

Imperial College
London

staying connected

ISSUE 22 SUMMER 2003 _ECO WARRIORS_ _WYE CROWN_
WHITEHALL COMES TO IMPERIAL _007 FIGHTS ANOTHER DAY_
_AND IMPERIAL NEWS FROM NEAR AND FAR

IMPERIALmatters

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

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IMPERIALmatters

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editorial



Sir Richard, currently President of the IDEA League, with two Delft students after a presentation to mark TU Delft's 150th anniversary in September 2002. Read more about this year's IDEA League sports event on page 11.

DEAR ALUMNUS

I am delighted to introduce this latest edition of Imperial Matters, your magazine. This edition contains a mix of news, views and features about life and work here at the College. I hope you will enjoy reading it.

My prime concern, as Rector, is to ensure that Imperial maintains its world class status, excellent in all it does. To achieve this, we must ensure that Imperial continues to attract the best students and staff from around the world and provides the facilities and amenities they need to learn, research and innovate.

We operate, of course, in the 'real world' and the last few months have brought us in contact with a raft of new funding, assessment and regulatory systems which we shall need to adapt to and address. Higher education plays a crucial role in the knowledge economy and we acknowledge that the sector is diverse and therefore has a variety of needs. I am pleased to tell you that, by any measure, Imperial is one of the best in the sector. We remain highly rated, not only for our teaching and research, but in the various newspaper league tables which influence the choices made by our potential students.

We have benefited from increased investment in our first class research and from the commitment to focus research funding on the best institutions. This approach is, I believe, vital, to support the 'big science' projects of the future, whether they be in life sciences, physical sciences or engineering, or, of increasing importance to us, the interdisciplinary areas such as informatics and biomedical engineering.

Articles in this summer edition will, I hope, communicate some of the excitement we feel about our recent achievements, but, more importantly, about the future of this great institution.

A handwritten signature in black ink that reads "Richard B. Sykes".

letters

letters

In October 2002, we attended the Annual Reunion of the Imperial College Eastern North American Exiles at Sagamore Lodge in upstate New York. This group has met annually for 28 years, but this was our first attendance and we found ourselves, having been at Imperial 60 years ago, amongst the oldest.

We took with us a souvenir of our times in the Royal College of Science – the ‘songs of separation’, which had been composed by our near contemporaries in Chemistry and had the pleasure of having a number of the younger alumni join us in singing some of the songs (see photo).

For many years we believed that a recording of these songs had been lost, but Jack Singleton (Chemistry 1944) sent us a copy several years ago. Can anyone tell us whether these songs have been sung since the 1940s? My wife, Edna, attended a New Year’s party in 1945 at which we believe they were premiered.

We are well aware that today’s Chemistry students may not even know that, by wet chemistry alone, it is possible to analyse most inorganic materials!

TERENCE E DANCY (CHEMISTRY 1945, PhD CHEMICAL ENGINEERING 1948)

EDNA A DANCY (NÉE ABNETT) (CHEMISTRY 1945, MSc 1946)

Terence and Edna have kindly supplied the College Archives with a full transcript of the ‘songs of separation’.



ICENAE 28th Reunion, Sagamore NY

Singing the ‘songs of separation’: Mike McCann (Elec Eng 1963), Edna Dancy (Chemistry 1945), Pamela Olley (Horrocks) (Mathematics 1969), Richard Olley (Materials 1969), Rosamund Rosetti (Corr) (Chemistry 1969), Clare Gilsig

In issue 21 of *Imperial Matters*, the editorial stated, rather dismissively, that the old constituent college and teaching hospital structure is passing into history.

Whilst such a statement may well be factual, if a little premature, there are probably at least 15,000 graduates practising medicine around the world who qualified from these teaching hospitals. They remain loyally affectionate to their old medical schools and view with some bewilderment and dismay the rapid changes which have occurred and produced the demise of the old system.

This particular editorial was mainly concerned with fundraising and the College needs to win the support of these graduates if it wishes their help. It is very early days for the Faculty of Medicine. There are numerous well identified teething problems and the old medical

schools’ alumni associations have, and are, giving financial and other support in many ways to the new student body.

We need not dwell emotionally on the past but some recognition should be given to the justly proud and long reputation held by these schools and by so doing Imperial College, with its great vision for the future, will slowly win the support and help of these graduates. As Churchill said in 1944: ‘The longer you are prepared to look back the farther you can look forward.’

ALASDAIR FRASER (ST MARY’S 1953)

FORMER CHAIRMAN, ST MARY’S HOSPITAL ASSOCIATION

The College does recognise and place great value on its history and that of the colleges and schools which have merged to form today’s institution.

However, with the mergers, huge increase in size and the introduction of the new faculty structure that has occurred over the past 15 years, Imperial needs to pull together to meet the challenges that it faces in a coherent and integrated way.

We have formed the Imperial College Association (see page 7) in order to align the current alumni associations with our new academic structure. By working with experienced and dedicated alumni from these groups, we are creating new opportunities for all of our alumni, whilst retaining the historic identity of the associations, upon which we place great importance.

