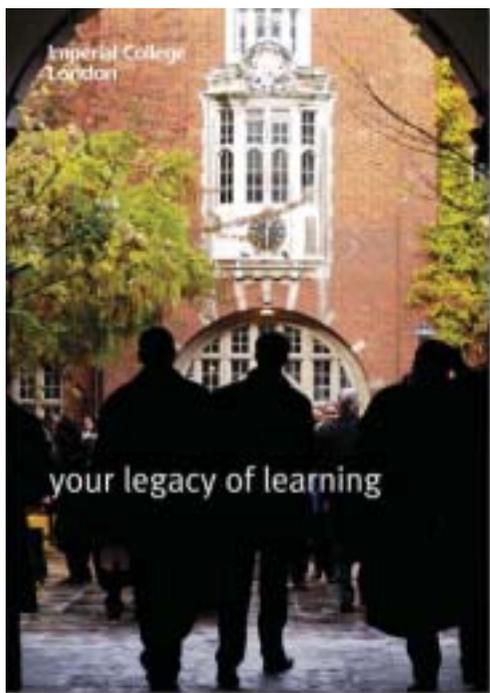
SATURDAY 9 JULY 2005

- A speaker programme including some of Imperial's world-class academics on the key themes of:
 - business and innovation
 - medicine and biomedical science
 - environment and energy
- Departmental and campus tours and exhibitions, including:
 - a personal invitation from David Begg, Principal of the Tanaka Business School to visit our new, state-of-the-art Business School
 - a warm invitation to visit the Department of Chemistry and find out more about the research and teaching that takes place there today
 - many other opportunities to visit other departments and tour the South Kensington campus
- An informal spit roast barbecue dinner and entertainment in Beit Quad
- Accommodation on campus and surrounding hotels at preferential rates

SUNDAY 10 JULY 2005

- Golf at one of the finest courses in south east England
- The opportunity to visit some of London's famous landmarks including:
 - the London Eye
 - Tate Modern
 - a tour of the Globe and Rose Theatres, with matinée performance
- Walking tours with a CGCA past president

Remembering Imperial in your Will



The philanthropists of the early twentieth century played a vital role in the foundation of Imperial College London. Two of the College's earliest benefactors, Sir Alfred Beit and Sir Julius Wernher, commemorated at the entrance to the Royal School of Mines building on Prince Consort Road, both bequeathed significant sums to the development of the College during their lifetimes and in their Wills.

Nearly a century later, their lasting legacy to future students of Imperial is still apparent and has been built upon by subsequent generations of alumni and supporters of the College. Making a gift to Imperial in your Will directly contributes to the future success of Imperial College and a better quality of life for our students and staff.

A guide on how legacy gifts can help the College has recently been published by the Office of Alumni and Development and is available upon request. If you would like a brochure to be mailed to you, please contact the Office: supporting@imperial.ac.uk; +44 (0)20 7594 6134.

Your views in a nutshell

In July 2004, with issue 24 of *Imperial Matters* and online on the alumni website, the Office of Alumni and Development sent out a questionnaire, asking for your views on the services, events and communications available to you.

A big thank you to the 800 alumni who responded, a highly representative sample across departments, age groups and geographic locations.

Generally you appear to be a technologically sophisticated group, who make good use of the internet, and are unafraid to shop online and make use of web services which have elements of interactivity.

Correspondingly, there was high awareness of and good ratings for the alumni website and monthly e-bulletin, particularly in terms of their design and navigation, which scored positive ratings of 86 and 81 per cent respectively. We are keen to improve the relevance of the items featured in the e-bulletin and the website, so please carry on telling us what you want to see.

We were pleased to see that you are actively using these media to read information about the College, update your details and book for events. Hopefully this might serve as a commendation for more of you to sign up for the e-bulletin and visit the website more often!

Events also seemed to rate highly with our respondents – around a third of you had already attended an alumni event, 95 per cent of whom would consider attending other events in the future. You displayed the biggest interest in attending reunions and special lectures – both integral elements of the Imperial College Association Weekend in July 2005.

Around 90 per cent of respondents indicated that they read *Imperial Matters*, appearing to find the length and the frequency about right. Design rated highly, as did regular features such as the Rector's editorial and news from the College, departments and individual alumni.

Again, although respondents found the magazine generally informative, we are keen to improve its relevance and welcome your feedback and suggestions. We are already acting upon some of these and, in response to requests for more articles on our research projects, we hope that you enjoy our feature on page 14.

More disappointing were awareness levels of the Interactive Alumni Services. Just over one third of you were aware of the services, although respondents recorded a propensity to register and use the services available, particularly the updating facility and the 'find a classmate' search.

We also recognise that, at 27 per cent, awareness levels of *building the connection*, our donor recognition publication, are relatively low. Issue three is included with this edition of the magazine, and we would encourage you to take a look.

Once again, thank you for all of your responses and feedback. It is reassuring to learn that a healthy majority you seem to appreciate and want the services on offer and useful to learn where we should focus our efforts in the future.

A more comprehensive overview of the questionnaire results can be found on the alumni website at www.imperial.ac.uk/alumni/questionnaireresults.

feature

BY TANYA REED

Psion's Huckleberry Finn



DAVID POTTER'S HUCKLEBERRY FINN-TYPE CHILDHOOD COULD be part of the reason behind his success. At the age of 11, after wandering around the fishing port and dockyard of East London in South Africa, the future chairman of Psion persuaded 25 fishermen in a trawler to let him join them on an overnight expedition.

"I went back to my grandmother and announced I was going fishing on the Indian Ocean and I'd be back the following evening," he remembers. "She said, oh fine, wrapped me some sandwiches in greaseproof paper and off I went. I wouldn't dream of letting my own sons wander off like that!"

In the early hours of a December morning, he found himself landing a large hammerhead shark. "You couldn't see the coast of Africa at all. In the middle of the night, they suddenly decided to make a Cape Malay curry. The boat was tossing around with huge swells and I got violently sick over the side but it didn't matter."

Such memories are colourfully recalled by the man responsible for changing people's lives with the invention of the electronic Personal Organiser. Few would doubt that the man who pioneered memory cards, sitting before me in his immaculate London office, leaning back with an air of being able to cope admirably with everything life throws his way, had an unusual upbringing.

"My father died when I was very young, my mother worked as a nurse and I was half brought up by my grandmother who read Winnie the Pooh to me in Latin and was one of the first women graduates in the South African College at the time," says the man whose grandfather was Professor of Engineering at the University of Cape Town.

"Being brought up by the wrong generation gave both me and my sister an extraordinary sense of independence and that's been quite important in my life. You weren't fettered, didn't wear shoes, and ran free like an antelope. One had structure, one went to

school, but one lived in a way you don't see today.

"The Victorians gave birth to seven or eight children, and most children did not reach adulthood with diseases like diphtheria and tuberculosis. Since life was a very risky affair, the Victorians didn't constrain the growth of the individual and had a very different sense of risk, security and adventure."

This adventure seems to have continued throughout his life. He arrived in Britain in 1963 at the beginning of a new emancipation in the swinging sixties, ready to start his undergraduate degree in Natural Sciences at Trinity College Cambridge. He later gained his PhD in computational physics at Imperial.

"The day I landed in Britain, I went to *Beyond the Fringe*. It was absolutely wonderful although I didn't understand some of the references. I was amazed at the irreverence of the satire – you could lampoon governments and the church.

"When I reached Cambridge a black cloud loomed above King's College chapel and I looked around and asked myself, are we upside down in this world? Where's the sky? I couldn't understand it – I was used to the huge spaces of Africa and the light. This sky was Gothic and I realised I was in a very different world."

It was about to get increasingly more different. As an undergraduate, keen to be able to pay his way, he worked in many different jobs, including a wine cellar in the East End. "We were dealing with Yugoslavian Riesling and I remember the West African foreman, a big fellow named George, saying to me one day as we were bottling the stuff, 'I wouldn't wash dem babies' nappies in this wine!'"

His knowledge of Britain improved when he took on a variety of trucking jobs, delivering plastics in one instance. He then switched to something 'more entrepreneurial' and became an ice cream sales man, driving his van around Hyde Park. "I was too naïve to

realise the park was controlled by Italians and I was practically beaten up, but I learned a little more about the world.”

He also sold encyclopedias in Germany to the United States Air Force, dealing with both staff sergeants and majors. “I was a good salesman, I learned a huge amount. I probably learned as much from these various jobs as I did as an undergrad but of a very different nature. It was hard graft but fun. As undergrads students worked only 60 per cent of the time so I filled the 40 per cent that was left with different experiences.”

While at Imperial where he edited *Felix*, the student newspaper, and later worked as a lecturer for 10 years in the Blackett laboratory, he remembers leading academics such as Abdus Salam, Maurice Blackman and Paul Matthews. “I also remember Blackett to be a wonderfully ascetic man and I had a South African boyhood in common with Professor Maurice Blackman.”

Maintaining a strong involvement in higher education is down to his profound belief in education at all levels. In 2004 he donated £1.25m to the Institute of Mathematical Sciences Project via the David and Elaine Potter Charitable Foundation.

Former advisor to the Business School and former Chairman of Imperial Innovations Seed Fund (he was made an Honorary Fellow in 1998), his company Symbian was spun out from Psion as a JV in software licensing with Ericsson, Nokia, Motorola and Psion. It made a £0.5m donation to a systems engineering studio at Imperial. He received a CBE in 1997 for services to the manufacturing industry.

“When I resigned my academic appointments at Imperial in 1980 and set up Psion, that was a very big decision. I have had a very varied and eclectic life. One of the themes has been education, and I sat on the Dearing Committee, and the Higher Education Funding Council.

“Education is profoundly important from the point of view of the emancipation it gives one – one becomes a person of wider interests and background. It is also profoundly important from the point of view of economic activity and the ability of our nation to do its part in the world.”

The man who describes himself as a radical, not a revolutionary, views underfunding of education as a serious problem. “It’s all very well to say leave it to the state, but the state doesn’t end up doing it, that’s why the system is impoverished. It seems to me that people who gain from their universities, if they are fortunate enough to be financially successful and have the ability to contribute something back, should do just that.

