

Issue 21 Summer 2002

*SUSTAINABLE DEVELOPMENT – BUILDING FOR THE FUTURE
FORMER POP STAR MAKING MUSIC IN THE CITY
BO'S VOYAGE
PLUS IMPERIAL NEWS FROM NEAR AND FAR*

IMPERIAL matters

Alumni magazine of Imperial College of Science, Technology and Medicine and the former Charing Cross and Westminster Medical School, Royal Post-graduate Medical School, St Mary's Hospital Medical School and Wye College.

In this issue ...



The DNA helix, part of a display depicting the history of medicine at the Chelsea and Westminster Hospital, is a critical structure in the emerging field of tissue engineering and regenerative medicine. Read about the story behind Professor Julia Polak's research on page 16.

Regular features

- 1 Rector's introduction
- 2 Editorial by Rod Rhys Jones
- 37 Letters

News

- 3 New appointments
- 4 News from Imperial
- 8 Alumni and development news
- 10 News from the faculties
- 27 Student news_students have a ball
- 28 International news
- 32 Association news

Alumni Focus

- 26 Reunions_alumni meet up
- 35 Catch up

Features

- 12 Soul boy makes money market sing
- 14 The changing face of energy
- 16 21st century medicine_spotlight on tissue engineering
- 18 Sustainable development
- 20 Portillo and the politics of music
- 22 Spotlight on enterprise
- 24 A Challenging final

IMPERIALmatters

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Rector's introduction



Richard B Sykes

SINCE I LAST WROTE TO YOU, WE HAVE BEEN ENGAGED IN A project to strengthen the Imperial College brand globally. This initiative is embedded in the Strategic Plan, and its success is key to the College's future development. A strong brand will help us to gain the recognition we deserve; allow us to continue to recruit the best students and staff; and stimulate philanthropic and research funding. Not least, we hope that the branding project will help to promote internal cohesion and understanding.

The first phase of the project, involving consultation and research amongst our key audiences, has been completed. The exercise produced a set of brand attributes and recommendations for our brand identity which the Executive Committee has endorsed. We are now finalising the design of our visual identity and planning its implementation and launch in January 2003.

Imperial has a great opportunity through this project to achieve a profile and a global reputation to match our achievements and realise our potential. I am sure you will agree with me that it is something of which we can be proud.

The comprehensive spending review, just announced by the UK Government, and which will provide a 10 per cent funding increase for science over the next three years, is good news. This is not only because of the generous settlement, but also because

specific problems have been addressed. For instance, by 2005, grants from the research councils will cover the indirect, as well as the direct, costs of each project they support, meaning that universities will no longer have to subsidise such research.

The money, provided through the Office of Science and Technology (part of the DTI), and the DfES, will amount to an extra £1.25 billion a year. This will include a dedicated capital funding stream for university laboratories worth £500 million a year by 2005-06.

Although extra spending won't immediately solve all the problems, these are solid foundations on which further initiatives will build. It is clear that visits to universities by Treasury officials to find out how they are run have had a positive effect and led to a settlement based on facts, not fiction.

It is important to realise that to compete internationally, we need cash injections to start levelling the playing field. We must pay competitive salaries comparable to other sectors in order to attract and retain the best staff in science.

One of the first results from the branding research is the name change of this magazine. As you see, it is now 'Imperial Matters', reflecting the importance of our name for our many audiences, of whom alumni are key. I do hope you enjoy this latest issue.

Mission_Imperial College embodies and delivers world class scholarship, education and research in science, engineering and medicine, with particular regard to their application in industry and healthcare. We will foster interdisciplinary working within the College and collaborate widely externally.

editorial

IMPERIAL COLLEGE REMAINS UNCHANGED IN THE IMAGINATION of most alumni, caught in the aspic of memory: those lectures attended, tutors visited, clubs joined, bars visited, friends made and the unending pile of course work. Returning after many years I can see much new but much remains the same. Buildings are much the same; the students are dressed as casually as ever they were; Hyde Park is as green and as welcoming as I remember; and the Union bar still has its pewter pots in rows behind the bar. But underneath this apparent changeless exterior, huge changes have taken place. And more are to come.

During the last 10 years the College has doubled in size, and now has one of the largest medical schools in Europe. The Rector, Sir Richard Sykes, has restructured the College into four major faculties: Engineering; Life Sciences; Medicine and Physical Sciences. The integrated teaching of management underpins all studies at Imperial, and helps to create a culture of entrepreneurship and innovation.

The value of bringing together research in science, engineering and medicine is bearing fruit after many years of collaboration. Perhaps one of the most exciting aspects of my job has been my involvement with these new research areas. In biomedicine, Professor Dick Kitney's team are able to visualise a three dimensional image of a patient's knee to enable doctors to replace worn areas of cartilage. Professor Guang-Zhong Yang is part of the team that has created Da Vinci – a surgical robot. Professor Larry Hench has developed substrates onto which cells can be placed to grow new tissues. It is these technologies and many others that have inspired Nikko and the Fleming Family and Partners to invest around £20 million in some of our spin-out companies. It is a fast moving and exciting environment.

The old constituent college and teaching hospital structure is passing into history. The new intake of students identify with Imperial College.

As one miner put it to me: "When someone in the mining industry asks me where I went to college I would tell him RSM, but if it were some other business person I would say Imperial."

I believe that there are three underlying emotions alumni have about their university.

The first is recapturing the emotions of youth associated with new freedoms, new experiences and new friends, new discoveries and new knowledge they experienced as students. They relive those times through meeting old friends, visiting the lecture rooms and bars of memories.

The second is reflected pleasure at the success of Imperial. The College is quoted daily in news stories connected with our core business. We feel proud to read about John Burland and his 20 year quest to stop the collapse of the Leaning Tower of Pisa, or when we see Robert Winston presenting popular TV science programmes.

This is because our Communications Division has forged powerful links with scientific and business correspondents, and offers an unparalleled service by a British university.

Thirdly, many alumni want to help maintain and build the reputation of the College, partly out of self-interest and partly out of altruism. To build the vision for Imperial, the help of this group is essential.

THE VALUE OF BRINGING TOGETHER RESEARCH IN SCIENCE, ENGINEERING AND MEDICINE IS BEARING FRUIT AFTER MANY YEARS OF COLLABORATION.

We need alumni to invest their time, energy, knowledge and resources. Alumni in North America take it for granted that their alma mater will need their support and most give it willingly. Jeff Auld, a Canadian alumnus, writes about the attitudes of his colleagues in a US bank in his letter on page 37. Loyd Moore, writing from Canada, urges Imperial College to get serious about fundraising. It is possible in the UK. Oxford raised £350 million in its last fundraising drive, for example.

Many alumni in the UK are not used to being asked to support their College. Those of my generation received free state education, and many believe that education should be paid for by the state: an educated work force benefits all society.

The government is pressing universities to educate 50 per cent of all school leavers whilst reducing funding – 40 per cent per head in the last decade. This is a key problem for Imperial whilst we try to maintain our international standing. The funding shortfall has resulted in buildings, laboratories and libraries in need of refurbishment. All 148 British universities are funded equally for teaching and basic academic infrastructure – and all of them must charge the same undergraduate fees of £1,100 a year.

Fortunately there are alumni that are helping. Dr Gary Tanaka, (Mathematics PhD 1969) has donated £27 million for the construction of the new Business School (*IC Matters* issue 19, Spring 2001). The Lee family of Hong Kong – Dr Richard Lee (Chem Eng 1960; PhD 1964); his sons Dr Delman Lee (Electrical and Electronic Engineering PhD 1988); and Dr Derek Lee, Royal Society Research Fellow in Condensed Matter Theory, Department of Physics – have donated £2 million to endow a scholarship for postgraduate research. This will form the cornerstone of the newly created Imperial College Scholarship Fund (page 7). Few of our alumni are in such a position to give so generously but many are using the Imperial College Beneficial Card which has accrued £100,000 since 1993 to help students in difficulties. A new card has recently been launched, see page 8.

A number of organisations have also come forward with substantial offers of help in the last few months. The Grocers' Company has donated a scholarship for the best engineering undergraduate applicant from its recently founded Queen's Jubilee Scholarship Fund, page 7. I receive regular calls from alumni, staff and others who wish to make bequests and other donations to the College.

With your help we can maintain Imperial College London as a world leading science-based university.

ROD RHYS JONES (Civil Engineering, 1964)
DIRECTOR OF ALUMNI AND DEVELOPMENT

new appointments/agenda

Pro Rector Corporate Affairs



Dr Tidu Maini (Civil Engineering, 1966; PhD 1969) was appointed Pro Rector for Public and Corporate Affairs in November 2001, taking responsibility for the commercialisation of Imperial's research, together with fundraising and alumni relations.

Prior to joining the College, Dr Maini was Senior Vice President of SchlumbergerSema. Since graduation, he has remained involved with the College as a long serving and active member of the City and Guilds Association, serving as President 2001-2002.

Director of Development and Alumni Relations



Roderick Rhys Jones (Civil Engineering, 1964) became Director of Development in January 2002, with responsibility for fundraising and alumni relations. Mr Rhys Jones is a member of the Chartered Institute of Marketing and a Fellow of the Royal Society of Arts, having had over 30 years experience in marketing and management consultancy, founding, with his wife Sandy, RhysJones Consultants in 1976. He has specialised in technical, professional and government work, together with developing strategies for technology transfer from research establishments into industry. He has also been closely involved with alumni activities at Imperial College as an executive and general committee member of the City and Guilds College Association.

Development mission

Development and Alumni Relations provides an effective, friendly, open and supportive service which increases the interaction between benefactors, alumni, students and staff which will benefit the commercial, economic and social well-being of Imperial College globally.

Alumni organisation

One of our aims is to create a College-wide organisation, of which all Imperial College alumni will be non-paying members. We anticipate that students will become members of the organisation after their first year at College. This will increase awareness by the student body of the role that alumni can play in College life; and enhance links between current and former students.

These relationships can be mutually beneficial in terms of work placements and mentoring schemes.

Staff members (present and former), research clients and friends of the College will be invited to join the organisation. Although membership is free to alumni, students and staff, these groups will be encouraged to make regular donations towards an annual fund which will support students' and other activities. All members will receive free publications and web services, and we hope that this inclusive organisation will serve to promote life-long affinity with the College.

We propose that existing constituent college associations and international alumni groups form chapters affiliated to the new organisation.

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news from Imperial

Bewitching Bo' celebrates in style

Bemused French towns witnessed the leisurely passing of a vintage car named Bo' in June during the longest journey of his life.

With Imperial students on board and a back up team to put races at Le Mans to shame, the only 1902 James and Browne motor car in existence spent his 100th birthday navigating back roads between Boulogne, Abbeville and Beauvais at speeds of up to 28 mph before arriving in Paris after completing an exhausting 337 miles/380 km.

Following in his wake was a Land Rover towing a trailer complete with back-up preparations such as spare hoses and clamping tools, bolts and bearings, and a Renault Clio used to check the route ahead daily. Students were armed with enough materials to remove the engine and gear box and carry out a complete re-build on the side of the road should the need arise.

"The engine needed re-building on the Monday when one of the crank case bearings came loose," said Tom Williams, team leader and driver. "It required roadside machining which was very entertaining for the French who thought we were mad. We were in the middle of nowhere at the top of the hill and the car was in bits all over the place.

"After the crankgate bearings went, we lost compression and had to pump oil into the bore. Due to excessive heat, the exhaust valves distorted so we had to grind them down. Also the fuel tank fell off which was quite entertaining."

Nevertheless, a triumphant team arrived at the Ecole Polytechnique, Paris on Friday 28 June to hand the President a letter from Rector, Sir Richard Sykes, who travelled in Bo' earlier in the year during the London to Brighton run, a trip completed in six and a half hours. The team took Bo' for a spin in the French capital, causing mayhem around many tourist attractions. "Parisian drivers are worse than English ones. There's absolutely no allowance for a car which has 100 year old brakes."

The team is very proud of their vintage car. "He'd never been abroad before and his greatest distance was Manchester to Windermere two years ago – a total of 80 miles," added Tom.

"London to Paris has always been completed by the Veteran Car Club and seemed like a nice run so we went for that. There was nothing to suggest he couldn't do it, he'd just never had the opportunity since we

bought him in 1934."

Bo', short for Boanerges which means 'Sons of Thunder,' was built in Hammersmith, London and purchased for £40. Maintained and run by students of the City and Guilds College Motor Club, which is responsible for his upkeep, the nine horsepower car is passed down from one group of students to another each year.

The trip, which started with an overnight pit stop at Imperial College Wye in Kent on Sunday 23 June, followed birthday celebrations the day before at the Heritage Motor Centre, Warwickshire, and helped raise money towards the £20,000 needed to maintain wooden coachwork and refit the vehicle which was mainly designed as a town car.

"We began planning this in November and had several discussions with French authorities who had no direct rules other than requesting us not to travel on major roads. Their attitude seemed to be: "if you kill yourselves, very well," added Tom.

"We rotated four driver and co-driver teams, all dressed in City and Guilds regalia. We wanted to do something that hadn't been done before; something that was just that bit special."

See the daily web journal of the journey including photographs and interviews at www.cgcu.net/bo100



Tom Williams, left, with co-driver Dan Lemann in Paris.

>> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >>

Resource Centre for alumni

at Imperial _ Walls have been knocked through to create a spacious, open-plan office to house our growing Development and Alumni Relations department.

A Resource Centre is being created for our alumni to use within the office on Level 3 of Sheffield Building, South Kensington campus. You will be welcome to access your email and use other facilities such as fax, printer and telephone – local calls will be free of charge.

We anticipate that the space will be used by alumni who are visiting the College or simply visiting London and in need of a quiet environment in which to work. Contributions to the Scholarship or to the Hardship fund will, of course, be welcomed.

Lady Bagrit – founder of the

Bagrit Centre _ Lady Stella Bagrit, who died in October 2001, was hugely instrumental in the development of bioengineering at the College.

Just over 10 years ago Lady Bagrit

decided to create a permanent memorial for her late husband, distinguished engineer Sir Leon Bagrit, in the shape of the Centre for Biological and Medical Systems, headed by Professor Colin Caro. The old steam laboratories in the Department of Mechanical Engineering were converted into headquarters and labs for the new Centre, formed from the merger of the physiological studies flow unit and the engineering in medicine group.

Lady Bagrit took a close personal

interest in the development of the Centre, its staff and students, and saw it become a department under the directorship of Professor Dick Kitney, then the Department of Bioengineering under Professor Chris Toumazou, who is now Head.

Degree awarding powers

_ The College submitted an application to the Privy Council in May 2002 to be granted reserve degree awarding powers. Currently the College awards degrees of the University of London,

Has Europe learned the lessons of BSE?

Europe may not have learnt its lesson concerning BSE in cattle, warned Professor Roy Anderson, Head of the Department of Infectious Disease Epidemiology, speaking at the second Imperial/LSE Science and Society lecture, *Who says our food is safe?* at the end of April.

Rector, Sir Richard Sykes, chaired the debate which focused on how BSE is viewed by both the public and government, and the influence science and technology has in developing policy.

The *Science and Society* series of four public debates during 2002 is designed to get to the heart of issues concerned with the social impact of science and technology.

The two remaining lectures are 'New genetics and society' – keynote speaker Professor John Burn, University of Newcastle on 3 October; and 'Science and the media' – keynote speaker Professor Lord Winston on 28 November, both at Imperial.

Experts from both institutions take part as chairs, keynote speakers and panellists, together with eminent guests from industry and other academic institutions. The *Question Time* format allows informed and sustained debate on a range of topics which have a major impact on how we live our lives in an increasingly complex society.

To get your free ticket, phone the LSE ticket line on +44 (0)20 7955 6100 or email events@lse.ac.uk leaving your name, mailing address and the title of the lecture.



DAVID NORTON

Mimicking the human eye



IAN CHELBIK

Systems capable of mimicking the human eye and changing the way close circuit cameras operate are under development in the Department of Bioengineering.

HEFCE, the Higher Education Funding Council for England, has injected a total of £2.55 million into the project, Reverse Engineering Human Visual Processes.

Eventually, software capable of giving a retinal prosthesis to help doctors predict the effects of damage to certain areas of the human brain will result from spinout applications.

The four year project will be carried out by Imperial College, University College London, the University of Surrey and Royal Holloway. Imperial's £1.6 million share will enable coordinators, the Department of Bioengineering, together with Electrical and Electronic Engineering, Computing, Physics and Academic Neuroscience, to develop new hardware and software to enable computers to 'see' and interpret visual information in a new way.

Professor Chris Toumazou, hardware development coordinator and Head of the Department of Bioengineering explained: "The retina is the best camera imaginable and our 'biologically-inspired' artificial vision systems use the eye of the brain to pick up colour and texture. By developing silicon chips which mimic the human retina, fast, intelligent images in real time are possible by re-engineering camera systems and automated visual systems using micro-power analogue processing."

Neuroscience coordinator, Professor Chris Kennard, Division of Neuroscience and Psychological Medicine, Charing Cross campus, will monitor how vision works in people and coordinate the application of what can be learnt and applied to areas of patient care.

"This provides essential funding to develop new collaborative work in the field of vision between the Faculties of Medicine, Engineering and Physical Sciences."

and there is no intention to change this arrangement at present.

The application process is a lengthy one and it is important that the College should be ready to respond to a rapidly changing higher education sector.

A report prepared for the Scrutiny Panel will recommend to the Secretary of State via the QAA Advisory Committee on Degree Awarding Powers, whether Imperial should be granted reserve degree awarding powers. The Privy Council

will make a decision about the College's degree awarding application at the end of this year.

Vice-President of China visits

His Excellency Mr Hu Jintao, Vice-President of the People's Republic of China, visited Imperial on 30 October 2001. After an introduction to the College by Rector, Sir Richard Sykes, the party toured the Sir Alexander Fleming Building.

They met Professor Mike Hassell CBE, Principal of the Faculty of Life

Sciences, and Dr Yike Guo, technical director of the Parallel Computing Centre, before touring sixth floor laboratories where they learned about malaria research from Professor Bob Sinden and magnetic resonance imaging from Dr Elaine Holmes.

During a short walkabout, the Vice President spoke informally to a group of Chinese students about College life.

Dr Guo and Professor Guang-Zhong Yang, director of Royal Society/Wolfson Medical Imaging

Laboratory, Department of Computing, gave introductions to their work. Currently the College has more than 400 Chinese students and around 10 Chinese teachers.

Lunch with the FT _ Maths finalist, Renuka Fernandez, won a competition run by the *Financial Times* which invited participants of its restaurant promotion, *Lunch with the FT*, to enter poems, reports and illustrations relating to their experiences. Renuka's 15 stanza poem and three drawings



The science of sunlight

The first Imperial Schools e-MasterClass, following in the footsteps of three previous MasterClasses given by the Rector; Ara Darzi; and Professor Lord Winston, examined the science of photo-medicine with pupils in schools around the UK.

'A Little Light Relief', designed to appeal to school students, provided an interactive overview of material aims which proved that there was much scope for creativity within the sciences. Students from years 9, 10 and 11 from Cavendish School, Hemel Hempstead; Kennedy School, Hemel Hempstead; Stanborough School, Welwyn Garden City; Nobel School, Stevenage and North Westminster School, London, were given the opportunity to engage with scientific developments.

In collaboration with the Unique Group and founder, Noel Edmonds, who chaired the event, David Phillips, Hofmann Professor of Chemistry at Imperial and Steven Bown of the National Medical Laser Centre presented the MasterClass.

It demonstrated the therapeutic uses of sunlight, including the treatment of skin complaints such as psoriasis, and viral, bacterial and fungal infections. Exciting new approaches such as photodynamic therapy (PDT) which uses light to gently destroy diseased tissue without the need for open surgery, were also explored.



Imperial is committed to encouraging and supporting enthusiasm for science in schools at every level. The INSPIRE initiative, announced in June by the Prime Minister, puts Imperial post-doctoral researchers into selected schools to give pupils direct access to subject specialists. The College also supports the Pimlico Connection, a student tutoring scheme which places Imperial students into local schools to help teach science, maths, IT, technology and modern languages. Other widening participation schemes

include residential and non-residential summer schools, demonstration lectures and workshops, and open days.

e-MasterClasses use advanced technology to enable participants based in locations around the world to take an active role in lectures and discussions. View the class at www.e-masterclass.ic.ac.uk.



NEVILLE MILES

>> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >>

describing her lunch at La Trompette in Chiswick, west London, won her a bottle of Moët & Chandon brut rosé champagne.

Geoscience training centre opens _ A new centre for the training and development of geoscience skills has opened at the College.

The European geoscience technology training centre, a joint collaboration between Imperial, Geological Society and Petroleum Exploration Society of Great Britain, will help

develop skills needed to find and produce future hydrocarbon resources.

The first of six centres sponsored by the American Association of Petroleum Geologists and located outside the USA, it offers a range of training courses to geologists, geophysicists and petroleum engineers at various points in their careers.

Facilities comprise three adjacent computer laboratories in the Royal School of Mines building at South Kensington campus. At the opening seminar, Rector, Sir Richard Sykes said:

"Research and industry needs must come together as closely as possible to maximise the relevance of university research. The new centre will help to achieve this goal for petroleum exploration and development."

Refurbishment continues for College central library _ Much of the north block of the Central Library nearest the Sheffield Building, is currently being refurbished. With the support of College and a £1 million grant from the Higher Education Funding

Council for England, the first phase of major improvements sees levels 1 and 2 in the north block completely remodelled and the heating, ventilation and electrical systems upgraded.

On level 4, central offices have been removed to make room for shelving. New facilities in the Haldane area on level 1 will include a remodelled shelving area containing the Haldane Collection, PC Cluster/training rooms, an Internet café style PC area and vending machine area. A serviced coffee bar

A symbol of excellence



The best facility of its kind in Europe has been described by Prime Minister, Tony Blair as “a symbol of scientific excellence, a symbol of the research we want to encourage more of in this country and a symbol of our pride in the ability of our scientists.”

Opening Imperial College’s £13 million Wolfson and Weston Research Centre for Family Health on 12 February which focuses on improving the health of women and babies, the Prime Minister said:

“Various branches of this science of genetics are going to change the way we live. For this country to be at the forefront of scientific research into the area, I think is immensely important.”

The Centre, next to the new Queen Charlotte’s and Chelsea Hospital, part of Hammersmith Hospitals NHS Trust, is the brainchild of fertility expert, Professor Lord Winston.

The 110 reproductive and molecular biologists, clinical researchers and support staff will be “working together to improve our understanding of the most dangerous journey all humans make – through conception, pregnancy and birth” he explained.

Rector Sir Richard Sykes added: “Today is an opportunity for us to pay tribute to all those who contributed to making this building a reality and no one is more deserving of our congratulations than our Professor of Fertility Studies, Lord Winston.”

The Wolfson Foundation and the Garfield Weston Foundation between them funded almost half the project. Businesses, charitable trusts and fundraising activities also provided major financial support.

Imperial’s site of the month



Computing Dictionary, a website supported by the Department of Computing, was voted ‘Site of the Month’ by *What PC* in June 2002.

The site allows users to search its free online dictionary of computing terms, providing a comprehensive and reliable

explanation of the requested word or phrase. With over 13,527 terms currently covered, the site is a quick and convenient reference tool.

To try out this service for yourself, visit <http://foldoc.doc.ic.ac.uk>.

Imperial College Scholarship Fund receives first major donations

The Imperial College Scholarship Fund has received a founding donation of £2 million from the Lee family from Hong Kong and a subsequent pledge of £250,000 from The Grocers’ Company.

The Lee family has built up a strong association with Imperial over the years with several generations attending the College. The scholarships provided by their very generous donation will be awarded to Chinese postgraduate students from both mainland China and Hong Kong on the basis of excellence and the scheme will be known as The Lee Family Scholarship.

Funds given by The Grocers Company will provide financial aid for engineering students before or during their course of study. These individuals will have again demonstrated outstanding academic ability. The City of London livery companies, of which The Grocers Company is one, played a crucial role in the founding of the City and Guilds College. Through this donation, their support for the teaching of engineering subjects at Imperial continues.

The Imperial College Scholarship Fund is a new initiative which will allow the world’s brightest and most innovative students to choose Imperial irrespective of their financial status.

For further information about the Scholarship Fund, please contact the Office of Alumni and Development at alumni@ic.ac.uk.

>> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >>

may also be included at a later date. The library has remained open as usual with a stock fetching service for areas temporarily accessible only by library staff. Special arrangements were made with the libraries of University College London and London School of Economics, for users to have access to their facilities if building work proved too disruptive. Library Project leader, Mary Lucas explained: “The complexities of working on a 1960s building that seems to have every single utility

servicing the site running through it, cannot be underestimated. “To maintain the College’s position as an international market leader and for it to remain competitive in the learning environment, the facilities and services it provides which support its academic activities, must be of the highest quality.” A fundraising campaign will be launched in the autumn to raise money for further phases of the refurbishment programme. If you are interested in making a donation to

the Central Library Project please contact the Office of Alumni and Development at alumni@ic.ac.uk. • Sir Neil Cossons, Director of the Science Museum who officially opened the first Central Libraries extension on 17 October, 1997, said he was pleased to see that libraries still held books and periodicals. The opening, he explained, completed a circle for him which had started 32 years earlier after watching the *Ipress File*. In the film, Michael Caine chased through book stacks of the

old Science Museum Library, now the site of the combined Imperial and Science Museum Libraries. **UK scientists crack lobster shell colour puzzle** _ Researchers have discovered for the first time how lobsters change colour from the blue-purple of their ocean-floor camouflage to the distinctive orange-red when cooked. Writing in *Proceedings*, the journal of the National Academy of Science, Imperial College London scientists,

Investment fund initiatives for Imperial spin-out companies – we want your feedback

Enclosed with this copy of *Imperial Matters* is a letter to all alumni from Pro-Rector, Corporate Affairs, Dr Tidu Maini, regarding Imperial's spin-out companies and current investment initiatives.

Imperial has created more than 50 spin-out companies over the last four years, many of which have received significant outside investment funding – powerful recognition of their potential.

Imperial is now developing the concept of a series of investment funds to provide development finance for its spin-out companies. Great importance is attached to establishing these funds and where appropriate they will be made accessible to Imperial alumni.

To assist in setting up and structuring the funds, we wish to obtain information from you about your investment interest and preferences. To find out more about these initiatives, please see the enclosed letter and questionnaire.

For further information please contact Colin Kinner, Head of Funds Management at Imperial College Innovations: +44 (0)20 7594 6597; colin.kinner@ic.ac.uk.

CGI creates new award

A new award is to be offered by the CGI to Associates of City and Guilds College. The MCGI is at the level of a masters' degree and provides accreditation of progress in the professional arena. Applicants have to be chartered engineers or equivalent, and be able to demonstrate evidence of project management, vision and development or success in their career.

The MCGI status is being offered to all City and Guilds ACGI holders who have gained suitable experience.

The ACGI is awarded to engineering graduates of City and Guilds College. It is awarded primarily as recognition of academic excellence with holders gaining clear differentiation from engineering graduates from other institutions. Contact Adrian Winchester for details a.winchester@ic.ac.uk.

The Imperial College Platinum MasterCard

The Imperial College Platinum MasterCard, issued through Beneficial, a trading name of HFC Bank, is a new card scheme for alumni. The Platinum card is set to offer cardholders extremely competitive rates of interest with a zero per cent balance transfer rate for the first five months, reverting to the standard variable rate for purchases of 14.9% APR.

All UK resident Imperial College alumni and staff have the opportunity to apply for the card which will provide real and practical assistance to Imperial students who need it most.

When you open your account, the Fund will receive £10, and further contributions are made each time you use your card.

Over the eight years that the original Affinity Card scheme has been in operation, cardholders have raised over £100,000 for the Imperial College Hardship Fund – a contribution for which the College and the students who have benefited are very grateful.

Imperial College is a place full of enterprising and inspiring people from many parts of the world, working to further the frontiers of knowledge through learning, education and research. The College has always had an international character and a third of the student population comes from countries outside the UK. The Imperial College Hardship Fund was established to provide support for students from this group, who cannot obtain help under the existing Government Scheme and who experience financial hardship.

To find out more about applying for the Imperial College Platinum MasterCard, please contact Liz Gregson, Alumni Services Officer at e.gregson@ic.ac.uk, 020 7594 6140 or call the freephone number 0800 0152204 and quote P071.



For balance transfers the rate is 0% per annum fixed for 5 months from the date of account opening. The rate for purchases (and balance transfers after the 5 month introductory period) is 14.9% APR (variable). (We are unable to accept balance transfers from any other cards issued by HFC Bank plc.) The rate for cash advances is currently 17.0% APR (variable) inclusive of a handling fee of 1.75% (minimum £2.50). Minimum monthly repayment is 2% of the amount you owe Beneficial or £5, whichever is greater. Subject to status and only available to UK residents aged 18 or over with a permanent UK address. Written quotations available on request.

>> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >>

together with scientists from the University of Manchester, Daresbury Laboratory and Royal Holloway, University of London, described how they solved the structure of a key part of the lobster shell protein, Beta-Crustacyanin.

Dr Naomi Chayen of Imperial College London said: "This could lead to an important new use of Astaxanthin as a drug-delivery mechanism for medicines that are insoluble in water, and give designers of new food colourants or dyestuffs an interesting new capability.

"It also concludes painstaking research begun by this UK team in 1995, and finally settles a question which has continued to intrigue biologists since Nobel Prize winner George Wald first drew attention to it in 1948."

Scientists ease teacher shortages – A scheme for post-doctoral researchers from Imperial College London to spend half their time working in the lab and half assisting teachers in local schools,

impressed Education and Skills Secretary Estelle Morris who wants to see similar INSPIRE projects set up throughout the country.

"Our aim must be that over a five to 10-year period, we work towards every single secondary school within easy reach of a university being covered by such a programme," she recommended as the Government launched its Science Strategy, adding that school lab assistants, many of whom have science degrees, could also be recruited as teachers.

The £1 million Imperial College scheme will supply up to 15 schools with one or two scientists each and was launched by Prime Minister Tony Blair. During the next four years, sponsors GlaxoSmithKline will fund the INSPIRE (Innovative Scheme for Post-docs in Research and Education) programme.

The novel partnership between Government, GlaxoSmithKline, the Technology Colleges Trust and Imperial will boost science education in schools applying to become Science Colleges under the Government's Specialist



The toughest foot race on earth

Karl Drage (Mechanical Engineering 1995) completed the 17th Marathon des Sables in April this year, with his long time running companion, in joint 439th place, with a total running time of 45 hours, 58 minutes, 24 seconds, having consumed 28,000 calories and 66 litres of water along the way.

The race took place in the Moroccan Sahara, south of Ouarzazate, and 650 runners of all nationalities, headed out across the desert carrying their food, kit and medical supplies for seven days survival in the desert.

Karl, Chief Operations Officer of Exertris Ltd said: "We were both filthy, having not washed for eight days and sleeping rough in appalling weather conditions. It was a great feeling to see Mum and Dad at the finish line, and to finally stop running after the last six months of intense preparation."

Stage four of the race – 71km including 20km of 450m sand dunes – equivalent of Leeds to Manchester with the Pennines as mountains of sand – was claimed to be "one of the most difficult stages in the history of the Marathon des Sables" due to the violent head winds and accompanying sand storms.



Friends of Imperial College screen *The Human Body*

At a special showing at the Science Museum in May, hosted by Friends of Imperial College, well over 200 alumni, staff, journalists and other guests crammed the IMAX cinema.

Fourteen Imperial academics were involved in the making of *The Human Body*, an IMAX-format film directed and produced by Peter Georgi.

The film takes a journey through a day in the life of the human body, as the intricacies of everyday processes are explained by narrator, Imperial Professor Robert Winston, and depicted in minute, and sometimes gory, detail. From hormonal changes and teenage acne to the digestive system and the miracle of childbirth, *The Human Body* portrays natural, everyday functions from a new and unique perspective.

Following the screening, the audience was given an insight into the conceptual history of the film and the technology required to bring that concept to fruition by Peter Georgi and some of the

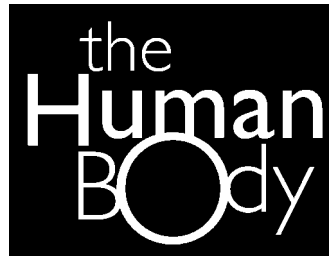
Imperial medics involved – Dr Kate Hardy and Dr Geoffrey Trew, from the Division of Obstetrics, Paediatrics and Gynaecology.

Dr Hardy also gave an overview of her research on IVF treatment, which focuses on the development of human embryos before implantation, in particular the reasoning behind the failure of the

embryo to implant and develop. Professor Julia Polak, Director of the Imperial College Tissue Engineering and Regenerative Medicine Centre then capped the presentation off with news about the innovative research currently being carried out by her team (see pages 16-17).

A lively question and answer session followed with the audience showing a particular interest in how scenes in *The Human Body* had been filmed. The evening concluded with a champagne buffet in the foyer of the Sir Alexander Fleming Building.

The evening was the first fundraising event for the College's recently established Imperial College Scholarship Fund (see below).



>> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >> NEWS IN BRIEF >>

Schools Programme.

Post-docs from Imperial College who have recently completed PhDs, will be contracted to spend about half their time based in specialist science schools, as well as studying for a teaching qualification.

Rector Sir Richard Sykes added: "I believe that our Imperial post-docs will act as excellent role models and stimulate broader enthusiasm for science.

"Britain has a successful high technology industry, which depends on the flow of well qualified scientists

and engineers. INSPIRE has been developed to increase the number of young people specialising in post-16 science courses enabling them to pursue degrees in chemistry, physics and engineering and ultimately a career in science."

By 2005-06 an extra £1.25 billion a year will be poured into Government science spending – the largest sustained growth in a decade.

Investment in university labs and facilities will reach £500 million a year by 2004-05, and a further £100 million

a year will be spent on improving the science and technology skills base.