“We give a lot to heart-tugging charities such as donkeys, children’s charities and cancer research – it’s almost become a cliché – but we should also give to positive things, not out of pity, but in order to encourage others.” Few can fail to agree with him.

the water feature

WATER. A SYMBOL OF PURIFICATION AND A SOURCE OF LIFE.

A human can survive for around one month without food, but only five to seven days without water, and it is difficult to name a resource more important to the world's population.

Access to water is considered a basic human right, but supplies of fresh water are finite. Although 75 per cent of the world's surface is covered by water, less than 0.5 per cent of the total volume, around 840,000km³, is fresh water, suitable for human consumption and use. The rest is found either in the form of seawater, locked up in icecaps or in the soil.

According to the UN, the world's population has grown from one billion in 1804 to two billion in the 1920s, hitting the six billion mark in 1999. From the early 19th century to date, the world's supply of freshwater has remained constant and our population survives on the same volume of water today as it did in 1804.

International competition for this scarce resource is growing and as the population rises, the emphasis of scientific research in this area shifts towards conservation, reclaiming, recycling and re-use.

Another, no less challenging, global issue is that of climate change and, in particular, how the world's oceans, which contain 97.5 per cent of the earth's water, are going to respond to these changes.

Many of the projects in this feature show how researchers at Imperial College London are taking serious note of these issues, using scientific, technological and medical expertise to find innovative ways of finding vital solutions.

CLOUD FORMATION

Clouds play a very important part in controlling the Earth's radiation balance: they reflect solar radiation back to space and trap infrared radiation emitted by the Earth's surface. The first of these factors tends to cool the surface while the second tends to warm it, and which effect dominates is determined by the altitude and composition of the cloud. Observing cloud properties therefore plays an important role in predicting possible changes in climate.

PROFESSOR JOANNA HAIGH: PHYSICS

THE OCEAN MODEL

Virtual plankton ecology produces computer simulations of the upper ocean plankton ecosystem. These describe the growth and behaviour of individual planktonic organisms, the demography of plankton populations, and the environment in which they grow. Plankton play a significant role in many phenomena important to society, including climate, pollution and fisheries. Biological oceanography seeks to describe and explain the distribution of plankton in the sea and its variation on all timescales. Scientific progress has been slow because of the high cost of sampling the plankton. Computer simulations, verified by observation, allow the process to be speeded up.

**DR CHRIS PAIN, PROFESSOR TONY GODDARD,
PROFESSOR JOHN WOODS:** EARTH SCIENCE AND ENGINEERING

*THE FIRST IN A SERIES OF OCCASIONAL
THEMED RESEARCH FEATURES FOCUSES
ON A PRECIOUS COMMODITY*

PRECIPITATION AND RAINFALL

HIMAP is a project to measure atmospheric pressure on Mount Everest, Cho Oyu and Shishapangma in the Himalayas. Mountains are particularly vulnerable to changes in climate. Dramatic reductions of glaciers have been observed but other changes in the mountain weather are highly uncertain due to a lack of data. Atmospheric pressure on a mountain gives us information about the local and large scale flow and is also a direct measure of the average temperature below the mountain. The Himalaya (and Everest) are of particular interest as observations there will allow us to study the upper air during the Indian summer monsoon and the fast winds of the jet stream in winter.

DR RALF TOUMI: PHYSICS

WATER-LAND INTERACTION

This research focuses on off-shore and coastal engineering, including the description of extreme ocean waves and crest statistics, rogue waves, wave-structure interaction, and the calculation of wave loads.

PROFESSOR CHRIS SWAN: CIVIL AND ENVIRONMENTAL ENGINEERING

WATER CONTAMINATION

Toxic levels of arsenic can occur in the environment by natural leaching of minerals into ground water or as a result of mining and processing activity. We have been involved in an international project to study this problem and to propose realistic technologies for purifying the water. Methodologies investigated include coagulation, ion exchange and adsorption onto activated alumina.

DR BILL DUDENEY, PROFESSOR JOHN MONHEMIUS: EARTH SCIENCE AND ENGINEERING

URBAN WATER SYSTEM

In the past five years, governments around the world have recognised sustainable development as an important concept, and one to be supported at policy level. So far policy statements have outstripped technical developments and we still have little understanding of how sustainability might be achieved.

PROFESSOR DAVID BUTLER: CIVIL AND ENVIRONMENTAL ENGINEERING

WASTE WATER TREATMENT

Our research aims to identify and quantify natural or artificial contaminants in the aquatic environment and to develop processes to treat waste water. The techniques used are the basis of research in a number of programmes spanning the whole water cycle, as effective use of economic resources to manage the water environment is a major concern of water utilities and regulators.

PROFESSOR JOHN LESTER: ENVIRONMENTAL SCIENCE AND TECHNOLOGY

REDUCING WATER USAGE

Our research objective is to develop pollution prevention strategies for the design and operation of sustainable processes in industrial plants. A key part of this is reducing water usage. Novel process synthesis modelling concepts are explored, together with life-cycle and environmental impact assessment aspects, leading to new designs which improve energy efficiency, minimise waste and sustain processes.

PROFESSOR STRATOS PISTIKOPOULOS: CENTRE FOR PROCESS SYSTEMS ENGINEERING

IONIC LIQUIDS

Water, like other familiar liquids, is molecular. Since the early 1980s an exciting new class of room-temperature liquids has become available – ionic liquids. This gives them the potential to behave very differently to conventional molecular liquids, when they are used as solvents. The aim of our work is to develop the use of these remarkable liquids as solvents for synthesis and catalysis. One of the principal driving forces for research in this area is the need to find replacements for environmentally damaging solvents in a wide range of chemical processes.

PROFESSOR TOM WELTON: CHEMISTRY

TREATING WATER-BORNE DISEASES

Two years after receiving a \$30 million grant from the Gates Foundation to develop a programme for treating schistosomiasis in sub-Saharan Africa, the Schistosomiasis Control Initiative has treated nearly five million in six African countries including Tanzania, Zambia, Mali, Burkina Faso, Niger and Uganda.

Schistosomiasis is a parasitic disease affecting around 200 million people worldwide, mainly in developing countries, but can affect anyone who has come into contact with water contaminated with human sewage. They can become infected by fresh water snails carrying the parasite. Approximately 600 million people are at risk of contracting schistosomiasis because they live in tropical regions where water supply and sanitation are inadequate or non-existent.

DR ALAN FENWICK: PRIMARY CARE AND POPULATION HEALTH SCIENCES

WATER MAY HELP LOW BLOOD PRESSURE

Ordinary tap or bottled water could help people suffering from low blood pressure who faint while standing. According to published research, drinking two glasses of water can raise blood pressure, potentially providing a solution for patients with low blood pressure while standing, caused by autonomic failure. This occurs when parts of the nervous system, responsible for the control of bodily functions not consciously directed, such as blood pressure heart rate and sweating, do not function properly.

PROFESSOR CHRISTOPHER MATHIAS: NEUROSCIENCE AND PSYCHOLOGICAL MEDICINE

SUBMERGED RIVERS IN THE ENGLISH CHANNEL

Sea-level falls associated with the onset of glacial episodes during the late Quaternary caused extensive areas of the English Channel shelf to become emergent; with river systems extending across the shelf, forming viable landscapes for early hominid colonisation. The sedimentary deposits formed by these rivers are major aggregate extraction targets. There is therefore a need to investigate the potential that they contain significant archaeological material.

This project is using multibeam swath bathymetry and high-resolution seismic technology to map the offshore course of the palaeo-Arun river and identify elements in the landscape that offer potential for discovering sites of hominid activity. The new data and technical developments provided by this study will contribute to the emerging field of prehistoric marine archaeology, in particular with regard to developing protocols for assessing resource potential in offshore areas and conservation strategies.

DR SANJEEV GUPTA, DR JENNY COLLIER: EARTH SCIENCE AND ENGINEERING

WATER AND THE 2012 LONDON OLYMPIC BID

Imperial's Energy and Environment Office (EEO) was formed in 1998. Its remit is to establish cross-faculty interdisciplinary research projects in these areas, often with external partners such as major companies, government agencies and academic institutions. The EEO has established networks of key Imperial researchers in areas such as water. Recent initiatives include water reuse projects with a major energy company and sanitation and clean water provision with LEAD International.

The EEO, is also acting as an advisor on science, sustainability and environment to the 2012 London Olympic bid.

London is a city built on water. Its rivers have been used and abused over the years as they have been water supply, transport arteries, and at one time a gigantic sewer. The Lea River and its canals were left to decay amidst the jumble of surrounding industrial, derelict and polluted land.

Hosting the Olympic and Paralympic Games in London in 2012 would act as a catalyst to regenerate the Lower Lea Valley and place its rejuvenated rivers and canals back at the centre of life there.

Plans for the 500 acre Olympic Park include an 80,000 seat stadium, an aquatics centre, a velodrome, a hockey centre and an athletes' village. After the Games, facilities will be downsized and reconfigured to create a lasting sporting legacy for all, community services and affordable housing.

The Lea is integral to the design, and once more will provide a variety of functions: to move goods and materials, transport waste and provide a recreational area for canoeists and pleasure boats. Education programmes will instil an understanding and appreciation of the waterways and their ecology.

A key goal is to bring people and nature closer together and

plans include a vision to revitalise the river ecosystem, improve water quality and increase biodiversity.

Development will be oriented around the river, with wharfs and moorings for boats, and bars and restaurants spilling out onto the quayside. Quieter stretches will provide space for relaxation and contemplation.

The valley will enable residents and visitors to re-engage with London's river culture, setting a benchmark for other rivers and revitalising this vital resource for the benefit of future generations.

DR TARIQ ALI: EEO

feature

THERE'S A REVOLUTION GOING ON IN THE WORLD OF SHOES. No longer is fashion enough to get you down the street with a spring in your step. Those in the know are wearing Vivo Barefoot – and feeling like a million dollars to boot, pardon the pun.

I can personally vouch for this. After five minutes of pounding London's streets in my natty lace-ups, my feet were talking to me. "Why haven't we worn these before?" they demanded. Having the world beneath your feet takes on a whole new meaning.