Getting on your bike – Exertris, whose founder and CEO is Gareth Davies, (Physics 1988-1991; PhD 1991-1994) is through to the final of the BBC Tomorrow's World Innovations Award 2002. Gareth has invented an exercise bicycle which enables the user to play interactive play station/computer-type games either on their own, or against other people, whilst exercising.

"We are only one of three entrants

in the 'Inventive Individual' category, and are pleased that the product has been received incredibly well after several judging rounds", said Gareth, who employs five ex-Imperial people in the company, which is now 22 strong and growing.

"I was interviewed by the BBC yesterday for the awards ceremony. So I now have a month or so of nail-biting..."

The Awards will be screened in September.

Check out the website for details about the product www.exertris.com.

news from the faculties

Faculty of Engineering

ALISON BOWEN
FACULTY ADMINISTRATOR



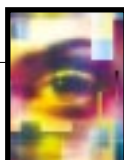
The Faculty has joined with the Faculty of Physical Sciences to establish the Graduate School for Engineering and Physical Sciences. Professor Dame Julia Higgins FRS FREng will be the first Director. The Graduate School will monitor and enhance the quality of postgraduate education in engineering and physical sciences, initiating and facilitating new interdisciplinary training programmes, in order to further enhance research training and excellence.

Built on the excellence of individual departments, it will focus initially on research and teaching. A Faculty Research Committee, chaired by Professor David Limebeer FREng (Head of Electrical and Electronic Engineering), has been established to strengthen links internally and externally, furthering alliances with major research sponsors both in the UK and abroad. A Faculty Teaching Committee has also been created, chaired by Professor David Nethercot FREng (Head of Civil and Environmental Engineering) which is establishing a strategy for both under and postgraduate education.

The Faculty is working closely with the Students' Union to explore how students can be more closely associated with activities. Individual departments will continue to work with past and present students in focused areas.

Humanities Programme

MARK SHUTTLEWORTH
m.shuttleworth@ic.ac.uk



Dr Charmian Brinson is Director of the Humanities Programme, following Professor Sinclair Goodlad's retirement.

The English Language Support Programme has undergone an expansion in the range of its activities, the Easter IELTS course and a longer pre-session course for overseas students has been launched by the English Language Support Programme. The foreign language programme continues to thrive, with plans next year to run courses in Mandarin and Urdu. Medical students are now also able to take language courses.

The two new MSc programmes, Science Media Production, and Scientific, Technical and Medical Translation with Translation Technology, received their first intake of students. Both programmes recruited well in their first year.

The Humanities Programme has introduced a fortnightly seminar designed to reflect the great diversity of staff members' research interests.

Faculty of Life Sciences

AVA YEO
FACULTY ADMINISTRATOR



Professors Anne Dell and Mick Crawley, Biological Sciences, have been elected to the Fellowship of the Royal Society.

Beautiful but deadly

Some of the most destructive species in the world helped Imperial College Wye secure gold for the second year running at the Chelsea Flower Show.

A display featuring rhododendron ponticum, giant hogweed and Japanese knotweed — not only threatening to native species, but plants which cost millions of pounds to control and are responsible for human health problems such as skin rashes — impressed judges in May.

New strategy to ensure bright future

The Department of Agricultural Sciences, Wye, has unveiled a new strategy to ensure its place as one of the world's leading centres for agriculture, food and the environment:

To advance, apply and communicate knowledge through research, scholarship and teaching in the science, management and economic disciplines relating to agriculture, food and the environment.

Professor Jeff Waage, Head of Department, described the new strategy as a "very exciting development with strong Imperial College support which should ensure a bright and productive future for everyone connected with Wye."

Research will focus on five areas – soil science, plant science, animal science, agricultural economics and social sciences. Wye will make strong links with other Departments, particularly in agricultural research related to molecular biology, ecology and health. Several Centres will be piloted to link social and natural scientists and address key research and policy development opportunities in the food chain, agri-environmental issues and international development.

The Department will also develop its undergraduate and taught postgraduate programmes to achieve an annual admission of over 100 students at each level. Courses will be reduced and degrees restructured to increase efficiency of teaching and to free staff time for research. Distance learning and taught postgraduate courses will be integrated and opportunities sought for efficient, interdepartmental teaching within Life Sciences.

New Bachelor of Science and Master of Science degrees available from 2003 will include:

Animal Science	Animal Science (Equine)
Plant Biology	Environmental Biology
Environmental Science	Environmental Management
Agricultural Science	Agricultural Business Management
Business Management (Equine)	Business Management (Environment) <i>provisional title</i>

A new brochure and folder outlining future plans for Imperial College Wye is now available from Wendy Raeside, Press and PR Officer, at +44 (0)20 7594 2624; w.raeside@ic.ac.uk.

Faculty of Medicine

TONY STEPHENSON

at.stephenson@ic.ac.uk



In January, Health Minister John Hutton opened the Centre for Primary Care and Social Medicine. The Centre at Charing Cross will investigate why people use illicit drugs, and lead Imperial's response to key UK government agendas.

AIDS vaccines are being researched at Chelsea and Westminster, where the core laboratory is based for the unique collaboration between Imperial College and the International AIDS Vaccine Initiative (IAVI). This will be the largest HIV unit in Europe, and will coordinate the evaluation of HIV/AIDS trials around the world.

Professors Julia Polak and Larry Hench hosted a day of seminars and talks about the latest developments in tissue engineering. Clinicians, researchers and engineers from around the world were invited to talk about their latest research into this fascinating, yet highly complicated, subject.

Sir Magdi Yacoub has been appointed as an NHS ambassador to boost the recruitment of doctors from overseas.

A new hospital, which is set to revolutionise patient care and reduce waiting lists, is set to open at Ravenscourt Park. The hospital, to be managed by the Hammersmith Hospitals NHS Trust, will be able to perform 112 operations a week, and treat 7,000 patients a year.

Gates donation to ease suffering

The Bill & Melinda Gates Foundation has given a grant of \$30 million (£20 million) to establish the Schistosomiasis Control Initiative (SCI), a partnership at Imperial College London including the Foundation, the World Health Organization and the Harvard School of Public Health.

Schistosomiasis is a parasitic disease that leads to chronic ill-health and affects more than 200 million people in developing countries. 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.

The primary goals of the SCI are to identify the most heavily infected regions in at least four African countries, provide health education to the people in those regions, treat victims of schistosomiasis and monitor the impact of the treatment program. By demonstrating that more effective control of schistosomiasis can be achieved in the selected countries, the initiative will provide a model that can be emulated in other countries affected by this disease.

The unit will be based in the Department of Infectious Disease Epidemiology, whose Head is Professor Roy Anderson FRS. SCI Director is Dr Alan Fenwick OBE, who has recently returned to the UK after working in Tanzania, Sudan and Egypt for many years.

The Management School

ISSY JONES

MARKETING AND ADMISSIONS ADMINISTRATOR



Tanaka Business School

Main contract works are starting mid July. The School will be completed by Christmas 2003 and the Management School will relocate in the Spring term of 2004. See the computer simulation walkthrough of the new building and photographs of the site at www.tanaka.ic.ac.uk/.

Distance Learning MBA

The first students for this new initiative start their studies in September. The Management School offers the programme and provides academic leadership, whilst Imperial College Wye provides expertise in distance learning design and delivery.

Entrepreneurs' Challenge competition

The Entrepreneurship Centre held the highly successful final of the second Entrepreneurs' Challenge at the end of March. LIDAR Technologies was awarded the first prize of £25,000 by a panel of external judges, for their innovative, adaptable and inexpensive LIDAR-based wind shear detection system. Team members included Peter Holt, Alexander Thomas, Thomas Gilbert (Department of Physics) and full-time MBA Chris Haskell. The two runners-up teams received prizes of £5,000 each.



Soul boy

BY TANYA REED

HAYSI FANTAYZEE WAS THE 1980s POP BAND THAT DRESSED like hicks from the deep south. Their teenage followers also tied ribbons in their dreadlocks, donned baggy dungarees and practised a lopsided swagger. *John Wayne is Big Leggy*, got to Number 4 in the UK Top Ten and *Shiny, Shiny* reached Number 1 in three countries.

Today, Paul Caplin (Maths 1978), the driving force, classically trained pianist and band member who also managed pop icon Marilyn, moves in very different circles. As you step out of the lift and into the offices of Caplin Systems Ltd, a software house, which overlooks Finsbury Square in London's business sector, the glass conference rooms and flashing screens of stock market information sit comfortably next to modern works of art, suggesting smooth efficiency in an ever-changing world.

Marrying such different images isn't difficult due to Paul's dynamism and quiet confidence. He grew up in London and studied at Imperial College between 1975 and 1978. "I enjoyed Imperial very much and made some good friends but I was like a fish out of water. Most of my contemporaries were studying engineering and drinking beer."

He lived in Keogh and chose London nightclubs over student union haunts. In his third year, he moved to a flat in Ealing with friends.

"The course was really, really good; I was very interested in pure maths. In the first year, I had to choose at least one applied course so I chose fluid dynamics which came in very useful when I began selling computers to oil companies.

"Unfortunately I found the Fluid Dynamics lectures very boring and stopped going to them. When it came to end-of-year exams, I had to borrow notes and study the last 10 years' exam papers. I realised there was a very clear pattern; there were only 20 topics to ask questions on and they never asked a question twice in a row. So I picked the five that I thought were most likely to come up that year and just prepared for those. All five questions came up and I got 115 per cent for answering all of them."

After getting a 2:1, he went to Cambridge to pursue a PhD but left, deciding he disliked the academic life. While there, he formed Animal Magnet, signed to EMI and got a taste of the rock and roll lifestyle.

"We supported Duran Duran's first British tour. Although an exhilarating experience, it convinced me I didn't like getting up on stage and prancing around very much – you have to be very desperate for admiration to put up with it, you become a public property manikin, pretending to be someone that you're not. It's fun at first, but you're not allowed to be anyone else."

In Haysi Fantayzee, Paul could be who he wanted. He became composer, producer and keyboard player to a 'rag tag' band of 11 people which was finally whittled down to three, comprising lyric writer Jeremy Healey and singer Kate Garner.

Today, Paul wears polo neck jumpers and chic suits. In the eighties, he sported Vivienne Westwood clothes; 'she gave them to us', red Gaultier boots with four inch Cuban heels and had lots of frizzy hair. He appeared on Top of the Pops but couldn't play keyboards as he was still under contract with EMI as a performer. He mimed, playing drums and violin instead.

"I wouldn't have missed it. A couple of months ago, I saw us for the first time in 15 years on Top of the Pops2. We were a studio band and Top of the Pops was the first time we'd ever performed to the public. It was amazing to watch after all these years."

He set up his own record label and music publishing business and built a record studio in a Soho loft which quickly filled with colourful characters. "You never knew who was sleeping on the floor when you woke up in the morning.

"Marilyn turned up, seemed nice and I started promoting him. It wasn't long before we were able to line up an amazing record deal and he was on the front page of two national newspapers. His first single, *Calling Your Name*, was a big hit but overnight, he turned into a monster. He became Bette Davis, the manic prima donna."

“THE COURSE WAS REALLY, REALLY GOOD; I WAS VERY INTERESTED IN PURE MATHS. IN THE FIRST YEAR, I HAD TO CHOOSE AT LEAST ONE APPLIED COURSE SO I CHOSE FLUID DYNAMICS WHICH CAME IN VERY USEFUL WHEN I BEGAN SELLING COMPUTERS TO OIL COMPANIES.”

makes money market sing



COURTESY OF PAUL CAPLIN

Paul met Prince at a party in the late eighties. “When you’re in the music business, it’s disillusioning that all your idols have feet of clay. Prince was one of the few God-like figures left. His music blew me away.

“Another extraordinary memory was seeing Tom Waits for the first time at Ronnie Scott’s. When he clambered up on to the stage, everyone thought he was a tramp who’d wandered in off the streets. He came on in a torn coat, clutching a bottle of beer and rolled a cigarette before he started growling into the mike. It was 15 seconds before we realised he was supposed to be there.”

MADONNA

A meeting with Madonna was less impressive. Coincidentally, his psychotherapist wife, Vicky made her video, *Holiday*, during her days as a video producer, and the star’s manager wanted to manage Hysi Fantayzee.

“I was far more excited to meet Prince. Madonna was like a lot of wild catholic girls that I knew – not very talented, in the sense that she’s a dreadful actress and not very good at singing. What she is incredibly good at is being Madonna.”

Paul Caplin is incredibly good at being Paul Caplin. Sitting with friends on his 30th birthday in 1984, he remembers thinking: “I didn’t want to do the music thing anymore. It’s been fun but it’s a very shallow world. The majority of people are damaged; the business attracts so many hangers on.”

He switched to his first love – technology. Everything in music had been technology-based. Helped by venture capital, he took a huge leap and started the Caplin Cybernetics Corporation which made artificial intelligence systems for robots.

Since no computer available at the time was powerful enough to run the robot’s software, Paul’s company developed a new highly advanced computer system based on parallel processing. It was this system which was the basis for the company’s

success. The first customer was the machine vision laboratory at Imperial College, followed by several oil companies which used the systems for seismic processing and oil reservoir modeling – using the computation fluid dynamics that Paul had skipped lectures on at Imperial.

In 1996, a chance meeting with a friend who worked at Bloomberg, the financial information giant, exposed Bloomberg’s need for a product which could extract real time information from banks and brokers around the world. “We built a black box which could siphon out prices data and convert it to a form that Bloomberg could understand.”

REAL TIME TEXT PROTOCOL

A worldwide contract followed – in 18 months the company installed its ‘black box’ at 165 institutions in 22 countries. This project led directly on the development of Real Time Text Protocol (RTTP), the first technology to allow live data to be delivered over the web. Two years ago, Paul set up Caplin Systems to supply software based on RTTP that enabled financial institutions to transmit financial market data to web browsers nearly instantaneously. He won the Ernst and Young Entrepreneur of the Year Award in 2001.

Now with a staff of 50, eight working for his New York office where he spends a week each month, Paul’s company has set itself a massive sales growth target – current users include Reuters, Nasdaq, the New York Stock Exchange and Dow Jones Newswires.

Two years ago, it was valued at £25m and last year considered floating. Today, Paul’s latest challenge is to create a new standard protocol on the Web.

“It’s generally very hard to raise money at the moment. We’re lucky we’ve a lot of investors chasing us. We’ve an amazing team of people here – we’ve now a huge opportunity ahead of us and we’re definitely in the right place at the right time.”

From Paul Caplin, you’d expect nothing less.

The changing face

BY TANYA REED

RECENT STUDIES OF ENERGY POLICIES BY THE GOVERNMENT ARE drawing heavily on work by the Imperial College Centre for Energy Policy and Technology (ICCEPT). Directed by Professor Dennis Anderson, they represent a sea change in government thinking about the future of energy.

As Prime Minister Tony Blair announces £250 million for a three-year programme of support for renewable energy technologies, Dennis is excited about Imperial College's place in helping shape that future. "Imperial is a definite leader. Its work on fuel cells, wind, tidal stream and photovoltaic technologies in the Engineering departments and Physics is absolutely up front. We are also having a lot of influence on government thinking about innovation and energy policy."

His team is at the forefront of changes of perception to energy research and policy, working at the interface of technology development and energy and environmental policies. They have won several grants from the UK research councils, industry and government to research into sustainable energy forms such as wind, biomass and solar energy, hydrogen and fuel cells.

Dennis returned to Imperial College six years ago, having worked on nuclear power in the 1960s and grid system development in the electricity industry, as well as becoming energy adviser to the World Bank and serving a period as Chief Economist to the Royal Dutch Shell Group.

He also works as an adviser to the Global Environment Facility (GEF), the financing arm of the UN Framework Convention on Climate Change. It has a portfolio of renewable energy and energy-efficiency projects worth nearly \$10 billion in over 70 developing countries, including one million solar home systems in rural communities. He recently encouraged the GEF to finance \$200 million of solar thermal projects about to be installed in India, Morocco, Egypt and Mexico, and is similarly encouraging it to finance grid connected PV projects.

"It is odd that while we are now at last building up our solar programmes aggressively in the industrial countries, those programmes remain weak and poorly financed in developing countries, which have three times more sunshine than we do here," he said.

"It is enormously important to involve developing countries in the task of developing and demonstrating the new energy technologies — if only because the costs per unit of energy produced are five times lower than in the UK and their energy needs are so large."

FROM COAL, TO NUCLEAR POWER TO...

Dennis studied at Imperial in 1950/60, when he won the Hinton Prize in nuclear engineering, after having completed seven years as an apprentice in the Central Electricity Generating Board. J M Kay was head of the department and Tony Goddard a fellow student. He remembers appreciatively the lectures on reactor physics from Peter Grant, on the history of atomic physics from C C Butler, on heat transfer from Owen Saunders (later Rector of the College), on mechanical engineering from Professor Hugh Ford and Dr Turner, on electronics from Bruce Sayers, and on control systems from J H Westcott. All were inspirational teachers and outstanding researchers, he remembers.

"We were quite optimistic then that nuclear power was the way forward, and the course was at the frontiers of many subjects, including control systems, materials, structures and heat transfer. I still feel the benefit when thinking about energy systems."