Tim Brennan is the man responsible for the Barefoot revolution. Having grown up with a father who lectured on the Alexander Technique which teaches how to walk as nature intended, problems with tennis shoes spurred Tim on to design the most

muscles and realign posture while totally protecting the foot."

After eight months of visiting disinterested manufacturers, it became apparent to Tim that the majority of funding into the health of feet came from sports shoe manufacturers who needed more independent research.

He approached Terra Plana, a company owned by the Clarks family, which agreed to produce the shoes. They are now manufactured in Romania and sold worldwide.

"The company has a wholesome outlook on shoe identity and totally understood what I was trying to achieve. We're now aiming to produce formal versions by summer 2005," he continues.

"People send in testimonials that are very positive – they walk

Walking tall with Tim Brennan

BY TANYA REED

ergonomically advanced shoes available.

"As a child growing up in Somerset, we were always running around without shoes," he remembers. "My father had a big impact – I would sit in his workshops learning about the philosophy of the Alexander Technique. It's a way of thinking which goes against the grain of conventional medicine and has made me look at everything in a different way.

"At school, I used to butcher my tennis shoes by sanding off the soles to make them thinner – thick soles caused twisted ankles while thinner ones made them more stable.

"After cancelling an important tennis tournament because my ankles let me down, I was determined to design a shoe that allowed the feet to work properly."

As an industrial design engineer on a joint course with Imperial and the Royal College of Art which resulted in a Masters degree, he spent a considerable time in Hammersmith Hospital's halls of residence, hanging out with the doctors and researching the benefits of walking barefoot.

"It takes two extremes – engineering and the creative arts combined – to make a really powerful course. Being at Imperial and the Royal College of Arts meant everything was at my disposal.

"While searching in Imperial's central library, I discovered DuPont's amazing Kevlar fibres which provide American police with bulletproof vests and gloves strong enough not to be pierced by syringe needles when suspects are frisked.

"By using Kevlar for our soles, we were able to stimulate natural sensory perception, strengthen foot

more easily, feel more confident. After wearing Vivos for four months, they say their old shoes feel like bricks.

"Vivos are definitely controversial – all the science they are based on flies in the face of past footwear manufacturers who just wanted to produce cushion soles. However, Nike recently introduced a flexible sole with slits, saying they're like walking barefoot, so perhaps they are starting to sit up and taking notice."

Today, Tim regularly gives various styles an airing on television. As an actor, he strolls on and off the sets of both *EastEnders* and *The Bill*, sometimes wearing Vivo shoes, should anyone glance at his feet. He also wore them in the Christmas special of *Holby City* as he dashed around saving people from a burning hospital when he played a paramedic.

One day, he'd like James Bond to spring into action in Vivos. Dame Judy Dench, who has appeared with Bond as M, might approve. Tim is currently playing one of her most faithful customers in her latest film, *Mrs Henderson Presents*.

Dench is starring alongside Bob Hoskins as they manage Soho's historic Windmill Theatre throughout the Blitz. The Windmill's famous 'nude revue' was the first musical extravaganza to take advantage of a legal loophole which permitted the showing of entirely nude models on stage – provided they didn't move a muscle.

"I couldn't actually wear Vivos on set as I was dressed as a World War 2 sergeant and they didn't go with the uniform," adds Tim.

If sales at Bloomingdales and Harvey Nichols are anything to go by, they're already well on their way to becoming stars in their own right.



BY THE YEAR 2031 AROUND ONE THIRD MORE PEOPLE WILL BE aged 50 and over than today. This demographic shift means that a major medical priority of the 21st century is equipping society to deal with an increasingly ageing population.

This is Imperial's driving force in establishing a world-class multidisciplinary Centre, where research will focus on the repair of the chronic neurological and musculoskeletal disorders related to ageing: for example rheumatoid arthritis, osteoarthritis, Parkinson's disease, Alzheimer's disease, multiple sclerosis.

As Rector, Sir Richard Sykes, told assembled guests at an event to officially launch the project in November: "These are all conditions which have profound implications for our ageing society.

Wisdom of age

The College has made it a priority to deliver solutions that improve the quality of life and provide acceptable levels of independence for an ageing population which survives disease but experiences increasing levels of chronic disability.

"The Centre for Brain and Musculoskeletal Repair is a huge project for the College with an associated cost of £33 million. Already over £23 million of funding has been secured, including a £15 million commitment from Imperial's own funds. The College is also immensely grateful to the Kennedy Institute of Rheumatology Trust, the Wolfson Foundation, the Mathilda and Terence Kennedy Charitable Foundation, the Bernard Sunley Charitable Foundation, the Neville and Elaine Blond Charitable Trust and the Sir Jules Thorne Charitable Trust, who, between them, have donated over £8 million towards the Centre. The College is now working to secure the remaining funds."

On the surface, these diseases may seem to have very little in common. In fact rheumatologists and neuroscientists have discovered marked similarities in the cellular mechanisms of tissue damage and breakdown, irrespective of where they occur in the body. The Centre will facilitate collaboration between two divisions within the Faculty of Medicine: the Kennedy Institute of Rheumatology and the Division of Neuroscience and Psychological Medicine. The result is a critical mass of multidisciplinary researchers, using integrated approaches and shared facilities, leading to the development of novel drug therapies.

The Centre will be housed on Imperial's Charing Cross campus, which is already renowned for its capacity to translate research direct to the patient's bedside. The internationally acclaimed development of anti-TNF therapy for rheumatoid arthritis by Professor Marc Feldmann and Professor Sir Ravinder Maini, respectively current and former Directors of the Kennedy Institute, is an excellent example of how close collaboration between academic researchers and doctors in the stimulating environment of a leading academic hospital can lead to major improvements in treatments for patients.

Through their research in the 1980s, Professors Feldmann and Maini identified a protein, called TNF, which seemed to be an important mediator in driving the disease process in rheumatoid arthritis. In discovering how to block TNF activity, they developed anti-TNF therapy, first tested on patients at Charing Cross Hospital in 1992. The results were spectacular. All 20 patients involved in

the trials who had been resistant to many previous drugs responded to the treatment. Today this treatment is available to suitable patients through the NHS.

In fact anti-TNF is now also used to treat several other inflammatory diseases including severe Crohn's inflammatory bowel disease, ankylosing spondylitis, psoriasis and childhood arthritis. This pioneering work has been recognised widely by the scientific community. In 2000 Professors Maini and Feldmann were awarded the Crafoord Prize by the Swedish Royal Academy of Sciences, the first time in its 20-year history that it had been awarded in the biological sciences. More recently, in 2003, the Professors received the highly prestigious Albert Lasker Award,

America's equivalent of the Nobel Prize.

Today, more than seven million adults in the UK have long-term health problems due to arthritis and related conditions. In particular, the number of people with osteoarthritis has risen steadily over the past 10 years, in line with the growth of our ageing population.

The treatment of this disease is an area of research for the new Centre for Brain and Musculoskeletal Repair. In addition, work will continue to make the treatment of rheumatoid arthritis, which currently reports 12,000 new cases each year in the UK, both safer and cheaper. The ultimate aim is to develop a cure that will combat this debilitating disease.

In addition to disability caused by the musculoskeletal group of diseases, over 750,000 people in the UK are known to suffer from dementia. This represents one person in 20 over the age of 65 and one person in five over the age of 80, and it is estimated that this number will at least double by 2020. Of the many forms that dementia can take, Alzheimer's disease is the most common, thought to make up 55 per cent or more of all cases.

Around 120,000 people are currently diagnosed with Parkinson's disease, a serious brain disorder which impairs the body's muscles and movement. Although this disease can affect both men and women, its occurrence amongst men is greater and it shows no social, ethnic, economic or geographic boundaries. The incidence of Parkinson's rises after the age of 50, and one to two per cent of the elderly population in the UK are now affected.

Neuroscientists at Imperial have identified a group of naturally occurring chemicals called flavinoids, found in everyday items such as orange peel, which can slow down the degeneration of cells attributed to Parkinson's. Working with the Multiple Sclerosis and Parkinson's Disease Societies, the Centre will house one of the largest brain tissue banks in the UK – a vital resource for the testing of our research findings.

Another area of neurological research will revolve around understanding how our biological clocks, our circadian rhythms, are set. This understanding is essential in overcoming the harmful effects travel across time zones and night work, increasingly common in today's 24 hours a day, seven days a week world.

The Centre will open early in 2008 and will become a valuable and essential hub of research for the world's ageing population.

Run, don't walk

BY NATALIE EASSON

ON 31 MARCH 2004 THE SPORTS CENTRE IN PRINCE'S GARDENS closed its doors to students, staff and the public as the College embarked on a £17 million redevelopment programme. Building on the foundations of the original centre, constructed in the 1960s, the final result will be a new five storey sports complex which blends with the surrounding architecture. The development is being funded entirely by the College as part of a larger initiative to restore and rejuvenate Prince's Garden as an area of the South Kensington campus that students and local residents alike will enjoy and value.

The basement, ground, first and second floors of the building will form the sports centre itself, while the two top floors will provide much needed residences for visiting academics and lecturers.

This Centre will offer top of the range equipment and facilities, including a five-court sports hall, which will allow more activities to take place, including basketball, five-a-side football, volleyball and badminton. The east wall of the sports hall will be a climbing wall suitable for both beginners and more advanced climbers.

An ultra-modern fitness gym overlooking the sports hall will include 65 stations, a wide range of cardiovascular and resistance equipment, and a free weights area. Instructors will be on hand to advise users about their workout and personal training programmes and fitness tests will also be available. To complete the second floor, a larger air-conditioned studio is being added for a wider variety of classes.

We want you to reap the benefits of such an impressive sports centre so Imperial has put together an attractive incentive scheme whereby alumni will have the opportunity to become 'founder members' of the centre at a special rate. This will entitle you to lifetime membership of the facilities.

On top of this, alumni will receive discounted rates for occasional use, for example, swimming, aerobics classes and squash courts. Discounted rates for alumni sporting reunions will also be available and there will be an opportunity for alumni to have events or trophies

named after them.

The new sports centre is due to open in Autumn 2005. A video based on a virtual model of the complex which is both architecturally and spatially correct is online at www.imperial.ac.uk/sports/centre/features.

The new Sports Centre will offer:

- fitness gym
- climbing wall
- five-badminton court sports hall
- 25m deck-level swimming pool
- sauna/steam room and spa
- aerobics/dance studio
- squash court
- sports injury treatment area
- spacious reception area with juice bar



ON 31 MARCH 2004, THE SPORTS CENTRE IN PRINCE'S GARDENS CLOSED ITS DOORS AS THE COLLEGE EMBARKED ON A £17 MILLION REDEVELOPMENT PROGRAMME

GOING FOR GOLD

Not only is the sports centre getting a facelift, we are also improving indoor rowing facilities at the South Kensington campus. A large fitness gym will provide rowing machines for strength training, and circuit training classes will be available. The centre will also support the training needs of student sports teams and provide facilities for competitive sports.

Athletes will soon benefit from physical support at a new sports injury treatment area. Physiotherapy, sports injury clinic, rehab and sports massage are some of the new treatments that will be on offer. The South Kensington location will allow rowers to receive treatment between or after lectures rather than having to travel to the Boathouse in Putney. These facilities will also be open to alumni of Imperial.

In the arguably difficult climate of university life today, we understand that students may face struggles with their academic, financial and sporting obligations. Scholarships play a big part in sporting life at Imperial. We currently offer sport-specific tailored support to individuals who have the talent and commitment to fulfil

their potential in their academic work and chosen sport.

The scholarships offer specific coaching, fitness and nutritional advice, intensive training and help with travel to events. Rowing scholarships were the first such support awards to be given to our students and have proved very successful in attracting high performing rowers to Imperial.

With the renovation work well underway we are looking to an even brighter sporting future at Imperial when the new sports complex opens in autumn 2005. Our overall aim is to introduce as many people as possible to a range of sports and as alumni of the College we hope you will take advantage of the special offers available.

For further details about our scholarship schemes please contact Robert McCarthy in the Office of Alumni and Development at: r.mccarthy@imperial.ac.uk.



welcome to the Imperial College Association pages

This has been an eventful year for our UK and international alumni groups as they undertook an array of interesting and enjoyable events and activities. The common themes were definitely remembrance and celebration as many reunions and anniversaries were held.

On the following pages we are pleased to bring you news from all our alumni groups. Worthy of special mention in this anniversary issue were the celebrations held at St Mary's campus for the 50th anniversaries of two firsts: Felix Eastcott's carotid endarterectomy; and Roger Bannister's four-minute mile.

Across the Atlantic our Imperial College Exiles North America East alumni hosted a weekend of camping to mark their 30th reunion, while in the Australian outback, alumnus Greg Yeoman set himself the challenge of a lifetime.

Read on to find out more...

Agricola Club

Agricola Club members gathered at Wye on 18 September 2004 for the annual Farm walks, AGM and Dinner. The weather was kind and the turnout good, with three year groups swelling numbers to mark 40 and 50-year anniversary get-togethers. At the AGM, our long serving President John Hosking stood down after many years of devoted service to Wye, the Club and the county. Elected to replace him was another much respected and tireless worker for College and Club, Tim Calcutt.

For Tim, it was a baptism of fire since he came into the new role hot on the heels of Imperial's announcement that it was intending to close the Department of Agricultural Sciences and review the entire future of the Wye Campus. The earlier news of record numbers of under- and postgraduate students in the 2003 intake was not the portent of the great recovery for which so many had hoped.

The AGM tended to be dominated by consideration of how the Club may help to ensure some form of continued academic excellence at the Wye campus site. As a first step, the meeting agreed an emergency resolution. Please go to www.imperial.ac.uk/wyecampus/friends/agricola.htm to read it in full.

At the same time, Tim Calcutt announced the formation of a working group, dedicated to assisting in securing a future for Wye campus, which issued the following statement:

"This summer, Imperial College London announced the precipitate closure of the Department of Agricultural Sciences and a Review of the future for its Wye campus.

"A group of about 20 influential people and organisations closely concerned with the serious consequences of this decision held a preliminary meeting on 17 September under the aegis of the Agricola Club, whose membership includes previous students, staff and governors of the former Wye College.

"It was decided that the Group should continue in being to: represent the concern, not only of those present at the meeting, but also the many others throughout the world who have expressed anxiety over the threat to the integrity of this renowned institution secure a viable future for Wye as a centre of academic excellence; cooperate with other individuals and organisations in the furtherance of this goal; cooperate with Imperial College in its Review of the future of the Wye campus.

The Chairman of the Group may be contacted at tim@cfm-uk.co.uk."

Students now in their first year will be able to complete their courses and academic and other support staff are gradually learning of their career options. But there is inevitably still much confusion and anguish. Everyone hopes that, as the fog clears, things will look a little brighter.

In November the College announced the formal review of the Wye campus which will start in the New Year. Please contact Rebecca Butler, the Committee's Secretary, on r.butler@imperial.ac.uk or +44 (0)20 7594 5696 with queries or information.

Tanaka Business School

Tanaka Business School Executive MBA moved up into the global Top 10 in the *Financial Times* Executive MBA 2004 rankings, coming 3rd in Europe and 2nd in the UK. In the Top Salary Percentage Increase category, Tanaka Executive MBA alumni were ranked 2nd in Europe and 10th worldwide and the school was ranked 4th in Europe for research.

From April 2005, the Tanaka Executive MBA will also be offered as a residential programme. This will enable our students to continue to combine the benefits of part-time study with full-time employment.

Two additional programmes will also be added next year: an MSc in Management and an MSc in Risk Management and Financial Engineering.

Our new MSc Management programme, launching in October 2005, will give students a strong foundation in subjects such as business economics, organisational behaviour, strategy, marketing, innovation management and entrepreneurship. In addition, the Tanaka MSc Management will be the only programme to include participation in a Business Plan competition as part of the curriculum.

The unique MSc Risk Management programme, a 16-month part-time evening course, will equip students with increasingly required technical skills to compete in the swiftly growing field of risk management, and also enable them to profit from the expertise and experience of Tanaka's Finance section.

Please see the Tanaka Business School website for more information about our programmes at www.imperial.ac.uk/tanaka.

Tanaka Business School Alumni Network

On 11 November, Tanaka Business School held the Alumni and Careers Networking Evening, which saw a large turnout of current and recently graduated students from all courses of the Business School. The group of recent alumni, which included graduates now working at global companies such as BT and PriceWaterhouseCoopers, took the opportunity to share their experiences of their course and subsequent career path with new students of the Business School.

One of our most recent alumni, Kevin Baughan, was named Student of the Year 2004 by the Association of MBAs. Kevin was recognised by the judges for his entrepreneurial and leadership skills, as well as for his high academic attainments.

Congratulating Kevin on his success, Principal of Tanaka Business School, Professor David Begg, commented: "Kevin was an outstanding student on the EMBA programme, adding tremendously to the group dynamic. His contribution in and out of the classroom was always impressive and he commanded huge admiration and respect from both his fellow students and the academic staff. He is a worthy winner of this prestigious award."

Kevin received his award, which included a cash prize of £1,000, at the Association's gala dinner at the Banqueting House on Thursday 11 November.

PAULO GOMES

TANAKA BUSINESS SCHOOL ALUMNI NETWORK MANAGER

Charing Cross and Westminster Medical School Alumnus Society

The Committee is very pleased to announce that the Faculty of Medicine has accepted our offer of funding for an annual CXWMS Alumnus Society Prize in Primary Care Medicine worth £500, to be awarded on the results of the Final MBBS. The first award of this Prize will be in July 2005. The Society's Alumnus Appeal Fund remains open if any former students of the three Schools wish to contribute to it. Information is available from the Honorary Secretary.



Charing Cross veterans of 1954 to 1957

While there was no annual dinner for the Society this year, several reunions have taken place. On 1 October 2004 former students who graduated from Westminster Medical School in 1959 and 1960 attended a Reception at the House of Commons hosted by Dr Richard Taylor (Westminster Medical School 1958). Two groups of Charing Cross Hospital Medical School alumni met recently: the veterans of 1954 to 1957 held a reunion on 20 November; while the class of 1984 celebrated on 16 October. Will it be the turn of *your* year group next year?

Peter Griffiths, Hon Secretary has become the new contact for alumni for all three former Medical Schools, peter.griffiths@btinternet.com.

PETER GRIFFITHS

HON SECRETARY

City and Guilds College Association

Last year's Freshers' Ball and Christmas lunches were a great success in making students aware of what the City and Guilds College Association can offer them. We attracted some 160 student members in 2004. Our annual Networking Reception was also highly popular, drawing a good mix of alumni and students to the hospitality of the Polish Club.

The first edition of *Imperial Engineer*, combining the strengths of *Imperial College Engineer* and *RSMA Update*, seems to have found favour in the combined readership of over 7,000. Work continues on the next edition of *Imperial Engineer*, due out spring 2005.

One of our themes this year is to strengthen the links with the Livery Companies and the City and Guilds of London Institute. Graham Skinner, Clerk of the Engineers' Company set the scene with an after-dinner explanation of what the livery companies are and what they do. In addition, by sharing publicity for our events with City and Guilds Association, we are encouraging cross-fertilisation of networks.

The Old Centralians Trust is expanding its benevolence work from bursaries of various sorts, to direct financial support of students in need, or for approved student projects away from College.

Plans are in hand for several attractive events, not least the growing programme of Walks with a Past President, organised by David Hattersley. On 3 March 2005, we will hear from Sir David Brown, Chairman of Motorola and past President of the IEE, at our annual Dinner at the Saddlers Company Hall.

Details of all of our events and more information are available on our website: www.cgca.org.uk.

BILL MCAULEY

Hon Secretary

BARRY BROOKS

President

Friends of Imperial College

Friends were invited to attend a reception at the launch of Tanaka Business School this summer. The evening included an introduction from the Rector and a tour of the building. Some of the many Imperial spin-out companies staged a fascinating exhibition. This demonstrated the benefits they have derived from the close integration of scientists, engineers and the Business School to carve out success. A great time was had by all.

Also during the summer we surveyed our members in order to identify why they joined, how they rated the events organised by Friends and Imperial, which College services they used and how they saw the future of Friends. There was a gratifying response rate of well over 40 per cent. The results were equally impressive, with membership being highly valued and enthusiasm shown for the membership benefits.