He lived in a run down Bayswater hotel, affectionately known as the 'Highbrow', and walked across the park to College, as he still does from Paddington Station today. "We were a conservative lot compared with today's students. I was a jazz addict; it was fun going to pubs to listen to music."

“MY COLLEAGUES AND THE GRADUATE STUDENTS THINK THE SAME WAY, AND WE ARE TRYING TO DEVELOP OUR OWN LINKS WITH UNIVERSITIES OVERSEAS. IN THIS, AS IN SO MANY OTHER RESPECTS, I AM PLEASED TO BE BACK AT IMPERIAL.”

of energy



TANWA REED

He worked at the Central Electricity Generating Board in the 1960s, first as a reactor physicist and then on system planning with George Knight in the Generating Board (George is a Senior Fellow of the College). “I learned a lot from George, and under his influence developed an interest in investment decisions and economics.” He then moved on to the World Bank where he eventually became their Energy and Industry Adviser.

“The World Bank was terrific — a highly professional organisation, in which teams of scientists, engineers, economists and financial analysts work together on projects in developing countries.

“We were able to work on hydro, coal, lignite, gas and renewable energy projects, grid extensions to areas without service, and afforestation projects in areas where the land is being degraded because of the use of fuel wood and dung for cooking fuels. It meant a lot of travel and fieldwork, not least in backward areas without access to modern energy services and many of the conveniences we take for granted here.”

“We were able to see literally tens of millions of people connected as a result of financing power stations and grid extensions. I found this very satisfying. I also learned how important the economic perspective was, especially from my friend Ralph Turvey at the LSE, in moulding the investments that are financed and the ways energy systems evolve.”

He moved to Shell for a period in the late 1980s. “They ‘knew their energy’ and wanted me to work on economics and the environment. We took a positive stance, believing that environmental policies would lead to new business opportunities and would be beneficial for, not detrimental to, economic growth. Environmental damage is not only undesirable, it is very costly.

“Looking back to the 1950s there were fears that coal and oil were running out, and it was an era of incredible smogs. Pit disasters were common and mining was arduous and unhealthy.

Nuclear energy seemed to provide the answers.

“Although questions were raised about nuclear wastes and decommissioning, even in the 1950s, not much was done about it. I’ve long deplored this. Then it turned out that fossil fuels were not running out at all, and were also able to ‘clean up their act’ and reduce their pollution greatly. Nuclear power thus faced increasing competition from fossil fuels and became uneconomical.”

He agrees that today’s world is very different. Considerable efforts are being made to develop new energy technologies using solar energy, biofuels, off-shore devices, fuel cells and hydrogen. “We’ve been slow on the uptake in the UK, but at last things are beginning to pick up. I was pleased with the Energy Review and with the formation of the Carbon Trust.”

Energy research in the UK suffered badly under privatisation, and governments lost their sense of where public and private responsibilities lay, he adds. He considers research to be a public good, with enormous positive externalities for the public and business and also for future generations. “It deserves more encouragement, not less, in a market economy.”

On the issue of climate change, we need a bigger effort to develop the new renewable energy and hydrogen-related technologies, since they have so much promise, he concludes. “I would like to see developing countries involved in the effort through international cooperation. My colleagues and the graduate students think the same way, and we are trying to develop our own links with universities overseas. In this, as in so many other respects, I am pleased to be back at Imperial.”

21st century medicine_

spotlight on tissue



TISSUE ENGINEERING IS A RAPIDLY DEVELOPING FIELD OF MEDICINE CONCERNED WITH THE REPAIR, REGENERATION OR REPLACEMENT OF DAMAGED OR DISEASED TISSUES. USING CELLS GROWN IN A LABORATORY IT AIMS TO REPRODUCE THE NORMAL BODY PROCESS OF TISSUE FORMATION.

engineering

TISSUE ENGINEERING IS A RAPIDLY DEVELOPING FIELD OF medicine concerned with the repair, regeneration or replacement of damaged or diseased tissues. Using cells grown in a laboratory it aims to reproduce the normal body process of tissue formation.

The Centre for Tissue Engineering and Regenerative Medicine, a multidisciplinary research unit, was set up in 1999 to establish scientific principles which will enable the production of engineered tissues and organs with long survivability in patients, and on a potentially commercial scale. It is directed by its

founder, Professor Julia Polak of the Faculty of Medicine and co-directed by Professor Larry Hench, Faculty of Physical Sciences. Experts in cell biology, gene expression, cardiovascular surgery, histochemistry and orthopaedics are a few of the fields represented in the research team.

Professor Polak's interest in regenerative medicine is an incredibly personal one. In 1995, whilst working as a Professor of Endocrine Pathology at the former Royal Postgraduate Medical School, she was diagnosed as suffering from one of the conditions she was researching – pulmonary hypertension. The heart and lung transplant vital to her survival, was carried out by colleague, Professor Sir Magdi Yacoub. Seven years on, Professor Polak is one of the longest survivors of a heart and lung transplant.

This experience highlighted to her the terrible realities of transplant surgery. Shortage of donor organs coupled with the complications of chronic rejection mean that many people needing new organs do not survive. Professor Polak decided to enter the emerging field of tissue engineering and to use the national and international media attention surrounding her operation to help launch a Trust which would tackle these issues directly.

Tissue engineering, as Julia Polak is keen to point out, is not about creating a breed of super humans with an indefinite life span. It is about improving quality of life and minimising the debilitating effects of certain diseases.

It was at this time that she met Professor Larry Hench, now co-director of the Tissue Engineering and Regenerative Medicine Centre.

Professor Hench's invention, Bioglass™, was originally developed in the 1960s to replace and restore bones. Ten years ago it was discovered that applying the powder to a damaged bone 'turned on' the natural repair process, allowing the bone to regenerate. Bioglass™ research now focuses on isolating its active ingredients to aid the tissue and bone regeneration process and on designing a Bioglass™ scaffolding on which bones will grow.

Over the years, Professor Polak has made contact with many individuals and families whose lives have been touched by the need for donor organs. One such associate is Martine Rothblatt, a telecommunications millionaire whose daughter is also a sufferer of pulmonary hypertension. Over five years, Martine has donated £12 million to the Julia Polak Research Trust to aid research into this area. Donations such as this are crucial to the continuing tissue engineering and regenerative medicine research carried out at Imperial College.

PROGRESS TO DATE

The research of Professors Polak and Hench and their team has produced significant findings. Recent results include creating bone cells from embryonic stem cells and growing adult bone cells in the laboratory which will be used to create a new bone.

The Centre has also made progress towards its objective to create a human lung obviating the need for transplant in some chronic lung disease cases. Mouse stem cells have been successfully converted into the type of cells needed for gas exchange in the lung.

Within a decade, researchers hope to have developed human applications.

Julia Polak's dedicated team of researchers has made great headway in this 21st century science, the boundaries of which are still largely unknown.

WHAT IS TISSUE ENGINEERING AND WHY IS IT SO IMPORTANT?

Tissue engineering brings together the disciplines of biology, materials science and biomedical engineering. Living cells are harvested, grown in the laboratory, often on an appropriate scaffold, and stimulated to form specific tissues that mimic the complex structures and physiological behaviours of natural tissues. These 'spare parts' can then be transplanted into a patient. This is performed via an injection of cells or implantation of intact tissue or entire organs.

For many years, organ donation and transplant surgery has been saving lives. The ratio of organs available, to patients whose survival depends on receiving such organs, is out of proportion. An estimated 16 people die every day whilst awaiting a life saving transplant operation. In addition to this, many more die as a result of chronic rejection when the patient's immune system rejects the transplanted organ. Regenerative medicine could, in time, produce viable tissue and organs in the laboratory for transplanting, easing pressure on organ demand. It is already going some way to making conventional transplants more enduring and improving immune responses.

The benefits of tissue engineering are varied and far-reaching. The concept of tissue engineering is recognised as an important new approach to solving many long-term healthcare needs.

It could help alleviate the symptoms of a plethora of age related conditions: areas of the brain affected by Parkinson's disease could be replaced; new ways will be found to treat conditions such as diabetes, osteoporosis and Alzheimer's. In addition to this, tissue engineered bone can ensure longer tolerance of false limbs such as hip replacements which are currently renewed after, on average, 10 years of service.

Sportsmen and women are already benefiting from the work of the Centre. Injuries caused by the wear and tear of physical activity which are treated with regenerative medicine repair more quickly, which extends the careers of professional sports people.

To find out how you can support this work please contact Juliet Allibone +44(0)20 7594 5550; j.allibone@ic.ac.uk.

Sustainable

BY ROGER VENABLES

IN THE AUTUMN OF 2001, THE ICE, SEEKING TO MAKE A MAJOR global contribution to raising the profile of sustainable development, invited me to deliver the third Brunel International Lecture to its audiences around the world. The fundamental idea behind the Brunel Lecture Series, which commemorates the contribution of the Brunels to the early advances of civil engineering, is to deliver a lecture on a major subject to as many of the ICE's international branches as possible. This year's subject of sustainable development was selected for two reasons: firstly, the Commonwealth Heads of Government Meeting in Brisbane in October 2001, had it taken place, was to have been along the themes of sustainable development, environmental protection, poverty eradication, and improving social capital. Secondly, the ICE wishes to make a contribution to preparations for the impending Earth Summit in Johannesburg (August-September 2002) and provide a springboard for the activity of the Institution in this global arena.

Jean (my wife, business partner and fellow civil engineering alumna from 1969) and I found the time to fit in two very full trips – Surfers Paradise, Brisbane, Sydney, Melbourne and Auckland in October; and Bangkok, Kuala Lumpur and Hong Kong in November. Although my presentation was tailored to suit each venue, the basic messages of the lecture remained the same. We asked our hosts to make our trips as much study tours as well as lecture tours, and were able to visit local firms and projects in each location. When I presented the lecture to the Institution in London, I was able to draw on these experiences and include some reflections on how sustainability is being tackled in these places.

In essence, the lecture focuses on the roles and practical actions that need to be taken by the many disciplines,

organisations and individuals involved in delivering the challenges of sustainable development. The role of professional civil engineers is not simply to ameliorate the environmental damage of construction – we can, and do, positively improve the human world and quality of life through the provision of water supply, wastewater treatment, power stations, roads, airports, ports, bridges and canals. However, I contend that any 21st century professional engineer who is ignorant of, or indeed ignores, sustainability, and who does not seek to deliver more sustainable solutions and to *live* more sustainably, will be an incomplete engineer. The very best civil engineering is, I believe, already good enough to be called sustainable development but it is my contention that sustainable development will only be possible if it becomes the *normal* way in which civil engineering is carried out.

In the UK, guidelines for action have already been identified, including the re-use and improvement of existing built assets, construction of buildings appropriate to the locality, existing infrastructure and building for efficient-energy consumption and enhancement of the surrounding ecosystem. Designers of buildings and civil engineering works should always seek to minimise the adverse social impacts on their surrounding area by involving the local community in the planning and undertaking stages of the project. Chelsea and Westminster Hospital, an Imperial hospital, exemplifies some of these principles – a transparent plastic roof covers the largest naturally ventilated atrium in the world (an area larger even than Wembley stadium) and the building generates its own energy, with surplus sold to the National Grid.

To encourage high environmental quality in civil engineering projects, the ICE – with support from DTI under the Partners in Innovation Scheme – is currently working to develop CEEQUAL

EDUCATORS HAVE A CRUCIAL ROLE IN SENDING GRADUATES OF BUILT AND NATURAL ENVIRONMENT SUBJECTS OUT INTO THE WORLD UNDERSTANDING WHAT SUSTAINABLE DEVELOPMENT IS AND HOW TO DELIVER IT.

development

(a Civil Engineering Environmental Quality Assessment and Awards Scheme), which I hope to will be ready for commercial implementation in the UK during 2003, and which ultimately could be applied internationally.

Whilst there are a growing number of examples of construction projects in the UK fulfilling some of the criteria for sustainable development, there is a real requirement for a sustainable construction approach to be adopted. The sustainability agenda is, in my view, going to grow in importance. Those who engage and put into practice the agenda and the need for changes will be ahead of the pack; those who ignore it may find in a few years that they are wondering where their businesses went wrong.

Educators have a crucial role in sending graduates of built and natural environment subjects out into the world understanding what sustainable development is and how to deliver it. There is a fantastic amount of information now available to enable anyone to design, build or operate any civil engineering works or buildings in a better, more sustainable way. Equally, CPD on sustainability issues for current practitioners is crucial to the adoption of sustainable construction principles. We need to consider sustainability in *everything* that we do. Thinking and working together in this way, giving sustainable development your mind and your time, will reward you in return – with social gain, economic progress... and your planet's health.

On 12 February 2002, Roger Venables (Civil Engineering, 1969) presented the third Brunel International Lecture, 'Delivering sustainable development', to a packed house at the Institution of Civil Engineers (ICE) in Westminster.

He is Managing Director of Crane Environmental Ltd, a Chartered Civil Engineer, and Member of the Chartered Institute of Marketing.

After five years with George Wimpey & Co, Roger spent 15 years with CIRIA (the Construction Industry Research & Information Association) before joining his wife, Jean, to form Venables Consultancy, the parent company of Crane Environmental. He was Technical and Coordinating Editor for *The Roseaugh Guide to Buildings & Health* published by RIBA in November 1990 and, in 1992, led the team that wrote and produced the *CIRIA Environmental Handbooks for Building and Civil Engineering Projects*. With John Newton, he co-wrote *A Client's Guide to Greener Construction*, published by CIRIA in 1995, followed by the update of the *CIRIA Environmental Handbooks*. Roger is Chairman of the ICE's Environment and Sustainability Board and Vice-Chairman of the Global Network for Environmental Science and Technology.

The Brunel International Lecture is a prestigious event with the objective of promoting the Institution of Civil Engineers' place on the global scene. The Lecture is also held to emphasise the international nature of its membership, and to offer a view on an issue of international significance. The College is proud to retain its connection with the lecture for the second time in three years, after Tony Ridley, Emeritus Professor in the Department of Civil and Environmental Engineering (Centre for Transport Studies) gave the first lecture in 1999.

In April and May 2002, Roger Venables delivered the Brunel lecture to additional audiences in Durban, Johannesburg, East London and Marseille.

Further information, including the presentation slides, can be found at www.ice.org.uk under Environment & Sustainability or at www.crane-environmental.co.uk under News & Current Projects.

Portillo and the

TANYA REED DISCOVERS THE MUSICAL ROOTS OF THE TORY STALWART AND CHAIRMAN OF SINFONIA 21, IMPERIAL'S ENSEMBLE-IN-RESIDENCE. HIS PRESENTATION 'IS BUSINESS RESPONSIBLE?' AT LEIGHTON HOUSE MUSEUM IN MAY, WAS WELL RECEIVED BY ALUMNI FROM AROUND THE WORLD.

AS CHAIRMAN OF SINFONIA 21, MICHAEL PORTILLO HAS THE chance to take the reins of a world-acclaimed orchestra. The previous chairman, Lord Dennis Stevenson, wanted to move on; was Michael interested? He answered yes. He wanted a challenge and the remit fell within his constituency. He also liked the idea of an orchestra at the frontiers of science and music; one committed to performing works of living composers.

"Music is hugely important. But sometimes I do not justice to it, when I rush to a concert at the end of a busy day, and don't take in the first half, as my mind is still full of other things.

"So many good things have come out of Sinfonia 21 — the potential to use music in the treatment of dementia; and the creation of Muzantiks, a website which enables young music students to compose and orchestrate works on line— I'd have loved that opportunity as a child."

For Michael Portillo, politics and music are unmistakably linked. The MP for Kensington and Chelsea decided to travel to Germany to present a BBC2 programme about Richard Wagner in the series 'Art that shook the world.'

His focus was Wagner's Ring cycle, which he claims is arguably the greatest study in opera of how political power corrupts (in the case of the god Wotan) and absolute power corrupts absolutely (in

the case of the dwarf Alberich).

"When you're busy in politics, opera gives you the chance to empty your mind and fill it up with something else," he explains.

"Filling it with the drama of Wagner's life and the politics of the Ring cycle is very interesting. It's demanding and satisfying and enables you to enter a different world."

If the former Shadow Chancellor's world had been different and a career in politics hadn't appealed, a career in music undoubtedly would. His passion for the classics started young; he grew up in a house where Brahms and Beethoven were always on the record player. His mother's family was fairly musical; she played piano along with his great aunt while another aunt played violin. The son of a Spanish academic and republican, Michael also learned to love the music of Sibelius.

"My own attempts were a failure. I was never able to master reading music and I was one of those kids who liked to do things they're good at. Older boys and university students began to educate me a bit in musical taste, leading me into more difficult things. I remain disappointed that I have no expertise, no understanding of theory. It's a project I can set myself now I have more time."

politics of music

Time is an entirely new concept for Michael Portillo — his CV is testament to this. After attending Harrow County GS where he first met his wife to be, Carolyn, a head hunter, he gained a first class degree in history at Cambridge while showing an entrepreneurial spirit during vacations when he worked as a tour manager showing American students around Europe. It earned him money and the chance to indulge his fondness for music at the Covent Garden proms — albeit seated on the floor.