The survey showed that members join us principally because they have a particular interest in science, technology and medicine and want to know more about College research and activities. About a third of the membership is made up of alumni and staff, and half of our members rate learning facilities as an important criterion in their decision to join.

Other members attend College events such as lunchtime concerts, inaugural lectures and other College events. Although sporting facilities were not seen as a principal reason to join Friends, 10 per cent of our members did view the sporting facilities as 'very important' with 30 per cent of respondents using the sports facilities at least occasionally and in conjunction with their substantial Friends discount.

If you would like to join Friends of Imperial please contact Paula Lowdell, in the Office of Alumni and Development, at p.lowdell@imperial.ac.uk.

ROD RHYS JONES

CHAIRMAN

association_groups

Imperial College School of Medicine Alumni

We are a new group created for all graduates of the Imperial College School of Medicine.

This was a particularly special year for the School of Medicine as we welcomed our first ever graduates from the new medical school formed in 1997.

The purpose of Imperial College School of Medicine Alumni is to allow graduates to maintain links with the School of Medicine, stay in touch, and communicate with other members as their careers progress. As a fledgling organisation, we will be working to engage with our graduates and encourage their continued membership. Once established, the group aims to use a proportion of the annual subscription to support the cultural, sporting and academic activities of future generations of medical students at Imperial.

If you would like to join the Imperial College School of Medicine Alumni or have any questions please contact Cecilie Sorhus on icsmalumni@imperial.ac.uk; +44 (0)20 7594 9813; or visit our website for regular updates www.imperial.ac.uk/medicine/alumni/groups/icsmalumni.

JENNY HIGHAM

IMPERIAL COLLEGE SCHOOL OF MEDICINE ALUMNI PRESIDENT

Royal College of Science Association

As mentioned in the last *Imperial Matters* we sent a questionnaire to all members asking what they would like from the Association. Thank you to everyone who replied. The response rate was excellent and the results are being analysed.

The winner of this year's Royal College of Science Association prize was Paul Kirk (pictured, below) of the Department of Mathematics.



Paul was presented with the prize by the Association's President, Dr Digby James, at a reception following the Commemoration Day ceremony.

The prize is given for performance during the academic year and contribution to the College community.

Particular attention is given to character, personality and to participation in general sporting or other College activities, as well as to examination results.

Two years ago Paul successfully resurrected *Broadsheet* which had been dormant over the previous session. In his final year he was joint crossword editor for Felix but also found time to help out with the Mathematics 'self help' classes (a peer tutoring system within the department) and to compete for Imperial at cross country.

As usual we held the Careers Forum in early November giving final year students an opportunity to talk informally to members about how to be successful at applying for a job and the pluses and minuses of particular careers.

In 2005 we are planning a trip to Weather Action; a reception at the House of Lords; and a trip to the Ceremony of the Keys at the Tower of London.

If you would like to join the Association please contact us on rdsa@imperial.ac.uk; +44(0)20 7594 6129 or visit our website at www.rdsa.org.uk.

DAVID LEGG

HON SECRETARY

Royal School of Mines Association

It has been an eventful year for the Association, but one that sees us move forward within the new structure. This provides a basis for the Association to continue with our traditional activities and expand the scope of our student welfare, career development and membership.

We have had a successful first few meetings of the Engineering Chapter Board, which oversees the relationship and activities between the alumni organisations, the Faculty and the student body. Perhaps the most visible sign of cooperation within the new Engineering Chapter has been the recent publication of *Imperial Engineer*, which hopefully everyone received at the beginning of the new academic year.

Earlier on in the year the Royal School of Mines Union celebrated another splendid Bottle Match win taking the tally to eight in a row! Whilst rugby is arguably the main event, the weekend also saw the football team earning a hard fought draw and the Camborne School of Mines taking the consolation prize in hockey and squash.

This year's winner of the Royal School of Mines Association Trust essay competition was Marcella Feilhaber, a 4th year MEng student in Petroleum Engineering. This traditional competition was revived four years ago with a silver medal and a premium of £200 as the prize. The

subject matter has to link concern for the environment with any aspect of the course curriculum.

Marcella (pictured), a Brazilian student, wrote about the Urucu gas and oil development in the environmentally sensitive Amazon basin. An edited version of her essay will be published in the next issue of *Imperial Engineer*.



PAUL HOLMES

HON SECRETARY

St Mary's Hospital Association

The year was 1954. It was a proud one for St Mary's Hospital, as Felix Eastcott performed the first carotid endarterectomy in the world, and Roger Bannister broke the magic four minute mile barrier.

Felix Eastcott's achievement was celebrated with an afternoon of lectures, the unveiling of a plaque and an evening dinner at the Royal Society of Medicine. It is difficult for us to imagine what life was like at the hospital in May 1954. Certainly such an operation must have been seen as an extraordinary feat and pictures from the time show quite an audience in the operating theatre. A number of photographs and information depicting St Mary's in the early 1950s were displayed for the afternoon. The evening's entertainment was crowned with a speech from Mr Eastcott himself which helped fill in details of the time.

Another anniversary celebrated recently was Roger Bannister's four minute mile. He was a student at St Mary's at the time and I'm sure many of today's students wonder how he fitted his training around his work schedule! With the School's strong sporting tradition, I suspect athletic activities were not limited to a Wednesday afternoon! There is a large photograph in the Roger Bannister Lecture Theatre which shows the moment he crossed the line and the agony of effort is plain to see in the expression on his face.

Despite the enormous medical and scientific advances (both in the hospital and at Imperial) over the last half century, it would be difficult to match the momentous achievements of global importance of 1953/54. It was certainly worth celebrating and I'm sure all who took part were proud of the historical association with St Mary's.

MICHAEL JENKINS

HON SECRETARY

Black Bear Conquered!

Imperial College Exiles North America East held an impressive 30th reunion at Sagamore, Raquette Lake, New York, from 24-27 September 2004. A resolute group of 24 individuals ranging in age from six months to 79 years attended from places as far flung as Toronto, New York, Boston, Pennsylvania, Los Angeles, San Francisco, and Surrey, UK.

Over the weekend some successfully conquered Black Bear Mountain (which rises to 2445 ft in the Adirondacks), showing that, with middle age determination, Imperial's alumni can still overcome major obstacles! We packed a total of three maps and one GPS for the trip (which provided endless navigational debate during the hike).



Sagamore was originally built by the Vanderbilts over a hundred years ago and provides a wonderful rustic setting for our events, overlooking a private lake among the trees. We were blessed with unusually beautiful weather this time round with several long time attendees unable to remember better weather at previous reunions (memory lapse may also play a part here).

The 2005 ICENAE reunion will move to Canada for the first time. Ros Rossetti (Chemistry 1969) is the convener for this event which will take place from 30 September to 1 October at the Le Chateau Montebello, Quebec. All Imperial College alumni and their families are welcome. We would particularly welcome medical alumni. For further information see www.mccannscience.com/icenae.htm or contact Rosamund at rosamund@aol.com or (416) 691 1235 for further details.

SANDY EAMES
CONVENOR 2004

2004 International round-up

JANUARY

4 The Imperial College Alumni Association of Hong Kong organised the Careers Fair 2004 at the British Council in Hong Kong, along with counterparts from Oxford and Cambridge Universities. It was attended by over 200 alumni, current students and sponsors, including representatives from Goldman Sachs and Merrill Lynch.

FEBRUARY

19 The joint Alumni Associations of Greece held their annual 2004 Pitta Cutting Celebration for the New Year in Athens.

MARCH

6 Imperial College Alumni Association Malaysia held their New Year event in the form of a talk by Feng Shui expert, Lillian Too, on *How to enhance your business in the year of the Wood Monkey*.

MAY

6 Imperial alumni in Greece were invited to the British Graduates Society 45 Anniversary Celebration at the British Ambassador's Residence in Athens.

10 Dr Clive Hallett (Materials 1977, PhD 1981), President of the Canadian Institute of Mining, Metallurgy and Petroleum for 2003/04, hosted their annual conference in Edmonton, Canada.

SEPTEMBER

11-12 The Imperial College Club of Germany held their annual meeting at the British Embassy in Berlin. The theme for 2004 was *Strengthening Business and Learning Relations between Germany and the United Kingdom*. Omar Cheema of Imperial College Innovations gave a status review on the College and an update on current key research projects.

24-27 Imperial College Exiles North America East celebrated their 30 year reunion at Great Camp Sagamore in Adirondack mountains (see special report).

26 In Singapore the Imperial College Alumni Association of Singapore held their 26th AGM on board the Harbour Queen, in Keppel Marina.

OCTOBER

16-17 The Imperial College Foundation held its annual meeting at the Marriott Hotel Intercontinental. The programme included a series of talks from academics at Imperial College and the University of Texas on new and innovative academic and research activities.

21 The Imperial College Northern California Alumni Association visited the high security Lawrence Livermore National Lab's National Ignition Facility in Livermore, California.

DECEMBER

4 The Imperial Bay Area 2004 Annual Dinner took place at Menlo Park, California (see special report).

20 The Imperial College Alumni Association of Greece held their general assembly in the National Technical University of Athens, celebrating 13 years of activities and 10 years of formal presence.

This is just a flavour of the activities of our alumni overseas and we welcome reports of your activities. We are grateful to all our overseas volunteers who give up their time to produce events such as those listed above.

A busy year in San Francisco

Altera Corporation played host to Imperial College Northern California Alumni Association for an information session at their San Jose, California, headquarters on 20 July 2004. Robert Blake, Vice President of Product Planning, gave the group a comprehensive overview of Altera's programmable logic devices, product suite and their markets, including Altera's system-on-a-programmable-chip. The event ended with an enjoyable lunch in the company cafeteria courtesy of Altera which gave Imperial alumni a great opportunity to mix and talk to Altera staff.

The Association also visited the high security Lawrence Livermore National Laboratory's National Ignition Facility, California in October 2004. Our tour guide, Imperial alumnus, Brian MacGowan (Physics 1980, PhD 1983) gave a fascinating tour of one of the wonders of the scientific world. The combination of vast scale and super high precision makes the Lawrence Livermore Laboratory an engineering marvel. The facility does important research in a number of fields, including material science, astronomy, power generation and nuclear weapons.

Finally, in an active year for the Association, the annual close of year dinner was held on Saturday 4 December. Guest speaker Louise Kehoe, a former Bay Area Senior Technology Commentator for the *Financial Times*, followed the dinner. As a media consultant for technology firms, Louise shared some interesting insights as a close and astute observer of the high tech industry.

For more information about the Imperial College Northern California Alumni Association, please visit www.imperial.ac.uk/alumni/international.

DICK WATTS
PRESIDENT

focus on alumni

The club with no name – still going strong after 63 years



In September 1941, a group of undergraduates began their studies in the Department of Chemistry. In the middle of WWII, university life involved learning to deal with the black-outs, bombing raids and frequent pea-souper fogs; all on top of the usual pressures of academic life!

This group of like-minded chemistry students, along with a few of their contemporaries from botany and geology, formed a club based on their passion for science. Finding a name for the club proved a hard task and with no official club title agreed by the time they graduated, they decided on the *Blank Club* until a more suitable name could be found. Now 63 years on, no better name has been found, but the Blank Club is still very active. Founder member, John Waller, emphasises the special quality of such a club: "With members now in their late 70s and early 80s, friendships of this calibre become important."

The club started out with 30 members and, in the early days, their main activities involved either going out to dinner or to the theatre. These meetings soon became an important way of keeping in touch as some members ended up leaving the College before the end of their courses, completing their degree courses elsewhere. Members were chosen largely based on friendships amongst the founding group and numbers remained fairly small. There was, however, a distinct lack of female members as women students at Imperial College were a rarity in those days.

Back in 1941, club members paid an annual subscription fee of £1 5s and accounts were meticulously kept. They held three meetings each year, as agreed in a formal constitution, which included an AGM to decide officers and committee for the forthcoming year. Striking an early blow for equal opportunities, girlfriends were admitted to these meetings from an early stage. Most of them became wives, blending in

harmoniously with club members. Later on, as children began to arrive, family meetings were also introduced to the annual calendar of events, with outings to places such as Great Windsor Park for picnics.

The Blank Club celebrated their 40th anniversary in 1982 with dinner at 170 Queen's Gate with Sir Brian Flowers, then Rector, and his wife as special guests. This happily became a feature of subsequent anniversaries. Sir Eric Ash and his wife were guests at their 50th anniversary (this occasion was particularly notable as Sir Eric actually reversed the invitation the following year and had Blank Club members as *his* guests for dinner!). They also had the pleasure of Sir Richard and Lady Sykes' company for the club's 60th anniversary in 2002.

In 1988, as members neared retirement age, a new means of keeping in touch was established by holding one meeting per year at a hotel out of London with members staying for a few days. Not only did this allow for more relaxed occasions, but also made things easier for the scattered membership to attend while avoiding the high costs of meeting in London.

Sixty-three years on, members are now nearly all octogenarians and, sadly, some have been lost along the way. However, there are still 16 members who continue the tradition of annual meetings at locations around the UK. John explains: "We all feel that it is very worthwhile to persevere with our association through our informal club based essentially on the close bonds created at College. If there are any other groups of alumni who have held together as long as we have, we would be interested to hear from them."

It is intriguing to consider how many grandchildren carry the Blank Club gene and who will hopefully pass on the same enthusiasm for science and technology to future generations. To date only one Blank Club grandson has followed his father into Imperial College. Remaining members hope that the same enthusiasm for science and technology that brought them together so long ago will persist among their descendants and those of fellow Blank Clubbers from over the years.

PROVIDED BY DR JOHN WALLER (CHEMISTRY 1944)



EARLIER THIS YEAR GREG YEOMAN (ENVIRONMENTAL TECHNOLOGY 1989) GOT ON HIS BIKE FOR UNESCO, SETTING OUT TO EXPLORE AUSTRALIA WHILST PROMOTING THE GOAL OF SUSTAINABILITY. HE RECOUNTS HIS EXPEDITION BELOW.

Cycling Wild Australia

Peanut butter. Long-distance cycling is the best excuse for eating huge quantities of whatever you like without feeling any guilt. Forget Atkins. Forget F-plan, Southbeach and all the rest – cycle 65 miles each day and there is no way you will put on any weight. So if you fancy a fry-up followed by cake and custard with jam, go ahead.

The limiting factor on my cycling trip through Australia though was that I would have to carry all of the food that I needed to consume on my bike. Weight is very important. Hence peanut butter's position at the top of the list, with its chart-topping 593calories/100g. After trying various other foods my cycling partner, Kate Leeming, and I established that this was the king of calories, and our consumption of it went off the scale.

The reason that we needed all this energy was that we were undertaking the most comprehensive bicycle journey through Australia known to man. The Alcoa Great Australian Cycle Expedition is a nine-month, 19,000-mile odyssey through the island continent. Supported by UNESCO, its purpose is to promote the education of sustainability. Our journey began on 10 May from Parliament House, Canberra, with Education Minister Brendan Nelson waving us off.

Unfortunately, planning the trip had left no time for training. The first few weeks were very hard work, especially as we headed straight into the mountains of the Great Dividing Range. Gradually we found our cycling legs, and our appetites grew alarmingly to satisfy our energy requirements. The mornings were frosty but as we headed north into Queensland things warmed up.

Kate had planned the route to include the four extreme points of the country. Byron Bay in the east was easy to reach, and at the end of our second week we stood on the cliffs, looking at the Pacific Ocean. Cape York, in the north, was a very different experience: it was hot, humid and dusty work along the heavily corrugated and eroded track through crocodile country. We knew conditions would not get

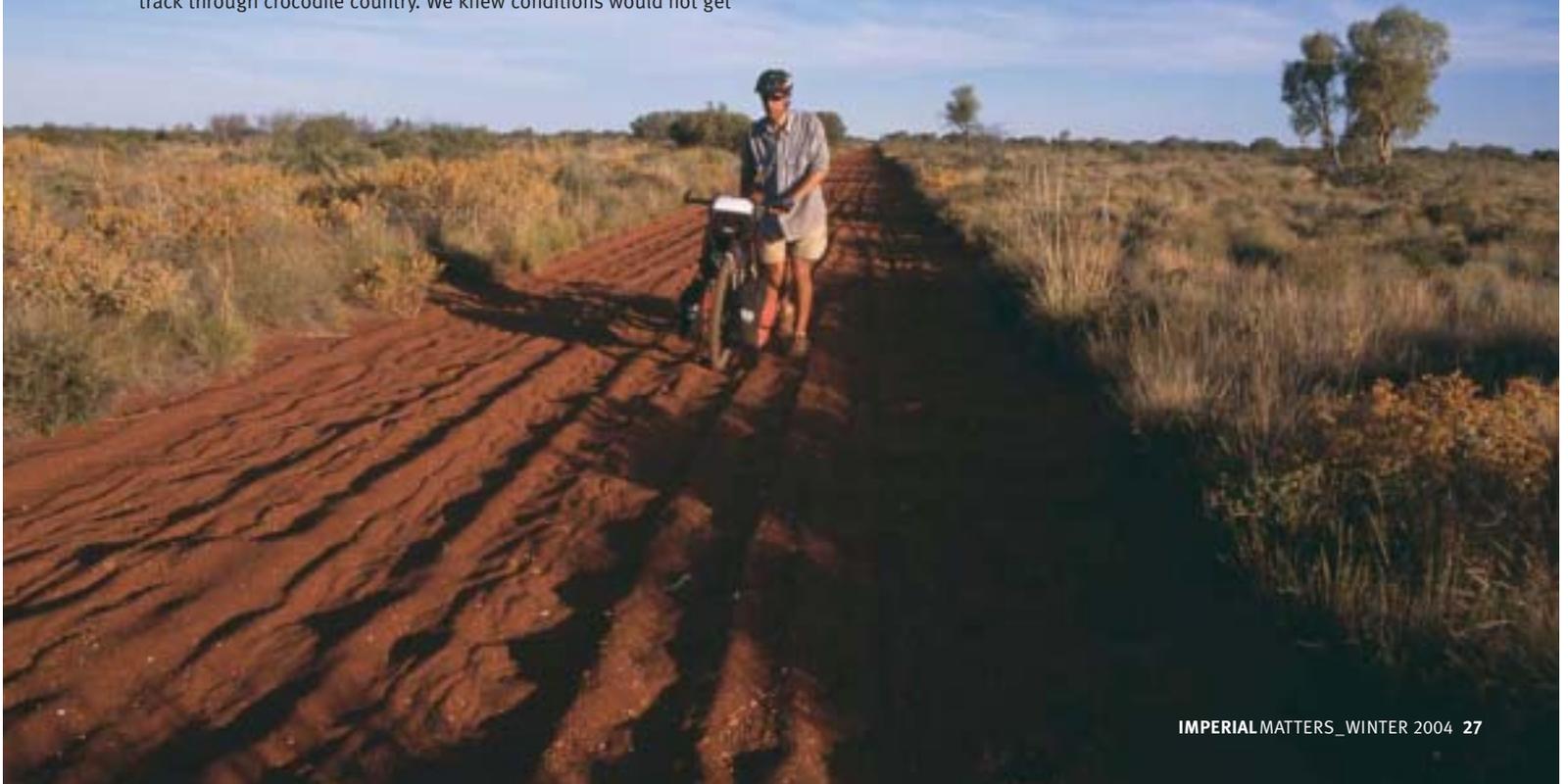
any easier now, and the majority of the route from here to Broome would be gravel roads.

One of the highlights of the trip was the Gulf Track from Normanton to Roper Bar, with constantly changing scenery, lush lagoons, towering paperbark trees and beautiful wild campsites. We stayed on cattle stations as well, often up to a million acres. Although the owners were invariably busy with mustering (when cattle are rounded up, tagged, branded and sorted for export or fattening) we were always warmly welcomed and made to feel like old family friends.

After Darwin our route turned south, following station tracks and desert routes to the Tanami Road and on to Alice Springs. The prospect of following these more remote routes was daunting, but we were determined not to simply roll along the main tarmac highway, where so many cyclists have been before. To fully appreciate the scale of the Australian Outback you need to get away from human influences – the sound of traffic, the lights of the towns, the visual intrusion of a blacktop road. At the same time, you have to respect the surroundings and appreciate your vulnerability.