He briefed Margaret Thatcher before her press conferences at the 1979 General Election, was special adviser to the Secretary of State for Energy and later, special adviser to the Chancellor of the Exchequer, Nigel Lawson.

A Whip, Parliamentary Under Secretary for Social Security, Minister of State for Transport, Minister of State for Local Government and Inner cities, he eventually joined the Cabinet as Chief Secretary to the Treasury, moving up to Secretary of State for Employment and then Secretary of State for Defence.

While Shadow Chancellor in 2000, he went on Radio 4's Desert Island Discs. His music selection attempted to be autobiographical and included favourites from parents and friends, including Mozart, Puccini, Wagner, Beethoven, Sibelius as well as Madonna and Cream.

"I didn't really enjoy it. For politicians, it was like any other interview seeking a bit of a headline. If they interview a pop star or football player, it's about the pinnacles of his or her career. With politicians, it's all about troughs, so it was slightly depressing, especially as I had a Roy Plomley memory of the programme."

He was re-elected to Parliament in a by-election in Kensington and Chelsea in November 1999 but last year proved fraught when he lost the Conservative party leadership ballot. Nevertheless, he has concentrated on other projects — on New Year's Day, he appeared in BBC2's *UK Confidential* talking about the Heath government and the 1971 Cabinet papers, specifically the U-turn on Government policy. He is particularly proud of a programme in the BBC2 series *Great Railway Journeys* series which was partly a biography of his father.

"I've more freedom and time now yet still seem incredibly busy. If I had to give an account of myself, I seem to rush from place to place but now have the opportunity to make space for new ventures. It's almost as though I've been afraid to give myself space until now; I'm so much in the habit of being busy." He pauses for a while then continues. "Yet even though I'm not particularly prominent in public life at the moment, when I sit back, my diary still fills; it's like snow falling. I have to ask myself how much I'm a passive participant, which is not ideal."

He returns to the subject of Sinfonia 21. "The Arts Council and other bodies do their bit and we recognise times are more difficult now and have reduced demands on outside funding to £45,000; most concerts are pre-funded. It's good to have a range of people involved and to have a broad base of support — those interested in the connection between science and music who may be Imperial graduates could be willing to help. Ideally, we'd like people to commit for three years as it gives us stability.

"I'd like part of my life to be taken up with a serious effort in the arts and the experience gained with Sinfonia 21 is extremely valuable; it's sharp end stuff as the business of how we get by financially requires a lot of effort. It's a constant struggle and anxiety to keep the show on the road, but we are determined to do it."



A UNIVERSITY EDUCATION_ MICHAEL PORTILLO ANSWERS QUESTIONS

What role does an institution like Imperial play within a parliamentary constituency?

My constituency of Kensington and Chelsea is full of national institutions — for example the museums of South Kensington — and their relationship with the local community is, of course, affected by being national. I feel a pride, as the MP representing Imperial, and what is achieved here.

Maintaining an orchestra like Sinfonia 21, which draws its audience from within and without the College, is just one way in which a national institution can relate to the locality.

What is your view of university education at present, specifically educational policy at a time when costs are rising, yet student figures are declining?

I am pleased that so many more people are able to go to university now than some years back. It is a great opportunity for people, and it brings benefits to them and to the nation.

But 'university' is a term now used to describe a very broad range of institutions and the courses vary a lot in their degree of rigour and their academic content. They cannot all be offered similar amounts of government funding in the name of equality. They are not equal. I am concerned that at the top end some of our great universities are struggling to compete with institutions in other countries.

Do you have a specific vision about where education should be going and how universities should develop in the future?

I believe that our best universities are under-funded and are likely to remain so as long as they depend on the drip feed of government subsidy. I believe we should progressively endow our best universities so that they can be freed from dependence on government funding.

Many of their peer group are so endowed. The government could use windfalls — for example from the sale of the bandwidth spectrum — to fund those endowments. The universities could be required, however, to set up bursaries and scholarships for students who cannot afford the fees, but who are highly able.

Incidentally, it is also alarming to me how few scientists are being turned out by British schools.

Imperial College can maintain its standards by taking outstanding students in large numbers from abroad, but there is a problem for our country if we ourselves are not producing scientists. Part of the problem is a shortage of good science teachers in schools, and that may well require exceptional payments to attract and retain them.

spotlight on

BY TANYA REED

HOW TO BE A SPIN-OUT SUCCESS

In the world of spin-out companies, no new enterprise is safe. Investors can promise the earth then back out. Deadlines aren't met, debts mount up. Academic research scientists can be left confused and frustrated as their piece of potentially world-beating technology seems never destined for the marketplace. Companies such as Fleming Family & Partners Ltd (FF&P) and Gordon House Asset Management can safeguard against these risks. On behalf of their clients, FF&P and Gordon House will buy a 30 per cent stake in Imperial's shareholding in a portfolio of 36 unlisted spin-out companies. A Limited Liability Partnership holding the portfolio of shares, will take the name Imperial FF&P Gordon House LLP. FF&P and Gordon House will own 21 per cent and nine per cent of the partnership respectively. Imperial College Innovations Ltd, the College's technology transfer company, engineered the partnership. "This is the first partnership of its type to be created by a university," said Susan Searle, managing director. "The deal illustrates the increasing importance of university technology transfer activity in contributing to economic growth."

David Donnelly and his team at Gordon House, have helped steer a number of Imperial's 53 spin-out companies through various hazards, ensuring follow-on funding and a successful future.

The company aims to attract spin-outs which believe they have large commercial opportunities and need help with advisory assistance fundraising. At present, new companies are being spun out of Imperial at a rate of two per month.

"Venture capital groups are mainly interested in getting the best deal for their own shareholders," he explained. "We sit alongside the spin-out and ensure that not only a fair price is struck between

IN THE WORLD OF SPIN-OUT COMPANIES, NO NEW ENTERPRISE IS SAFE. INVESTORS CAN PROMISE THE EARTH THEN BACK OUT. DEADLINES AREN'T MET, DEBTS MOUNT UP.

enterprise



JAN CHLEBIK

www.icinnovations.co.uk
www.ec.ms.ic.ac.uk

the company and investors but also that the investors provide sufficient funds to give the company a real chance of success. This means management can get on with managing the business as opposed to the distraction of endless rounds of financing.

“The science of each new spin-out is a steep learning curve for us too. It’s often cutting edge and we’re privileged to get as close to it as we do.”

Imperial College Innovations Ltd is one of the UK’s leading technology transfer companies. It provides a network of services and support to help establish new companies, including the management of Imperial College’s University Challenge Seed Fund, a government-sponsored scheme to help UK universities fund the development of promising technology-based companies. Its profits are returned to the College to support further research. Visit www.icinnovations.co.uk for further information.

NIKKO SIGNS UP

Imperial College and Nikko Principal Investments Ltd have signed a £20 million deal to accelerate the development of spin-out companies set up by Imperial College Innovations Ltd. Nikko will benefit from co-investing at an early stage via its new subsidiary NPI Ventures.

Approximately £2 million will be invested alongside the Imperial College University Challenge Seed Fund, while the remainder will be used for investments alongside other external investors in later-stage financing rounds.

Ceres Power Ltd, a technology development company specialising in fuel cells has recently closed an initial funding round to complete the next three years of its development programme before tackling the distributed power market. It is one of the first Imperial spin-outs to benefit from the £20 million co-investment.

ENTERPRISING ALUMNI

Celsus, a contract research organisation launched in January masterminded by David Wright and three Imperial College alumni, provides clinical research and consulting services to the international medical device industry.

Strategic marketing director, Albert Chong, was first introduced to the company’s current managing director, David Wright, whilst studying for an MBA at Imperial when David was working for St Jude Medical, an international medical device company.

Albert graduated in 2001 along with Damian Helme, Celsus’ finance and IT director who studied with him, having followed a career in software development, subsequently owning and running a consultancy company. Richard Wyse, Celsus’ medical director, completed his MBA in 1992 and continues to lecture at Imperial on a part-time basis.

ENTREPRENEURS’ PROGRAMME

The Entrepreneurs’ Programme aims to help academics and researchers improve their business and innovation skills. It is open to all members of the College and external participants. Contact Veronica Peerman on +44 (0)20 7594 9192; v.peerman@ic.ac.uk for details. Visit their website www.ec.ms.ic.ac.uk.

A Challenging final

BY TANYA REED

IT WAS NAIL-BITING FROM THE START. THE FOUR REPRESENTATIVES of Imperial College – Paddy Hayes; Sunil Rao; Lloyd Kilford; and their captain Darius Fidgett – faced Somerville College, Oxford in the final of University Challenge 2002.

As the winner’s trophy appeared, Paddy Hayes began to get nervous.

“As it was the final, they produced the trophy before the game and the nerves got to me; I choked. We tried to get off to a good start, but the answers were wrong.

“It was a huge relief to get questions about our own subjects, although not knowing the difference between an element and molecule was highly embarrassing, even though I was proud to answer a question about the Beastie Boys; that was my redemption. In the early sessions, there was a tendency to panic but in the final game, we didn’t hold back. If we knew it, we went for it.”

Captain Darius Fidgett also remembers the pressure at the beginning of the game. “We started at a reasonable speed, it was just in the wrong direction. Once on track, we started scoring points far more quickly.”

The team won their place in the final, screened on 11 March, after beating de Montfort, Christ Church College, Oxford, St Hugh’s College, Oxford, and Edinburgh. They had a hard act to follow – Imperial won University Challenge in 1996 and 2001.

Questions varied from Woody Guthrie to hydrochloric acid. Swotting up during train journeys between London and Manchester paid dividends, especially when it came to questions about art; in the first round, Paddy correctly identified Seurat’s pointillist painting having seen a similar one in a book while speeding through Crewe. Train journeys also helped the team sharpen their buzzer speeds, aided by high caffeine drinks.

Sunil Rao and Lloyd Kilford had the added pressure of knowing members of their families were in the audience. “My dad was surprised I didn’t know the chemistry questions in an earlier round,” he explained. “Personally, I was really pleased to get a question right about the order of planets in the solar system and one about cell division.”

Lloyd kick-started the team into an impressive comeback with a correct answer about Peter Pan. He was also glad to answer a question about Gregorian chants correctly.

“My mum was a little tense, but pleased and proud we were in the final,” he added. “My brother was in the audience – you could hear him shouting at one point.”

While sitting in the audience watching Imperial win in 1996, Matthew Smith, reserve for the 2002 team, decided to study maths and computing at the College. He travelled with the team to attend the quarter and semi-finals.

“I was like the fifth Beatle – I told Paxman I’d see him next year when I’d be on the team. Imperial and Somerville seemed the strongest, most well-matched teams from the start. There were a lot of tactics in earlier rounds that Somerville was also very good at, such as being as fast as us on the buzzers. It was like a good

and evil universe – we were the good ones, they were the baddies.”

Despite a magnificent return in the second half of the programme when they scored points at will, despite trailing minus 10 points to 125 points, Imperial failed in its third bid for the title, losing 185 points to 200.

At one stage the contest hung in the balance with Somerville only five points ahead of Imperial’s 185. Nevertheless, their overall score totalled 1,080 – the highest scored by any university.

Jeremy Paxman sent all four members a bottle of champagne on behalf of the programme. Ironically, he taunted them in the first round with ‘come on Imperial, you’re all champagne drinkers,’ as they failed to get a wine related question correct.

His final words at the end of the game echoed those of most viewers. “Well Imperial, you got off to a catastrophic start, but were storming back by the end and you almost did it – it was a very courageous comeback.”

Philosopher Baroness Mary Warnock, Fellow of Imperial College who presented the trophy, agreed. “This was a wonderful match. Imperial you did so well – I would have collapsed.”

Paddy later reflected on the match. “The main enemy wasn’t Paxman, but the other team; he throws things in to make you laugh and off-stage was a thoroughly decent bloke.

“There’s a lot of rivalry between teams, which I didn’t realise. We were nicknamed the army of mutants by Edinburgh University. It’s just bitterness as we hammered them in the semis.”

Television may have brought them fame, but the students are taking it in their stride, despite an increase in emails from the opposite sex.

“A lot of people come up and relate the wrong answers back to me,” explains Sunil. Paddy puts things into perspective. “Girls come up to you at College and say, ‘You’re off University Challenge – my grandma really likes you!’ ”

The making of a top team

Paddy Hayes _PhD in fuel cells and computing, went to St Gabriel’s High School, Bury; and Bury and Holy Cross VI form college;

Sunil Rao _information systems engineering, attended schools in India and Bombay before studying for A-levels at Brentwood school, Essex;

Darius Fidgett _(captain), Department of Computing, was a pupil at John F Kennedy school in Hemel Hempstead;

Lloyd Kilford _PhD in maths, attended Benjamin Britten’s High School, Lowestoft.



NEVILLE MILES

University Challenge reunited

Former winning Imperial teams of 1996 and 2001 starred in University Challenge Reunited, celebrating 40 years of the programme.

In the first episode, Imperial's 1996 team of Jim Totty, Nick Bradshaw, captain Mark Pallen and Chris Harrison beat the 1981 Merton College, Oxford team by 240 points to 205.

Mark Pallen, captain, studied PhD Biochemistry between 1994-1997 and is now Professor of Microbiology (Microbial Genomics), Department of Infection, Medical School at the University of Birmingham.

James Totty, MSc and PhD Physics 1992-1996, now works in private equity finance, for Nikko.

Nicholas Bradshaw studied for a PhD in Electronic and Electrical Engineering between 1993-1996 and works for Parc Technologies Limited (Imperial College spin-out company) as a software engineer.

Chris Harrison completed an MSc in Computing between 1995-1996 and is currently studying for his PhD at IC Parc.

In a later episode, the 1968 Sussex winners took on Imperial's 2001 team, which won 225 points, consisting of Siegfried Hodgson, John Douglas, captain Gavin Estcourt and Alexander Campbell.

Gavin Estcourt, captain, studied for an MSc in Computing 1999-2000 and works as an options trader for Morgan Stanley.

John Douglas took a PhD in Engineering Seismology, Department of Civil and Environmental Engineering 1998-2001 and is now a research associate in the Department of Civil and Environmental Engineering.

Siegfried Hodgson, studied MEng in Computing 1997-2001 and is carrying out freelance computer programming.

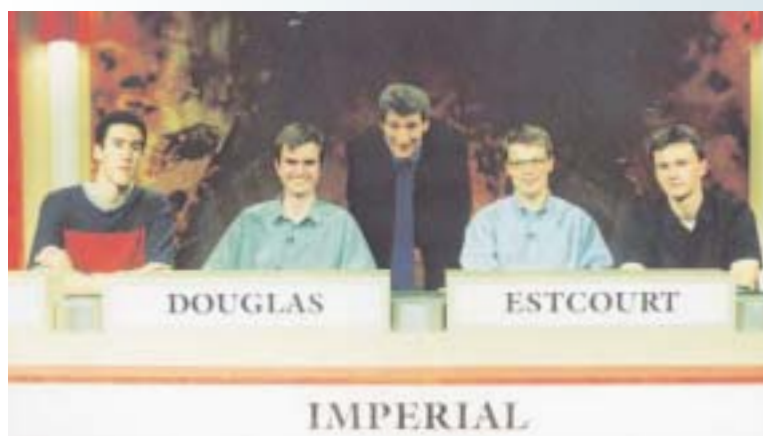
Alexander Campbell took an MSc in Science Communication 1999-2000 and is Business Editor of *Flight International* magazine.



Winners 1996

*'COME ON IMPERIAL, YOU'RE ALL
CHAMPAGNE DRINKERS'*

Winning memories



Winners 2001

"We only found out about UC Reunited about two weeks before we recorded our show," remembers John Douglas. "It all happened so quickly we did not have chance to meet up before our recording and run through some questions. Alec joked that it was like being in The Blues Brothers – like getting the band back together."

"As it was only a year and a half since we recorded our final, it was not like we had been away for 40 years. It was good to meet up with the rest of the team because the last time we had seen one another was at the screening of the final. It was also good to meet up with the Granada researchers who work on the show and we had got to know quite well. We quickly feel back into the old routine, drinking Purdey's and taking the mickey out of Siegfried!"

"As our match was recorded on the weekend when the West Coast mainline shut down due to strong winds, we were driven from London to Manchester at 100mph in time for a television recording. We felt like stars!"

"Before the recording I was surprisingly relaxed about the whole event unlike the proper series when I felt nervous before each match. However, once the music started to play, the adrenalin started to pump. It was a bit disappointing not to be asked back for the second round but our winning score of 225 was not high enough."

alumni meet up

Forthcoming events for alumni are on the Imperial alumni site:
www.alumni.ic.ac.uk/alum31.htm

If you are interested in planning a class reunion, please contact Liz Gregson
e.gregson@ic.ac.uk

Reunions in 2001

50 Year Reunion of 1951 beginners in RCS Botany

A buffet supper for all 10 members of the RCS Botany 1951-1954 (aka 29 Club) and their wives was held on 28 September 2001 at the home of Richard Threlfall (Botany 1954, Department of Botany, 1958-1980) in Dorset, 50 years after they met for the first time.

The next day, a morning visit to Montacute House and Garden was followed by dinner at Plumber Manor near Sturminster Newton. The group caught up with news from Professor J I Sprent OBE, Tom Reynolds and Michael New OBE who had not been able to attend a similar occasion in 1991. Light entertainment and singing were rounded off by a talk from our special guest, Professor A J Rutter, formerly of the Department of Botany at Imperial.

RICHARD THRELFALL BOTANY 1954

Chemical Engineering Class of 1960 Reunion

On Wednesday 6 February 2002, a group from the 1960 graduating class of Chemical Engineering gathered together at the New Cavendish Club near Marble Arch for the first time since the summer of 1960. The idea for the reunion arose from a smaller group – Alan Nethercott, Malcolm Cross and Tony Davis. Having met each other separately and very sporadically during the intervening years, the group decided, under the influence of a beer or three, to organise a get together in the autumn of 2001. The reunion turned out to be a relaxed affair in a corner of the bar. It was suggested that the reunion be made an annual event.

Those who were unable to make the first gathering or who we failed to contact are welcome to join the next. For details, please email tonydsandb@aol.com, alannethercott@hotmail.com and/or mcross@freeuk.com.

TONY DAVIS CHEM ENG 57-60

Charing Cross 15 Year Reunion

On a sunny Saturday in October, graduates of Charing Cross Hospital Medical School, who embarked upon their studies together on a similar autumn day 20 years earlier, gathered together at Silwood Park for a reunion. Instigated by Has Ahmed, the reunion attracted over 70 guests, many of whom had not met in the intervening 15 years since graduation.

The Manor House proved an idyllic location, as guests caught up at the pre-dinner bucks fizz reception and reminisced about 1981, the year that Bucks Fizz won the Eurovision Song Contest and Charles and Diana married in fairytale style. After the three course meal and a speech by Has, some braved the dance floor in the Great Hall, under the strict instruction of dance caller Jim Reid, whilst others remained to chat and further catch up with fellow classmates about life 15 years on. The evening ended with a heart-warming rendition of 'Auld Langs Ayne', which had everyone on their feet.

LIZ GREGSON

St Mary's 25 Year Reunion

On the weekend of 5 October 2001, the St Mary's Hospital Medical School 1976 graduates held a 25 year reunion at the Chesford Grange Hotel near Warwick.

Many attendees arrived throughout the Friday for dinner and spent Saturday exploring the 17 acre grounds of the hotel, visiting Warwick Castle and walking in the surrounding countryside. The more energetic also managed to squeeze in a quick dip in the indoor pool before meeting for pre-dinner drinks in the Conservatory Bar.

Peter Verow as 'Master of the Rolls' presided over the dinner on Saturday evening and attendees changed tables between courses. After coffee, there was a quiz, which had been devised by Chris Newbegin and Oliver Corrado, using photographs from the past, some causing much hilarity as antics were recalled and revealed.

More than 40 of the 1976 graduates of St Mary's attended, many with their partners. Another reunion in the not too distant future in Trinidad was agreed to be a splendid idea. Celestine Ragoonanan is already looking into this!

MOIRA BOULOS (WIFE OF GEORGE BOULOS, ST MARY'S HOSPITAL MEDICAL SCHOOL, 1976)

Westminster Medical School 30 Year Reunion

The seeds for this event were first sown over a Sunday lunch in the winter of 2000 with Jane Lock (née Christopher) and Celia Richards (née Jenkins). Jane undertook the planning and on 22 September 2001, over 40 old students and their partners attended. For many of us it was the first chance to see the new Chelsea and Westminster Hospital, Westminster Hospital's successor.

After a welcoming drink and, for some, the opportunity to tour the hospital's extensive art collection (Chelsea and Westminster Hospital is a pioneer of 'The Healing Arts'), we enjoyed having our memories tickled by Mike King's presentation: a miscellany of old photographs, magazines and historical perspectives. Over dinner (without speeches!!) and plentiful wine, we were able to sit back, relax and catch up with old friends, many of whom had not been seen since the last reunion.

"What was so heartening was that the good bits in people had blossomed; it brought back the best memories" – said one guest. Let's hope we do not have to wait so long to see each other again.

PATRICK CHUTER WESTMINSTER MEDICAL SCHOOL, 1971

students have a ball

BY SEN GANESH, PRESIDENT, IMPERIAL COLLEGE UNION

Introduction _ The Union has taken the opportunity to review its operations in the light of recent changes to College structure. The Constituent College Unions have been replaced by the Student Faculty Associations, of which the Engineering Faculty has voted to be known as the City and Guilds Association. Council has been changed to allow more ordinary students to participate in the governance of the Union. This represents a new beginning for the Union and a new direction for its members.

NUS Referendum _ The Union Council called a referendum on affiliation to the National Union of Students (NUS). The ballot took place in March, and with a turnout of 28 per cent, was one of the biggest turnouts for any College-wide ballot in recent years. The students voted 72 per cent to 28 per cent to remain outside the NUS. The last referendum took place seven years ago.

IDEA League _ The Students' Unions of the respective universities have formed a strategic partnership to ensure the views of students are heard within the IDEA League. The process started with a visit from our friends in TU Delft over the Spring Term to share best practice and exchange ideas on the way forward, and we held our first conference and sports weekend in Delft in May.

The Arts _ The first Imperial College Union Arts Festival was held between 25 February and 1 March 2002, organised under the banner of the Arts and Entertainments Board. The objective was to bring together societies who practise and encourage the arts to show that Imperial is home to a community of broad-minded individuals who embrace activities extending beyond the disciplines of science, technology and medicine. The festival took the form of lunchtime and evening events, together with displays of visual art and literature.

International Night _ International Night reached unparalleled heights this year. A sellout crowd in the Great Hall sampled worldwide cuisine, followed by the member societies of the Overseas Students Committee performing music, dance and comedy sketches from across the continents. International Night takes place annually early in the Spring Term, around which time details can be found on the Union website www.union.ic.ac.uk.

Sport and recreation _ Among the teams reaching the knockout stages of BUSA (British Universities) were badminton (men's); fencing (men's and women's); men's rugby; squash (women's and men's 2nds); table tennis and volleyball. Fencing and table tennis can consider themselves among the best eight student teams nationally in their respective sports, having both reached the quarter finals of the BUSA Championship. A special mention also goes to the Badminton 2nd team, the only Imperial team to reach a semi-final in BUSA.

In ULU, the men's squash 1st team took the Cup home, while the 2nds were champions of Division Two. Rugby 2nd XV picked up the Reserve Cup on a biting cold day at Teddington, while at Motspur Park a good crowd gathered to cheer on the men's football 2nd and 6th XIs in their respective finals on 9 March. The 6ths were delighted to take home the Vase with a 2-0 victory over their UCL counterparts,

while the 2nds were unlucky to lose in extra time to LSE.

It was good to see a number of Old Boys present at what is becoming an annual event. Providing support from the sidelines is just one way for alumni to keep in touch with the sports teams that they left behind after graduation. Many clubs run events throughout the year at which alumni are very welcome.

This year, Imperial College Union's reputation for hosting high quality events has been extended to its sporting clubs. The Hyde Park Relays, an annual race held on Hyde Park and organised by the Cross Country Club, reached record attendance figures, drawing in participants from across Europe. Congratulations must also go to the Archery Club who, in its first year as a separate entity (having previously been a part of the Rifle and Pistol Club), has been selected by BUSA to host the Summer Outdoor Championships, at Lilleshall, Shropshire.

Student media _ Since its move to the shiny new Media Centre in the Beit Quad West Basement, the Media Group is now able to cover Union activities and events more comprehensively than ever. Live broadcasts have included the announcement of the results of the recent elections in which next year's Sabbatical Officers were decided. *Felix*, STOIC (television) and IC Radio have high quality websites up and running, from where you can read, view and listen to highlights of the past year. Visit www.union.ic.ac.uk/felix/, www.union.ic.ac.uk/stoic/ and www.icradio.com.

Summer Ball _ This event took place on the South Kensington campus on 8 June with live acts on stage on the Queen's Lawn, a cocktail bar, fairground rides and top name DJs. The main acts included Cornershop, James Taylor Quartet, Artful Dodger and Scratch Perverts.

Sabbatical elections _ This year was the first time sabbatical officers were allowed to stand for re-election for a second term. Sen Ganesh (President) and Will Dugdale (*Felix* Editor) were duly re-elected to their respective positions. The other sabbatical officers are Ramnath Ramanan (Deputy President Finance and Services), Nona Ahamat (Deputy President Clubs and Societies) and Andrew Smith (Deputy President Education and Welfare).

The year ahead _ We would like to take this opportunity to thank the alumni, officers, students and staff for the tremendous support over the last few months. We rely on their support to continue our operations. The year ahead promises to be an interesting and challenging one.



LAURIE YOUNG



news from around the world

Aussie BBQ

Early in 2001, the alumni group in Sydney threw an Aussie BBQ for Peter Mee, then Head of Alumni Relations, and David Hattersley, then President of the City and Guilds Association, and their wives. Jim Keyhoe also organised a boat tour of Sydney Harbour for their entertainment.

Later in the year, the group formed a 'cheer squad' for ex-guildsman, Roger Venables, when he delivered the Brunel International Lecture for the Institution of Civil Engineers (see page 20). A lunch was held for him and his wife Jean before a short sightseeing tour of Sydney.

Professor Dame Julia Higgins was another welcome visitor during the year. We dined together and heard about her work with the Royal Society and as Trustee of the National Gallery.

Our annual reunion will be held in 2002, although the programme has yet to be finalised.

BILL MACMILLAN (PhD Chem Eng, 1962)

Austrian palace first

The first ever meeting of alumni in Austria took place at the Wilheminenberg Palace in Vienna on 12 January 2001. A small gathering of alumni met to discuss the important role they have to play in recruiting good students to Imperial College. Any alumni wishing to be involved in these activities should contact Dr Mehmet Hendekli at hendekli@aieee.org

DR MEHMET HENDEKLI (MSc EEE, 1992)

Seriously Rheinwein

Last year, the second ICCG alumni meeting was held in Östrich Winkel, a gorgeous wine area near Frankfurt.

Professor Rees Rawlings, Pro Rector, Educational Quality, and his wife, attended the meeting, providing members with enthralling news on developments back in London. Ms Michaela Schnippe from the Siemens Graduate Program, gave a fascinating insight into Siemens's graduate recruitment system. A serious session of Rheinwein tasting was also held.

By the time this article goes to print, the next annual meeting will have taken place in Köln, supported by the RWTH in Aachen. Professor Nigel Bell, Director of the Centre for Environmental Technology, will be joining us and speaking about some of his current research, for example, industrial ecology, air pollution in developing countries and Chernobyl.

Items on the agenda include: ICCG e.V. Internet page; closer cooperation with the Imperial College German Club in London; closer cooperation with RWTH in Aachen, the major source of German alumni; closer cooperation with the Humanities Exchange Programme.

For membership details, please contact Miranda Bellchambers at miranda_bellchambers@yahoo.com.

MIRANDA BELLCHAMBERS (Mech Eng 1986)
PRESIDENT, IMPERIAL COLLEGE CLUB OF GERMANY E.V.

Gold medal for H K Cheng

ICAAHK Committee Chairman Dr H K Cheng, is this year's winner of the prestigious Gold Medal award from the Institution of Structural Engineers. This medal is awarded to a distinguished person in the profession. Dr Cheng gave his address, 'From East to West and Back', on Friday 14 June 2002 at the Institution of Structural Engineers, UK.

Dinner with Professor John Burland

Professor John Burland and Sir John Knill visited Hong Kong in December 2001. An informal dinner was held at Hong Kong University for Imperial College alumni to meet and share a Chinese meal with Professor Burland.

Alumnus Dr Wyss Yim of Hong Kong University, arranged the event which 20 alumni attended. Professor Burland gave a lighthearted talk entitled 'The Tale of Two Towers – Big Ben and Pisa'. By a remarkable coincidence, he was on his way to Pisa immediately after the event to attend the re-opening ceremony of the Tower after 16 years of closure. On learning of Professor Burland's recent retirement, alumni drank a toast to his good health and future 'towering' adventures.

New Year Dinner with Dr Tidu Maini and Professor David Nethercot

2002 began with a dinner event attended by Dr Tidu Maini and Professor Nethercot at the Police Officers' Club. Alumni also welcomed Professor Nigel Graham who is on a two-year sabbatical from the College and is currently head of Environmental Engineering at the Polytechnic University of Hong Kong. Alumni and ICAAHK events director Mr Clement Woo, made all arrangements for this event which 22 alumni attended.

Dr Maini gave a presentation on the current status of the College that was both informative and educational, and gave an insight into the reasons behind recent changes in management. Professor Nethercot spoke about current activities in the Department of Civil and Environmental Engineering. He also informed us of Chief Executive, Mr Tung Chee Hwa's, visit to the department. We were saddened to hear of the death of Professor Sir Alec Skempton.

Science Alive Dinner Talk – 25 April 2002

Professor Christopher Kennard, who holds the Chair of Clinical Neurology in the Faculty of Medicine, gave us a talk entitled 'Vision, Illusions and Reality'. In addition, Professor Igor Aleksander and Dr Alex Zivanovic, both from the Department of Electrical and Electronic Engineering and Dr Tim Sellar also attended the event.

Annual General Meeting 2001/02

This event was held at the Police Officers' Club at Causeway Bay on 27 May 2002. A Chinese style dinner followed the AGM.

At this year's AGM, Chairman Dr H K Cheng and Secretary Ir Leslie J Pakianathan stepped down from the ICAAHK Executive Committee. Dr Cheng has been the Chairman for over 10 years, and under his guidance the Association has grown from strength to strength. Ir Pakianathan has been a member of the Committee for five years and is now relocating to Singapore. We wish them both well and look forward to new and equally dynamic Chairman and Secretary for the 2002/03 session.

Hong Kong Alumni website

Our website address is www.icaahk.org.hk. Please feel free to browse for local news and job vacancies.

Employers looking for high calibre candidates in science, technology, medicine and management are welcome to send details of vacancies to our website director, Mr. Vincent So, at vhs@netvigator.com to be posted on the site.

LESLIE PAKIANATHAN (MSc Civ Eng, 1986)
HON SECRETARY, IMPERIAL COLLEGE ALUMNI ASSOCIATION
OF HONG KONG
lpnathan@pacific.net.hk

Iranian meeting

We are bringing alumni together to share news of Imperial College. We are in touch with nearly 50 alumni and have meetings regularly. Our last meeting was on Sunday 26 May.

Please contact me for details of further meetings at jafarzand@yahoo.com.

M J ZAND (MSc Civ Eng, 1970)

Dutch treat

The first ever event for Imperial College alumni in The Netherlands was held this year at the home of the British Ambassador, Mr Colin Budd. Seventy alumni attended the meeting at which Mr Budd spoke. Attendees varied in age and discipline, with some working as professional academics and others employed in business and engineering. Also present at the event were Mrs Joanna de Jong Keogh, the Exchange and Science Manager from the British Council; Mr Huw Jones, interim director British Council; and Mr Leo Zonneveld, Science Officer at the British Embassy.

There has been a strong response to alumni activities and the networking opportunities they generate. As a result, a day at the horse races was held in June and an Imperial College ball, for alumni and their guests, with a British edge and scientific theme, is planned for the autumn.

Michael Colijn, together with Dr X D Jingha, is well on the way to building an active and strong alumni group.

MICHAEL COLIJN (MSc Env Tech, 1998)

First meeting in Peru

Eight alumni attended the first meeting of Imperial College alumni in Peru which took place on 1 June 2002 at the Lima Cricket and Football Club.

Further information contact Edgar Vargas at evtecn@amanta.rep.net.pe

Biomedics in Singapore

ICAAS and the Singapore National Library Board have continued their collaboration by organising two series of monthly public lectures on biomedicine and information technology. The lectures are given by prominent local scientists. ICAAS members Limsoon Wong, Hing-Yan Lee and George Ong have played a pivotal role in organising these events, while many other ICAAS members have also made contributions.

A number of ICAAS members represented Imperial College at the UK Education Fair. College coordinator, Sue Stone, was assisted by a colleague from the International Office. Our member, George Ong, was most effective in rallying other alumni to assist Sue in coping with the large crowd. Other alumni members who were involved

include Choong Keat, Poh Choo, Hing Yan, and William Ku.

In January, Pro Rector Corporate Affairs, Dr Tidu Maini, visited Singapore. ICAAS hosted a networking event which was attended by over 30 members. All were impressed by the advancements made at Imperial which were mentioned in Dr Maini's lecture. Subsequently, alumni Professor K Y Lam, Dr Limsoon Wong, and Mr Woei-Pin Ku visited Imperial to see for themselves.

In March, the ex-president of the Malaysian Alumni Association, Dato F S Lau, was briefly in Singapore and attended a dinner hosted by ICAAS president, Mr Raymond Kwok.

In April, former Rector, Lord Oxburgh, visited Singapore in his capacity as the deputy chairman of Singapore's Science and Engineering Research Council. Mr Raymond Kwok organised a breakfast with Lord Oxburgh and a few alumni.