Kate and I cycled, pushed and skidded our way through the Gibson Desert to Carnegie station. Here we found the last store on the Gunbarrel Highway, and with our supply of peanut butter replenished we continued west. Three days later we made it to the small town of Wiluna in the middle of Western Australia. Since leaving Canberra 134 days earlier, we had cycled a massive 7,507 miles through harsh and beautiful country. For me, this is where the journey ended, but ahead of Kate lay five more months of pedalling as the Alcoa Great Australian Cycle Expedition continued on its way, exploring Australia and promoting sustainability.

For more details about the expedition visit www.gracexpedition.org.



focus on alumni

Were you a member of the Imperial College Railway Society?



This photograph, taken by Brian Pask (Chemistry 1958), shows members of the Imperial College Railway Society hard at work on a trip to the Festiniog Railway in Wales in 1957. Perhaps you recognise the people in the photograph or maybe you even took part in this trip to the Festiniog Railway?

Following investigations by rail enthusiast Kim Winter, a member of staff from the College's Estates Division, it seems that the Imperial College Railway Society ceased its activities in 1981. Kim's interest in the Society was stirred after discovering pictures of Railway Society members and the Festiniog Railway. Kim and fellow enthusiast John Barnes, also from Estates, would like to resurrect the Society for students and staff who are interested in the railway scene, both historic and modern.

The history of the Society is very patchy and they are interested in hearing from alumni who could search out anything connected to the Society or have any memories of trips that the Society made. If you were involved in any way Kim would be pleased to hear from you.

They plan to organise trips and lectures which any alumni would be welcome to attend. If you are interested in learning more about

the resurrection of the Railway Society, contact Kim on +44 (0)20 7594 9012 or email him k.winter@imperial.ac.uk.



Elected to government



On 17 June Professor Maria da Graça Carvalho (PhD Mechanical Engineering 1983) was appointed Minister for Science, Innovation and Higher Education in the XVI Portuguese constitutional government. She was formerly Minister of Science and Higher Education.

Since completing her PhD at Imperial College, Professor da Graça Carvalho has had over 20 years' research experience in energy, environment and sustainable development. In June 1992, she became Professor in the Department of Mechanical Engineering Department at Instituto Superior Técnico, Universidade Técnica de Lisboa.

She has participated in and coordinated many international research projects; and has over 250 publications in scientific journals, books and international conferences. In March 2002, Professor da Graça Carvalho was awarded the Order of Public Service by the President of Portugal as part of the International Women's Day Programme.

Celebrations for Imperial's CONSORT reactor

Imperial's CONSORT Reactor celebrates its 40th birthday in April 2005 and alumni of the College are invited to be part of the celebrations taking place to commemorate this special anniversary.

Silwood Park is hosting the 2005 meeting of the Universities Nuclear Technologies Forum (UNTF) from 6-8 April 2005. A gala dinner will be held for conference attendees and Reactor Centre alumni and friends on 7 April 2005. The Institute of Nuclear Engineers Pinkerton Prize for the best student presentation at UNTF will also be awarded at this dinner. If you would like more information about the Forum and dinner, please contact Simon Franklin, s.franklin@imperial.ac.uk.

The 40-year celebration has provided the opportunity to record the reasons for the Reactor Centre's existence, the development of the Centre and the way in which research and teaching requirements have changed over 40 years. A new book, written by George Burholt, formerly Manager at the Reactor Centre, will be of interest to nuclear historians and supporters of the Reactor Centre. For more information, please contact Ellen Brown, e.brown@imperial.ac.uk.

In the midst of celebrations, the long-term strategic direction of the reactor is currently being considered and Reactor Centre stakeholders met in October 2004 to discuss its future. Customers, academics, regulators and government representatives joined staff from the Centre as part of the College's ongoing reactor future options project.

If you are interested in being part of the stakeholder dialogue on the long-term direction of the Reactor Centre please register your interest through the Reactor Centre Future Options Project Administrator, Ellen Brown, e.brown@imperial.ac.uk or Simon Franklin, Director of the Reactor Centre, s.franklin@imperial.ac.uk.

books

Assessing the Alternatives

Anthony Rose (MBA Management 2002)
Private Equity International

A guide for purchasing new technology solutions, upgrading current systems or simply staying informed of recent industry changes. It also includes a review of technology concepts, an in-depth implementation guide, and a comprehensive market analysis.

Your Reserves or Mine?

James Platt ARSM (Mining Geology 1960)
Creighton Books

A personal account of the adventures and misadventures in the life of a geologist employed by a celebrated mining company.

Crystal Acoustics

Michael Musgrave (Aeronautics 1943)
Acoustical Society of America

An up to date introduction to both the propagation of elastic waves in crystals and the dynamics of crystal lattices.

Communicating with the African Patient

Dr Chris Ellis (Charing Cross and Westminster Medical School 1967)
University KwaZulu-Natal Press

A practical guide to language learning strategies designed to help doctors, nurses and other healthcare workers to learn an African language through their daily contact with patients in Africa.

Scenarios, Stories, Use Cases through the Systems Development Life-Cycle

Ian Alexander (DIC Computing 1984)
John Wiley Publishers

A reference point for practitioners and researchers trying to resolve the relationship between use cases and scenarios.

Agriculture and Rural Development Planning

Harold David Akroyd (Agricultural Economics 1978)
Ashgate

A clear guide to best practice for agricultural and rural development project planning, illustrated with practical examples.

The Rough Guide to Travel Health

Dr Nick Jones (Charing Cross and Westminster Medical School 1990)
Rough Guides

A comprehensive guide to healthy travel including pre-travel information, tips for travellers with special needs, health risks particular to certain areas and how best to treat them, plus a directory of health contacts worldwide.



obituaries

MR DAVID JOHN BERRILL (Physics 1975)

After graduating David Berrill became a member of a research team for an oil company which involved travelling to Senegal, West Africa, aboard an ocean going survey vessel. In 1984 David transferred to the US through work and lived there for the rest of his life.

A devout family man, David was married to wife Vera for 18 years. He also became very involved in the boy scouts of America and was scout master of a troop of 70 boys. He gained his pilot's licence, became a certified diver and loved Formula One racing. David was always known and respected by his peers for his integrity and honesty and had many, many friends who miss him dearly.

Provided by Vera Berrill

SIR ROBERT BOYD CBE Kt (Electrical Engineering 1943)

Professor Sir Robert Boyd is regarded as the father of space science in the UK, having created a unique and successful environment in which space science and space scientists could develop to their full potential. His legacy of robust strategic management, combined with a lively enthusiasm for science and engineering, lives on at a senior level in many research groups across the world.

A dignified and warm colleague, Boyd combined his scientific life with a profound faith and an active role in the church. He is survived by his wife and three children.

Source: the Guardian

MR GODFREY (GEOFF) HYDE BURRILL (Mining Geology 1953)

Geoff Burrill graduated from Imperial College in 1953 and went on to lead a highly successful career as a geologist, living and working all over the world including Canada where he met his wife, Pamela Margaret. They raised three children and explored the world during their 42 years together.

Geoff loved the outdoors, whether it was hiking, daily walks with his dog or playing tennis – a game for which he had a great passion. Geoff did not allow cancer to prevent him living the life he had always had. He continued to enjoy books, jazz, playing tennis and travelling until shortly before he passed away. Geoff is survived by his children (Julia, Duncan and Gordon) and grandchildren.

Provided by Tim Atherton

DR SUSAN JAYNE BYRNE (PhD Chemical Engineering 1980)

Having gained her PhD at Imperial College, Dr Susan Byrne returned to her native New Zealand where she joined the University of Auckland as the first woman to be appointed to the academic staff in its School of Engineering. Susan travelled extensively on sabbaticals, for research and, occasionally in later life, pursuing her own interests such as tracing family roots and connections in Ireland. She also developed new interests including quilting and joined a local group where she was regarded with awe as a member skilled in the application of principles of applied mathematics to quilt design and colour choice.

Her passing has left a sad gap among her colleagues at the University of Auckland and her many friends around Auckland and beyond, but also, and especially, with her widespread family.

Provided by Mrs Marie Byrne

PROFESSOR FRANCIS (FRANK) WILLIAM COPE (Botany 1936)

On graduating from Imperial College, Frank Cope began working as a Research Fellow at the Imperial College of Tropical Agriculture, Trinidad, where he initiated studies on the genetics of Theobroma cacao. He later became Professor and subsequent Head of Department of Botany and Plant Pathology at the University College of the West Indies before retiring from active service in 1973. He was accorded the status of Professor Emeritus in 1974 for his invaluable contribution to the University.

Frank is remembered by his former students for his well structured and carefully delivered courses in genetics. Close friends greatly miss Frank's lively sense of humour and his broad interest of classical music and woodwork. His wife, three children and grandchildren survive him.

Provided by Joyce Cope

MR JOHN MILLMAN ELLIS BSc(Hons) ARSM (Mineral Resources Engineering 1984)

During his studies at Imperial College, John Ellis actively organised and participated in events as a student representative for the Royal School of Mines Students' Union. In later life John worked for companies such as Shell and Expro and was also invited to lecture on university courses and seminars in mining and construction machinery.

Apart from his outstanding career, John is remembered for his cheerful and easy-going personality. His sense of humour and stamina in difficult moments were the hallmark of his personality for those who knew him.

Provided by his wife, Ana M Roldán

DR STEVEN DOMINIC FEENAN (Charing Cross and Westminster Medical School 1993)

Within a term of beginning medical school, Steve Feenan had become a living legend. His ability to mix with all years of students and junior doctors made him one of the School's most popular and sociable individuals. He was active in the life of the medical school, one of its most committed charity fundraisers and a recognised advocate of the underdog.

Although he had the ability to gain top marks on minimal revision, progress within clinical academia did not interest Steve. He eventually found his niche in emergency medicine where his gentle, down to earth approach earned him the title 'the people's doctor' among staff and patients alike.

A fanatical runner and keen traveller, Steve saw more of the world in 33 years than most people do in a lifetime. He was a highly qualified and able diver and hoped eventually to open a diving school. Steve is survived by his partner, parents, sister and two brothers.