As well as these events, many alumni enjoyed a big 'loh-heh', or prosperity dinner, during Chinese New Year at Raymond's expense!

ICAAS is now looking forward to the Imperial College Regional Forum in Bangkok this November.

LIMSOON WONG (Computing, 1988)

A tavern named Breskvar

A group of alumni in the Ljubljana region of Slovenia meet several times a year to exchange news. These informal gatherings are held at a tavern named Breskvar where good food and wine is available.

Any alumni resident in Slovenia wishing to become involved in the group's activities should contact Andrej Paulin at apaulin@tt72.ntfmim.uni-lj.si.

ANDREJ PAULIN (Materials, 1967)

Evenings in Ankara

The Imperial College alumni group in Turkey meets twice a year: for dinner in the autumn and in spring for a social evening and dinner in Ankara. Friends from Imperial College, and in particular recent graduates, are welcome to attend these events at which speakers from Imperial College and other occasionally take part.

PROFESSOR DR BILGIN KAFTANOGLÜ (PhD Mech Eng, 1964)
CHAIRMAN, IMPERIAL COLLEGE ALUMNI GROUP IN TURKEY
bilgink@metu.edu.tr

College at Capriccio's

On 25 April 2002, the Northern California Alumni Association hosted a dinner for four guests representing Imperial College. The Pro Rector, Corporate Affairs, Dr Tidu Maini, and Professor Richard Kitney were accompanied by Professor Forbes Dewey (Professor of Mechanical Engineering/Bioengineering, MIT – Visiting Professor of Biological and Medical Systems, Imperial, 1992 and 2001) and Mrs Dewey.

The dinner was held in a private dining room of Capriccio's Italian restaurant in Menlo Park; the top end of the Silicon Valley. The attendance of 13 alumni at short notice was a most creditable showing, with City & Guilds providing most of the attendees. The foundation of the group was provided by the engineers from the '50's: Ian Wall, Mary Goodman (nee Barnes) and Kishore Chitre (accompanied by Suzanne Carder); from the '60s and '70s from Guilds came Angela Hey; Walter Sedriks and Dermott Corr; and the recent 'hi-tech' contingent was David Hodgson, Andrew Peckover and Barbara Leung. The Royal College of Science was represented by Ramesh Rao; Silwood Park by Richard Brown; and Wye by Adrian Wadley. (Where oh where are our medics?) Order and discipline was, as ever, administered by a representative of the Royal School of Mines, in this case David Goodman '61.

international news

For the visitors' benefit, the activities of the local association were reviewed, from its foundation in the late 1980s to the present day. The current format has a minimum of four organised events each year, some technical, some purely social and all enjoyable, attracting up to 30-40 people. Dr Tidu Maini gave an excellent presentation of Imperial's new vision and plans. A very lively discussion ensued. Professor Kitney ably assisted Dr Maini answering the many questions that were raised and Professor Dewey commented from his own perspective of a small technical college somewhere near Boston!

The evening was remarkable in being both highly informative and most enjoyable. Local alumni were extremely pleased to have the opportunity to receive the visitors from Imperial and appreciated the underwriting of the dinner wine by the College.

DAVID GOODMAN (Mineral Tech, 1961)
Email: dandmgood@aol.com

29 NOVEMBER – DECEMBER 2002

Imperial South East Asian Forum

The IC RAF has agreed to hold the first Imperial College Regional Alumni Forum in Bangkok between 29 November and 1 December 2002. This idea was first discussed two years ago at the Imperial College Convocation in Kuala Lumpur, Malaysia, by Dato Lau of Malaysia, Dr H K Cheng of Hong Kong, Raymond Kwok of Singapore and Dr Vip Roengpithya of Thailand.

The programme aims to unite alumni in countries such as India, China and Japan with alumni in Malaysia, Singapore, Hong Kong and Thailand.

The first morning of the Forum will be devoted to lectures to raise the profile of Imperial College and awareness of its advancement in science, engineering and medicine. The afternoon session will focus on innovation and will be organised by Imperial College Innovations. This event is designed to provide a unique networking opportunity and is open to alumni around the world.

The Alumni Services Manager will send out booking forms and further details as soon as the programme has been finalised.

We all look forward to seeing you in Bangkok in November.

VIPHANDH ROENGPITHYA (Elec Eng, 1962; PhD 1967)

Vip's progress

Dr Vipandh Roengpithya or Vip, as he is known to many, took a 'break' from his work as Director of the Asian University of Science and Technology and presenter of the award winning 'Sharpen Your Wits with Dr Vip', an English educational programme on Thai national television, to visit Imperial and further develop links between the two educational establishments.

The Asian University of Science and Technology opened its doors to 50 students in 1998, after Vip managed to raise \$31 million from associates and friends in Thailand to build on the 250 acre grounds in Chon Buri, near Bangkok. Starting off with a Faculty of Engineering and a Faculty of Business, the University added a Faculty of Liberal Arts in 2002, and is now home to some 260 students. At Asian University all students take their classes in English. Vip also runs an

English immersion programme, an intensive one-year course, which advances students' language skills quickly, whilst focusing on the fundamentals of mathematics and science. The link between Imperial and AU is managed by ICON, Imperial's technology consultancy. On his visit to Imperial, Vip held talks with senior staff on ways AU can build upon its relationship with the College and increase intake by developing twinning programmes with Imperial. He hopes to form a medical school at the university.

Vip studied Electrical Engineering at Imperial in 1959 in a redbrick building, formerly the London School of Needlework. The then Department of Electrical Engineering was completed towards the end of his time and Vip had the opportunity to revisit the building with Professor Richard Kitney who demonstrated the 3D medical imaging techniques being developed for students to practise surgical procedures virtually. Vip also visited Professor Bob Sinden and found out more about his research on malarial parasites, as well as Professor Gordon Dougan's research on molecular cell biology and pathogenicity, which looks at how infectious agents interact with the immune system.



Vip recalls Imperial in the late fifties when there were around 20 Thai students who used to meet for chop suey and rice at the now defunct Rice Bowl in South Kensington for 3s 9d (18.5p). He remembers the Saturday Night Hop at the Union – 5s (25p) for entrance and unlimited beer, whilst his flatmate stayed at home, spending the same amount heating the flat. Vip studied under Professor A R Boothroyd, moving with him to Queen's University, Belfast to complete his PhD. It is here that Vip claims to have picked up his liking for Guinness and his sense of humour. He worked for various telecommunications companies in the US, returning to Thailand in 1974, as the regional Managing Director for ITT. He set about re-establishing contact with his former College contemporaries, many of whom had returned to Thailand on completion of their degrees. The creation of this informal network helped the British Council, when in 1990, they hosted a reunion for 1,000 Thai alumni of UK universities.

Dr Tidu Maini visits India and SE Asia

In January 2002 Pro Rector, Corporate Affairs, Dr Tidu Maini, embarked upon a tour of India and south east Asia to introduce himself to alumni. The tour began in New Delhi where the Rector, Sir Richard Sykes, and Professor Richard Kitney of the Department of Bioengineering, were taking part in the British Council's India-UK Science Festival. On Tuesday 8 January, a dinner was hosted by the President of the ICAA of India, Mr Mohan Puri, in the Long Champ Hall at the Taj Mahal Hotel.

Around 140 alumni, their spouses and other distinguished guests, including members of the UK High Commission and British Council, heard the Rector and Dr Maini present an overview of the College's plans for the future, including how the relationship between the College and its alumni could be reinforced, and the reasoning behind recent changes at the College. The visitors detailed how Imperial College has expanded in the past decade, its achievements and future direction, particularly focusing on spin-out companies and scholarships. Professor Kitney talked about the latest research projects in the Department of Bioengineering.

The following evening, the Rector and Dr Maini joined alumni in Mumbai for a similar presentation and dinner, hosted this time by Professor Syamal Gupta, of the Mumbai Chapter of the ICAA of India. The event, sponsored by Tata International Limited, provided alumni with the opportunity to welcome eminent British scientists, Sir George Radda (Medical Research Council), Sir Crispin Tickell (Chancellor, University of Kent), Dr Philip Campbell (Nature Publishing Group) and other distinguished guests who were also visiting India for the science festival.

Dr Maini flew onto four further venues in Asia to meet and present to alumni audiences, travelling first to Bangkok, where he was welcomed by Dr Vipandh Roengpithya, Convenor of the ICAA of Thailand.



The Welcome Dinner in Singapore – standing L to R: Ivan Tan; Dr Zainal; Koh Lee Ching; David Ng; Kho Han Ming; Tang T Y. Seated L to R: June Tan; Dr Foo; Dr Maini; Dato' Dr Thong.



Dr Tom Craig-Brown, British Council Director, networking with Kho Han Ming and Koh Lee Ching at the Singapore Cocktail Reception.

Dr Roengpithya showed the Pro Rector around the Asian University of Science and Technology of which he is founder and Director. This was followed by an alumni dinner at BITEC (Bangkok International Trade and Exhibition Centre), owned by alumnus Dr Prasam Bhiraj Buri (PhD in Civil Engineering, 1977), and attended by about 60 alumni and guests including Professor Gustav Born, biomedical researcher and son of physicist Max Born.

In Hong Kong, the next leg of his journey, Dr Maini was joined by Professor David Nethercot, Head of the Department of Civil and Environmental Engineering and Professor Nigel Graham, on a two-year sabbatical in Hong Kong and currently the head of Environmental Engineering at the Polytechnic University of Hong Kong. A dinner was held at the Police Officers' Club, where Dr Maini presented to an audience of 22 alumni. Professor Nethercot used the occasion to announce the winner of this year's prestigious Gold Medal award from the Institution of the Structural Engineers as the Chairman of the ICAA of Hong Kong, Dr H K Cheng.

Flying on to Singapore, Dr Maini was pleased to be present at the Taglin Club for the inaugural ICAA of Singapore Networking Nite (*sic*) with 30 Singaporean alumni. News of the award of the Fellowship of Imperial College to Senior Minister, Mr Lee Kuan Yew, provided the evening with a memorable conclusion. In the final stage of his Asian tour, Dr Maini met over 40 Malaysian alumni at a reception held in the Renaissance Hotel, Kuala Lumpur. The event, organised by the ICAA of Malaysia, under the leadership of Dr Ban Nyen Foo, attracted guests from local colleges, as well as the Deputy British High Commissioner, Mr Mark Canning.

news from the associations

The Agricola Club

The Agricola Club celebrates its centenary

Last September the Agricola Club celebrated its centenary with a special candlelit dinner at Wye attended by over 100 members. Tours of both the College farm for Agrics. and the greenhouses for Hortics. were held during the day. The AGM was held in the Old Lecture Theatre with members resplendent in evening dress, and followed by a sherry reception in the Old Parlour. In honour of the centenary, attendees then proceeded to the first quadrangle in College, where the Rector, Sir Richard Sykes, unveiled a plaque, renaming it 'The Agricola Quadrangle'.

The Millennium Stone

A Millennium Stone has been installed above the Crown at Wye. The chief feature is a dome-shaped piece of Derbyshire millstone grit, inscribed with the words 'Floreat Wye' (may Wye flourish). Three stone benches complete the structure, giving the visitor a wonderful view across Kent. It is proposed to re-whiten the Crown and erect a Compass rose beside the Millennium Stone to commemorate the Crown's centenary and the Queen's Golden Jubilee. If you would like to make a donation to this project please write to Donald Sykes at Imperial College Wye, Ashford, Kent, TN25 5AH.

Would you like to join the Club?

Most graduates of Wye join the Club for life when they leave, by parting with their £50 'caution money'. Members receive an annual Journal with news from Wye and their contemporaries. They also receive an invitation to the annual dinner. A full address list is published every two years, and will soon be available on the website. If you would like to become a member, please contact the Membership Secretary, Ken Crundwell, 48A Main Road, Longfield, Kent, DA3 7QZ. Tel +44 (0)1474 707218.

JANE REYNOLDS

EDITOR, AGRICOLA CLUB JOURNAL

CGCA

See page 4 for a full report on the centenary of Boanerges in June.

Since the last issue of *IC Matters*, City & Guilds College Association has held several successful events, including one of our most enjoyable Decade Reunion Luncheons in November. This exuberant occasion attracted nearly 100 members, with every decade from 1931 to 1991 represented.

The Annual Dinner in March was also well supported, with 150 members and guests filling the Butchers' Hall to capacity. Not surprisingly, the speakers invited by President Dr Tidu Maini attracted great interest. Admiral Sir Michael Boyce, Chief of Defence Staff, proposed the Toast to the Association, and Sir Richard Sykes, Rector, replied on behalf of the guests.

Immediate Past President David Hattersley has organised three more guided walks in the City of London. One traces the route of the Great Fire of London, while the other two repeat the popular Livery Company walks held last year.

The Association is operating within a changing climate at Imperial and developments such as the new faculty structure are of course significant to all the Constituent College Associations. CGCA hopes to maintain a good working relationship with Imperial and respond positively to the challenges ahead.

In a time of change, it was reassuring to learn that when current C&G College Union students were recently given the opportunity to vote for the name of the new Engineering Faculty student society, their choice was 'City & Guilds College Union'!

For more information or CGCA membership forms, contact +44 (0)20 7594 6131; cgca@ic.ac.uk or visit our website www.cgca.org.uk.

PETER JUSTESEN

HON SECRETARY



From left to right: **Francis Huntington** (1961-64, Club Secretary); **Buster Humphrey** (1948-51, Club Treasurer); **John Hosking** (1950-53, Club President); **Sir Richard Sykes** (Rector); **Professor Jeff Waage** (Head of the Department of Agricultural Sciences) and **Tim Calcutt** (1953-57, retiring Chairman of the Club).

CXWMS Alumnus Society

The CXWMS Alumnus Society, which represents alumni of Charing Cross Hospital Medical School, Westminster Medical School and the merged Charing Cross and Westminster Medical School, held its annual reunion dinner at the Savoy Hotel on 6 October 2001. Over 300 alumni and guests were present. The chair was taken by Professor Kristin Henry, recently retired Professor of Histopathology. Speakers included Dr John O' Driscoll (WMS '78), Dr Ron Zeegen OBE, who gave the 'Dean's Report', and Mr Robin Forrest, last Secretary of WMS. The 2002 dinner is planned for 5 October.

We hope that an open day for former students will be held at the Chelsea and Westminster Hospital under the auspices of the NHS Trust. Clinical lectures, demonstrations and visits to the splendid new research and treatment facilities will be available. More news will be circulated once arrangements are confirmed.

The Society's Alumnus Appeal has netted over £55,000. This has provided intercalated BSc bursaries for current students at the Charing Cross campus. Recipients in 2000-01 were Miss Elizabeth Arter (Neuroscience) and Miss Nkechi Iwegbu (Histopathology). A grant of £6,400 was given to refurbish the student common room at the Chelsea and Westminster Hospital last autumn. The Committee hopes to make a similar grant for work in the Reynolds Building during the projected upgrading of its student facilities. The Appeal remains open for further contributions. Information is available via the Office of Alumni and Development. Please contact Urmila Weller +44 (0)20 7594 6129; u.weller@ic.ac.uk.

A 30-year reunion is planned for WMS 1971 alumni this autumn. The Committee is also hoping to arrange another CXWMS reunion in central London in 2002 and would be glad to hear of other proposals from alumni.

Memorabilia for all three former Schools are available from the Honorary Secretary, but are inevitably limited in supply.

PETER GRIFFITHS
HON SECRETARY

Imperial College Management School

Alumni Network Update

We are currently focusing on our international strategy and the NetReps Scheme. Many Management School alumni have expressed an interest in the scheme that encourages volunteers to act as ambassadors to the Management School in their home country. We are also improving our publication, which will from this year become the *Annual Review*. It will have a stronger alumni focus than *Management News*, which remains the internal newsletter for students and faculty.

Perhaps the most exciting development is the introduction of our new online searchable database of alumni – The Network Database. Our research has shown that this database is an effective communication and networking tool. Management School alumni should by now have received their membership cards displaying their passwords and logins, use of which will allow access to a secure website site on which the database is held. The database follows the

FriendsReunited model which we expect to be used to the full by our famously 'networking-hungry' alumni. The membership card also affords alumni discounts to various events and services. Log in via www.ms.ic.ac.uk/alumni to check your details.

Our most recent Alumni Network event saw Dr Geoff Nicholson, the product development manager of the Post-it Note, describing the extraordinarily innovative climate at 3M which allowed this ultimate example of 'thinking outside the box'. Dr Nicholson, the man behind the product, spoke inspirationally to a lively audience at the Management School. Visit the website for a full report with pictures.

On a smaller scale, but equally as enjoyable, was the Entrepreneurs' Lunch. The event was organised to honour Dr Martine Rothblatt and was attended by senior figures from business and the College. Dr Rothblatt, a generous College donor, trained as a lawyer but made her name as a formidable entrepreneur, specialising in telecommunications and biotechnology. She proved a remarkable and worthy speaker and her relationship with the College looks set to continue with a possible seminar in Washington.

We were also most fortunate to have Michael Portillo, MP for Kensington and Chelsea, speak to alumni at the Leighton House Museum in Holland Park on 15 May. Senior members of the College, including the Rector, were in attendance and Mr Portillo gave a thought provoking lecture entitled 'Is Business Responsible?'

Dr Stefan Szymanski, one of the Entrepreneurship Centre's rising stars, delivered a fascinating lecture on 12 June as part of our Masterclass season. Dr Szymanski has been repeatedly quoted in the press this year regarding the economics surrounding the World Cup. 'Winners and Losers: the Business Strategy of Football' was presented to a wide audience of the alumni and students of the Management School. Ian McAllister, CBE will deliver the next lecture in the Masterclass season on 2 October 2002. He is chairing the bid team preparing to take Railtrack out of administration and is a former Chairman of Ford UK.

Autumn brings a flurry of intense activity on the careers and networking front. Plans are underway to introduce a series of 'sector days' aimed at bringing senior members of specific industries into the School to advise students and alumni on their career paths. If you would like to see a particular sector covered by the Network, please get in touch by email.

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association news

RCSA

Following last year's guided walk of Albertopolis, which highlighted association members' lack of knowledge on South Kensington, this year's walk was held in the Westminster area with similarly embarrassing results!

The RCSA got its revenge for the narrow defeat in the annual cricket match against the RCS Union with a convincing victory in the autumn darts match. The scale of the RCSA's success led to an invitation to join the South Kensington Academic Darts League where we ended the season in second place. Clearly members of the RCS have a steady hand, if not as fleet of foot as they once were.

The RCSA Annual Careers Forum is one of the most popular events in the Association's calendar, both for members and students. The latest was held in November 2001 at the Union Dining Hall. The evening commenced with a brief talk from a graduate recruitment specialist on job applications and interview techniques. The rest of the event was reserved for students to chat informally with RCSA members over nibbles and wine. The Forum is of particular value to students, because it is not a recruiting evening, but an opportunity for them to talk on a one-to-one basis with members from a broad cross-section of organisations. It is also a valuable chance for alumni to support the current student body and provide an insight into the real world. To find out how to get involved contact Urmila Weller at the Association Office, +44 (0)20 7594 6129; rca@ic.ac.uk.

The deserved winner of the 2001 RCSA Prize, which acknowledges the student who has made an all-round contribution to the College community, was Claire Anne Smith of the Department of Physics.



Claire Anne Smith of the Department of Physics

Members present at the AGM, at which Dr Digby James was elected President, had an opportunity to tour the new facilities in the Union Building including IC Radio and the television studios of STOIC. After the formal business, Alexis Brun described the results of a biodiversity expedition to Malawi which had been supported by the RCSA Trust. Urmila Weller at the Association Office has a report of results.

Plans for 2002 include the RCSA annual dinner, a trip to the Magic Circle and the next London walk. To find out more about these and other events visit www.rca.org.uk

If you would like to join and find out more about the Association or support the Trust please contact Urmila Weller at the Association office, +44 (0)20 7594 6129; rca@ic.ac.uk.

DAVID LEGG
HON SECRETARY

RSMA

RSMA has been busy in recent months adjusting to the Rector's reorganisation of the Imperial College academic structure. As our President, Bernard Pryor, writes in the latest issue of 'Update': "We are actively involved in liaising with industry, teaching staff and Imperial to work out a programme within the engineering faculty that will retain the ARSM to meet the needs of employers in the longer term, in addition to current courses."

As the Students' Union has also made changes, we are pleased to see that RSM Union, although losing its academic representation, will survive as a 'club society committee'.

You can read more about these matters in the latest 'Update' at www.alumni.ic.ac.uk/alum41.htm where other items include reports of the RSM's win in the Centenary Bottle Match; a successful Annual Dinner held last November at the Polish Club, and news of alumni from around the world.

JOHN BRAMLEY
HON SECRETARY

St Mary's Hospital Association

The Annual General Meeting of the Association was held at St Mary's Hospital on 19 April. The meeting opened with a minute's silence in respect for the late HM Queen Elizabeth The Queen Mother, who had been Patron of St Mary's Hospital and Medical School for some 70 years. During this long association, The Queen Mother had visited both Hospital and School on numerous occasions, taking a keen and continued interest in their affairs. The Hospital was represented at her funeral and has commissioned a bust to be made of her. This will be placed in the Hospital foyer with a suitable commemorative plaque.

The Officers of the Association agreed to continue for a further year with Professor Averil Mansfield as Chairperson, Dr Michael Clarke as Treasurer, Dr Graham Price as Secretary and Ms Patricia Dymond as Administrator.

Professor Mansfield expressed concern for the welfare of the medical students attending St Mary's for their clinical studies. The old Medical School building is now being refurbished as a research institute with minimal student facilities. All pre-clinical teaching is carried out at Charing Cross and a new social centre for students is to be opened there shortly, making that site the focus for pre-clinical students. It is essential for clinical students to have similar facilities on the St Mary's campus. A student common room should be included in the new building development at St Mary's Hospital, partly funded by the Hospital.

The Association contributes annually approximately £20,000 to the student body, of which half supports scholarships and clubs, and half the Gazette and the ICSM President's sabbatical year.

PATRICIA DYMOND

catch up

The Detox diet

Charing Cross and Westminster Medical School graduate, Dr Paula Baillie-Hamilton (née Hickman), has recently published *The Detox Diet*.

The book is a result of her research into why, despite orthodox dieting, some people fail to lose weight. She details her discovery that this weight gain is caused by the consumption and absorption of synthetic chemicals used to treat our foods and which are found in our homes. As these chemicals accumulate, the body's highly evolved natural weight control system is damaged.

Dr Baillie-Hamilton describes how to combat this effect through avoiding these chemicals, cleansing the body and restoring the body's natural ability to balance its own weight.

After completing a PhD in Human Metabolism at Oxford University, Paula now works with the Occupational Health Research Group at Stirling University.

Nine Lives to Berlin

In 1939, at the age of 18, Eric Cox joined the Country Yeomanry Regiment. During the Second World War, he served in Greece, the Western Desert, North Africa, the Seine Crossing, the Battle of Arnhem and was part of the advance into Germany.

Now, over 50 years later, Eric has published his war memoirs. *Nine Lives to Berlin* is a moving account of the main campaigns of the Second World War, told from his unique first hand perspective.

Eric took a degree in Electrical Engineering at the College immediately after the War pursuing a career as an industrial consultant and as director of a major engineering company in Berkshire.

Founder member of Malaysian university

Professor Datuk Dr Mohd Noh Dalimin studied Physics at Imperial under Professor David Caplin, 1977-1981.

After working in Kuala Lumpur for 10 years at Malaysia's national university, Professor Mohd Noh Dalimin was posted to Sabah to start the University of Malaysia, Sabah. He now holds the position of Deputy Vice Chancellor of Student Affairs. This role involves coordinating student accommodation, student scholarships and industrial training.

Zulu Victor Bravo

Anthony Fleischer has recently published his eighth novel, *Zulu Victor Bravo*.

Born in South Africa in 1928, he came to England in 1949 to spend a year at the RSM where he became a member of both the Chaps Club and the rowing team.

Anthony is a passionate supporter of free expression. His first novel, *The Skin is Deep*, was banned in South Africa when it was published in 1958. His deep feeling for the problems experienced by the people of rural Africa is evident throughout his writing. His novels all deal with Africans struggling to maintain their dignity in often trying circumstances.

Anthony is now President of the writers' organisation, South African PEN, which campaigns for free press and opposes arbitrary censorship. He is a member of the International Press Institute.

After working as general manager of South African Associated Newspapers and executive director of the Financial Mail, Anthony became Advisor to the Chamber of Mines. He introduced an interest-bearing savings scheme for migrant mineworkers which now has close

to one million accounts, mostly held by rural Africans. He is also a founder member of the Peace Parks Foundation, an international partnership to promote job creation and the conservation of biodiversity throughout southern Africa.

Anthony lives in Cape Town with his wife Delores, and continues to meet fellow members of Chaps at the Cape Town Club.

Tony's Minister for Europe

The Rt Hon Peter Hain MP (Mechanical Engineering, 1969-1970) spent a year at Imperial College studying mechanical engineering before going on to obtain a first class honours degree in Economics and Political Science from Queen Mary's College, University of London.

Mr Hain was appointed Minister of State at the Foreign and Commonwealth Office in June 2001, having previously served as the Energy Minister at the Department of Trade and Industry from January to June 2001 and Minister of State at the Foreign and Commonwealth Office from July 1999 to January 2001. He was also appointed to the Privy Council in June 2001. Within the Foreign and Commonwealth Office, he currently has responsibility for the European Union, Central and Southern Europe.

Mr Hain has been a Labour Party member since 1977, and GMB Union member since 1973. He was elected Labour MP for Neath at the by-election in April 1991, serving as Labour Foreign Affairs Whip between 1995 and 1997, Shadow Employment Minister between 1996 and 1997, as well as the Chairman of the Tribune Newspaper Board of Directors between 1993 and 1997. He was a parliamentary election observer in Nigeria in 1993 and in South Africa in 1994.

Mr Hain, who was born in Nairobi, Kenya in 1950, is well known as a strong anti-apartheid campaigner, having spent his childhood in South Africa and being forced to leave in 1966 due to his parents' opposition to the apartheid regime. He is the author of 16 books, including *Sing The Beloved Country: the Struggle for the New South Africa* (1996).

Alumnus returns as Mayor of Kensington and Chelsea

Tony Holt (Mechanical Engineering, 1955), who has represented the Conservative Party as the Councillor for the Courtfield Ward since 1994, put political life aside this year to become Mayor of the Royal

Borough of Kensington and Chelsea.

Councillor Holt has long maintained links with this area of London, since arriving with his family to live in Holland Park in 1936. Upon completing his degree in Mechanical Engineering at Imperial College in 1955, there followed a career in engineering, the last 10 years of which were spent in Paris running a group of French manufacturing companies.



catch up

Since May 2001 he has, as the borough's first citizen, welcomed members of the Royal Family, Ambassadors and High Commissioners to their official engagements in the borough.

Tony brings to office a particular interest in community affairs, neighbourhood associations and London garden squares, adopting Chelsea Physic Garden as his charity for his year in office. His interest in the local community extends to Imperial College, in which he maintains an active involvement.

Fastest human on the planet?

Windjet, a British campaign to challenge the world speed records on land, ice and water using wind power alone, looks set reach its goal of breaking all three world records within the next 12 months, under the management of a team of recent Imperial graduates.

For Richard Jenkins, project director and pilot, the *Windjet* project began over five years ago. Whilst studying Mechanical Engineering at Imperial College, he developed the project in his own time before utilising his final year project to develop the design of the radical *Windjet* watercraft. Since graduating from Imperial in 2000, he has been working full time on *Windjet* and is heavily involved in all aspects of the project, from construction to practical running. Imperial College continues to be involved, with expert advice presenting itself from several departments.

James Sopper (Aeronautics, 2000) and Sara Moore (Geology, 2000) joined the project in June 2001, leaving more conventional graduate positions in search of a greater challenge. James assists with the technical aspects of the project, ranging from electronics, design and development, to the creation of the *Windjet* website. Sara left a job in the financial sector to assist the project in areas such as accounting, event management, public and press relations.

With the British wind powered land speed record of 113.4 mph (182.5 km/h) already under their belts, the world record is tantalisingly

close, currently standing at 116.7 mph (187.8 km/h). The long awaited watercraft is in its final phase of development.

In the next few months it will make its public debut and begin its assault on the world speed sailing record of 46.52 knots (53.5 mph or 86.2 km/h), attempting to surpass the '50 knot barrier', which is becoming recognised as the 'holy grail' of the sailing world. During the summer, the *Windjet* land vehicle will be transformed to 'ice' configuration, ready for a challenge on the record next winter. The team predict speeds of close to 200 mph (321.9 km/h) on ice, making Jenkins the fastest naturally propelled human on the planet.

For more information and the latest news on all of the above projects, check out the *Windjet* website – www.windjet.co.uk

Elected to OPEC

Imperial College alumnus, Dr Rilwanu Lukman, has been elected President of the Organisation of Petrol Exporting Countries (OPEC) for the 2002 fiscal year. Dr Lukman completed a BSc in Mining in 1962.

He began his official involvement with OPEC in 1986 when, over the following three years, he was President of the OPEC conference for eight consecutive terms. A stint as Nigerian Minister of Foreign Affairs followed between 1989-90. Dr Lukman then took up the position of Chairman of the board of directors of the National Electric Power Authority in Lagos.

In 1995, Dr Lukman began a five year term as OPEC's Secretary General. His loyalty to the organisation and his commitment to its mission and member states has been recognised in his recent appointment as President.



(L to R) Sara Moore; James Sopper; Richard Jenkins.

Richard Jenkins and the *Windjet* land vehicle.

letters

How to stay on top

I am a graduate of the Imperial College Management School. I completed my course in 1999 and soon transferred to New York. After three years there I have recently returned to London.

During my time in New York, working with MBAs from some of the best business schools around the world, I was struck by the difference in attitudes regarding the role of the 'alumnus' from these different schools. Educated as an undergraduate in Canada and gaining my MBA in the UK (both nations with state funded education systems), I believe that it is in the best interest of government to provide a basic standard of higher education at affordable tuition. I also believe that premier schools develop by having resources above and beyond those provided by the state. Today, more than ever, top ranked schools compete with top ranked schools all over the world. To be able to compete on an academic basis the schools need funds to develop facilities, aid research and to hire the best possible staff. State funding can provide the basic resources for a quality university education. For an institution to excel beyond that baseline and become world class, I believe the solution lies partially with its alumni.

One of the things that struck me most while in the United States was the role alumni take in the continued success of their alma mater. Even within the hectic environment of a large investment bank my contemporaries were encouraged to spend time fostering a relationship with their universities. This could be volunteer work, student recruitment or career services to undergraduates for which the firm would grant time away from the office. For financial contributions the firm would match any gift.

Working closely with graduates of Harvard, Stanford, MIT and many other major universities, I realised the tremendous asset these schools had in their alumni. I also realised how Imperial needs to foster such attitudes if we intend to remain one of the top schools in the world. One of the most prevalent attitudes of alumni in the premier schools in the United States is a feeling that improvements in the school today not only benefit the current students, but also keep the standards and prestige of the school intact, which protect the value of degrees earned by all alumni. Currently the cultural attitude does not exist in the UK for alumni to play this role but I believe that as top tier education continues to globalise, Imperial alumni must increase their active support for the College.

What can alumni do? Certainly financial contributions to an endowment fund are one means of support. Alumni can also help by volunteering time to the College, whether it be in undergraduate orientation programmes, student recruitment or in assisting in departmental functions. Alumni volunteers are especially helpful during undergraduate events as they further foster a relationship between the current student body and the alumni body. Alumni can be proactive. Many of us find ourselves in professional life where College contacts can be a great benefit. I would encourage all alumni to 'market' Imperial, not just to potential students but to research bodies and to employers.

What can the College do? Its needs to continue developing an accurate alumni database and a mechanism for maintaining contact with the alumni office as they graduate. I would never advocate a situation where alumni were hounded incessantly for funds but think that a means of keeping track of where alumni are can be a great

networking tool for alumni as well as a resource for the College. It also needs to have professionally managed endowment funds for specific purposes such as a Library Fund, Scholarship Fund or a Buildings Fund to insure that donations do not fall into a slush fund available to bail out the least efficiently run operations.

I write this letter to encourage all alumni of Imperial to be more active. I believe we are alumni of a great educational institution that needs to maintain the quality of its educational product and its prestige in the face of increasing international competition and decreasing government support. To do this Imperial needs its alumni.

JEFFREY AULD (MBA, 1999)

Let's get noticed

As an alumnus of Electrical Engineering based in Toronto, I have maintained an interest in the College since graduating in 1949 and attended various alumni events and dinners over the past 15 or so years. I have gained some insight into the challenge currently facing the College in terms of fundraising and, in particular, the building up of scholarship funds.

My view would be that if the College is serious about fundraising it would take an initiative by the Rector to announce that Imperial College is to raise say £500 million over five years. Both of my sons went to Dartmouth and the fundraising activity there runs on very well oiled wheels, the alumni providing some \$8 million every year. There have also been two 'Campaigns for Dartmouth' since my younger son graduated in 1975, which each raised over \$500 million.

However, I feel that the College would also have to create a climate where alumni feel the same way about their university as alumni in North America do. Unfortunately there is no history in the UK that says it is the natural thing to do to support one's university after graduation. Perhaps a large targeted campaign could be a way to break the mould.

The annual FT ranking of universities places the College alongside Oxford and Cambridge. Winning University Challenge on the BBC or beating a few well known crews in rowing gets the College in the popular press and people also notice when Imperial College researchers are quoted for having done something innovative. Nobel prize winners also help!

What I am really trying to say is that Imperial College is a great 'brand' that could and should be marketed. If the University of Toronto can raise over \$100 million a year and a further \$800 million in a special campaign, it seems to me that Imperial College, as the number two UK university for research, should be able to raise similar sums, if it got its act together.

LOYD MOORE (Electrical Engineering, 1949)

www.alumni.ic.ac.uk