Provided by Karen Armstrong

MR JOHN (IAN) SEYMOUR FRENCH (Mechanical Engineering 1944)

Ian French attended Imperial during the war and was always very proud of his association with the College, becoming an alumni representative in the antipodes for a number of years. Whilst he was an excellent engineer and manager with a great devotion to his people, Ian was also a devoted father and this probably somewhat constrained his career at times! He is survived by his widow, Betty, his four children; Lesley, John, Malcolm and Alycia and numerous grandchildren.

Provided by John French

EMERITUS PROFESSOR ALFRED (DICK) GORDON GAYDON

(Physics 1932, MSc 1934, PhD 1943)

Professor Dick Gaydon distinguished himself as an experimental spectroscopist studying flames and shock waves. He was an author of six popular texts in these fields which gained him international recognition. Dick demonstrated his characteristic light heartedness after a laboratory accident left him with only a narrow angle of vision, often obscured by floaters.

Aside from rowing for Imperial in the years before his accident, Dick's lifelong passion was with the natural world and, in particular, with butterflies and moths. Dick was a kindly, modest man with an enduring love of nature, who will be greatly missed. His work will not be forgotten by the combustion community – whenever students ask about the colour of flames, they will be referred to his numerous publications.

Provided by Emeritus Professor Felix Weinberg, Senior Research Fellow, Department of Chemical Engineering and Chemical Technology

MR MAURICE OSWALD GRAVES (Agricultural Sciences 1950)

Maurice Graves farmed at Raffingora, Zimbabwe for 52 years, finally retiring in June 2002. He is survived by his wife, Benedicta (also a Wye graduate) and four children.

Provided by Bene Nicholson

MR STYLIANOS KAFANDARIS (DIC Mechanical Engineering 1971)

Stylianos Kafandaris led a full, enjoyable and rewarding life before sadly losing his battle with cancer. His concerns for the sensibilities of others, his loyalty to his family and friends and his commitment to completing every task with integrity and honesty are sorely missed.

Provided by Niki Bevezidge

MS HAJRA KHATOON (MSc Physics 1956)

Having gained her degree in Physics at Aligarh Muslim University, Hajra Khatoon became the first female physicist in South Asia. She joined Lahore College for Women and established a physics department at the college before proceeding to Imperial College where she completed her MSc.

Travelling back to her native Pakistan, Hajra Khatoon was appointed principal of Government College for Women Gujrat in 1956 and subsequently principal of the Sir Syed College for Women, Rawalpindi. She was also the director of Punjab Textbook Board Lahore until the late 1980s, and continued her teaching till 1997 in a career spanning a remarkable 50 years. She is survived by two sons and two daughters.

Source: the Daily Times, Pakistan

MR COLIN GRAEME LENNOX (Electrical Engineering 1953)

Colin Lennox completed his degree at Imperial College in tandem with an apprenticeship with the Atomic Energy Research Establishment. He later emigrated to Canada to help design reactor control systems. Beyond his work in engineering, Colin had many interests including canoeing and the outdoors, telescope building and astronomy. Colin is survived by his wife, children and grandchildren.

Provided by P Lennox

MR JOHN LINDSEY NEWTON MARSHALL (Chemistry 1949)

John Marshall joined Imperial College as a student of chemistry in 1941, where he formed a lifelong friendship with fellow students through the Blank Club. Members and their wives have since enjoyed many happy occasions over the years including some at Imperial College campuses. Later working for Imperial College Industries, John remained with the company for the whole of his career, retiring at the age of 57. He leaves a widow and three daughters.

Provided by Mrs D C R Marshall

PROFESSOR ALI MASSOUMI (MSc Chemistry 1958, PhD 1960)

Ali Massoumi was a professor of chemistry for over 40 years and dedicated his life to teaching and research in a number of internationally renowned institutions. In the course of his career, above all Ali valued the interaction with his students and followed, with avid interest, their many successes. He will be deeply missed and fondly remembered by his family and friends. Ali is survived by his wife Patricia, son Hassan, daughter Soraya, and his grandchildren.

Provided by Cyrus Khojasteh

EMERITUS PROFESSOR WALLACE PITCHER Hon MRSA Hon FRSE (PhD Geology 1955)

Professor Wallace Pitcher began his work in the Department of Geology at Imperial College as a demonstrator but was quickly promoted to a full lectureship. He left Imperial to embark on an epic 25-year study of the granite rock in Donegal, Ireland which became a benchmark for subsequent granite studies. His published work still remains a classic text.

Wallace continued in academia for the majority of his working life. He was a founder member of the Institution of Geologists and contributed much to the Geological Society of London as Secretary, Foreign Secretary, and, finally, as President. Following his retirement in 1981, Wallace was able to concentrate on *The Nature and Origin of Granite* – a fundamental book charting half a century's experience and study. He remained active and highly involved in granite research with his last publication (focusing on his most favoured area of interest, the granites of Donegal) published in 2003.

association_obituaries

MR GRESHAM THOMPSON (Electrical Engineering 1940)

Having spent his entire working life with Hirst Research, Gresham Thompson retired in the mid 1980s. He had a wide range of interests including boats, the sea and crosswords. He also made a working telescope from scratch; including grinding the lens himself. Gresham is missed by everyone who knew him, and most especially his family.

Provided by Ms Daphne Thompson

RICHARD (DICK) VICTOR WATSON (Civil Engineering 1948)

On graduating from Imperial, Dick Watson helped to rebuild the capital of St Lucia after its devastation by fire. From the late 1950s he worked as an engineer on several projects, which required novel solutions to the engineering problems such as the Strand underpass and the Piccadilly Line extension to Heathrow.

Elected a Fellow of the Institute of Concrete Technology, Dick was involved in the courses leading to its Diploma in Advanced Concrete Technology, for which he was an examiner. All who knew and worked with Dick respected and admired him for his knowledge and ingenuity, his enthusiasm and generosity of heart. Dick will be dearly missed by his wife, Jean, and three children.

Provided by Tom Tipler (Civil Engineering 1966)

Also sadly deceased

MR JOSEPH ANSAFO-MENSAH MSc Mineral Technology 1967

DR LYNTON WILLIAM ROBERT DICKS PhD Chemistry 1964

MR PETER JOHN ETHERINGTON Electrical Engineering 1948

MR THEODORE ABNER GODDARD Civil Engineering 1943

MR ANTHONY HUGH GRANTHAM Civil Engineering 1955

MR ERIC STANLEY HALL Chemistry 1954

MR GODFREY EDWARD HEISCH Oil Technology 1940, Materials 1948

MR BERTRAM ROBERT LEIGH Electrical Engineering 1935

PROFESSOR ANTHONY JOHN MUSGRAVE Biology 1934, DIC 1936,
MSc Zoology 1947

MR KENNETH PARVIN Chemistry 1942

MR BUNTWAL RAMA RAO Electrical Engineering 1933

MR JONATHAN SWAINSON DIC Aeronautics 1948

DR KEITH FREDERICK THATCHER Chemistry 1953, PhD 1956

MR ROBERT HENRY TRIER Electrical Engineering 1940

MR JAMES EDWARD WARDROPPER Mechanical Engineering 1930,
MSc 1931

MR ROBERT ROGER WHYTE Mechanical Engineering 1932

MR CHARLES HAROLD WIGG Mechanical Engineering 1937

PROFESSOR ZHANG WEI DIC Civil Engineering 1938

honours

Fellows of the Royal Academy of Engineering 2004

PROFESSOR RICHARD ERNEST CHALLIS FEng

(Electrical Engineering 1967, PhD 1972)

Head of the School of Electrical and Electronic Engineering, University of Nottingham

PROFESSOR ANTHONY GEORGE CONSTANTINIDES FEng

Professor of Signal Processing, Department of Electrical and Electronic Engineering, Imperial College London

WILFRED JAMES CORRIGAN FIC (Chemical Engineering 1960)

Chairman and CEO, LSI Logic Corporation

MICHAEL JAMES LOCKETT (Chemical Engineering 1964)

Corporate Fellow, Praxair

RICHARD JONATHAN PARKER (Physics 1975)

Director of Engineering and Technology, Civil Aerospace, Rolls-Royce plc

Honorary Fellow of the Royal Academy of Engineering 2004

SIR RICHARD SYKES

Rector, Imperial College London

Fellows of the Academy of Medical Sciences 2004

PROFESSOR NICHOLAS FRANKS

Head of Biophysics, Department of Biological Sciences, Imperial College London

PROFESSOR STANLEY KAYE (Charing Cross Hospital Medical School 1972)

CRC Professor of Medical Oncology, Department of Medicine, Institute of Cancer Research and Royal Marsden Hospital

DR PETER MACHIN (Chemistry 1971, PhD 1974)

Senior Vice President, Discovery Research, GlaxoSmithKline

PROFESSOR ALEXANDER MARKHAM (St Mary's 1985)

Chief Executive, Cancer Research UK

PROFESSOR ROBERT SINDEN

Professor of Parasite Cell Biology, Department of Biological Sciences, Imperial College London

Appointments

DR CHEE SHENG OW (PhD Mechanical Engineering 1980), Professor in the Mechanical Engineering Faculty at Universiti Teknologi MARA in Selangor, Malaysia, inaugurated as Director and Regional Chair of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) at its 2004 Annual Meeting in June.

As Director and Regional Chair, Professor Ow serves on ASHRAE's Board of Directors and as Chair of the Society's Region XIII, representing chapters in Malaysia, Hong Kong, Singapore, Philippines, Taiwan and Thailand.

IAIN CONN (Chemical Engineering with Management 1985) appointed Executive Director by the board of BP.

Chairman of Tanaka Business School Advisory Board, Iain's career with BP began in commercial refining and oil trading. Over the last 12 years, he has spent time in various roles in exploration and production, refining and marketing and within group headquarters.

PROFESSOR MARIA DA GRAÇA CARVALHO (PhD Mechanical Engineering 1983) appointed Minister for Science, Innovation and Higher Education of the XVI Portuguese Constitutional Government. See p28 for a short profile.

If you receive a special honour or award, we will try to include your name on a future Honours page. Let us know by emailing matters@imperial.ac.uk.

Imperial College
London

www.imperial.ac.uk/alumni