SUZANNA TAVERNE, ACTING DIRECTOR OF DEVELOPMENT

I was interested and at the same time perplexed to read the article on Bo’ (page 4, issue 21). Did Bo’ go 337 miles and then 380km or did it go 337 miles (or 539km) or 237 miles (380km)? From my sojourn in the Royal School of Mines in the 1950s I always thought that the City and Guilds types were arithmetically challenged. This seems to confirm it – they never knew their hood (sorry bonnet) from their exhaust!

PETER GRIMLEY (MINING GEOLOGY 1955, PHD 1958)

We can confirm that Bo’s journey to Paris, as reported in issue 21 of Imperial Matters, took place over a distance of 237 miles (380km) and apologise for the printing error.

I read with interest the Bo’ report, having been at the Guilds when he appeared on the scene. However, driver Tom William’s statement that, ‘he’d just never had the opportunity since we bought him in 1934’ is at variance with my own recollections as a man on the spot. I’d have put the arrival date as 1935 and am sure that Bo’ was originally bought by my contemporary John Garland who arranged for him to be kept at the College and to be its mascot. I understood that Bo’ did not become City and Guilds property until John was about to leave, when he offered it to the Motor Club for a very moderate price. The foregoing Bo’ commentary is dug from my memory so may not be 100% accurate!

ALAN BAKER (MECH ENG 1937)



IEE CLAYTON

news from Imperial

Shell to fund new Imperial chair

A £500,000 endowment to finance the establishment of a Shell Chair in Sustainable Development in Energy in the Department of Earth Science and Engineering has been announced. The chair, funded by Shell International Exploration and Production BV, is part of a broader partnership with the College aimed at stimulating awareness of sustainable development in the energy sector.

Professor John Perkins, Principal of the Faculty of Engineering said: "Imperial College has identified sustainable development in energy as a key interdisciplinary research area and is committed to bringing engineers and scientists together with industrial partners to find and develop energy solutions addressing major social, economic and environmental concerns."

www.imperial.ac.uk/P4156

Life-saving asthma device wins Entrepreneurs' Challenge

Imperial's Entrepreneurs' Challenge was won this year by three medical students for their business plan to develop "Inhalit – a life-saving asthma-monitoring device". The competition, now in its third year, provides an opportunity for students to explore the types of issues faced when attempting to commercialise an idea, from market research to intellectual property and from management team building to raising finance.

The winners were presented with their prize by alumnus Dr David Potter, chairman and founder of Psion. Speaking at the ceremony, he said: "Entrepreneurship regenerates and adds dynamism to the economy. Entrepreneurship – and the likes of this Challenge – is the key to the future of the economy."

www.imperial.ac.uk/P4086

Following in his father's footsteps

Sir Ravinder Maini of Imperial's Kennedy Institute of Rheumatology was presented with a knighthood in April by HM The Queen. The honour comes 46 years after he accompanied his father, Sir Amar Maini, to the Palace for an identical ceremony. The *Times* said: "The place and the honour are the same, but the connection is rare: a son following his father to a knighthood, for different achievements and without benefit of heredity."

www.timesonline.co.uk/newspaper



Vanh Dang, centre, with fellow medics Rachel Hames, left, and Donna Winderbank-Scott who are winners of the 2003 Challenge

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HEFCE funding boost_Imperial College will receive 15 per cent more research funding this Autumn, sharing more than £300 million – a third of England's research grant – with Cambridge and Oxford universities and University College London.
www.ic.ac.uk/P4094.htm

Taking LEAD with a seven point plan_A seven point plan addressing critical problems in water and sanitation, energy, healthcare, agriculture and biodiversity in the developing world, has been launched

by LEAD International and Imperial College London.
www.imperial.ac.uk/P3890.htm

Advanced civil engineering education initiative_An initiative aimed at reversing the UK's currently dwindling supply of high-level skilled civil and environmental engineering specialists, has been launched at Imperial.
www.imperial.ac.uk/P3891.htm

Healthcare technologies boosted_Technologies with the potential to transform healthcare have won Imperial scientists almost a third of an £8 million research programme.
www.imperial.ac.uk/P3833.htm

IDEA League – a view from Delft_Students will have the flexibility to move between the partner universities and be eligible for a diploma supplement awarded by the IDEA League, which expects to benefit from the alliance by recruiting students

abroad and by using its collective power to attract more funding.
www.imperial.ac.uk/P3831.htm

Light-activated therapy wins entrepreneurship competition
An Imperial College spin-out has won the first annual HP New Ventures Competition aimed at helping launch technology start-ups and strengthening small technology-based businesses.
www.imperial.ac.uk/P3732.htm



Using GM mosquitoes to tackle malaria

Imperial scientists have reported on the prospect of turning mosquitoes from disease carriers into disease fighters against malaria. In the first lab population study they found that GM mosquitoes do not fare well when bred with their normal counterparts.

Professor Andrea Crisanti of the Department of Biological Sciences, and senior author of the paper said: "These population studies are absolutely critical to the regulatory processes that will assess the safety and environmental consequences of this new technology."

www.imperial.ac.uk/P4011

Too few males spells disaster for saiga antelope

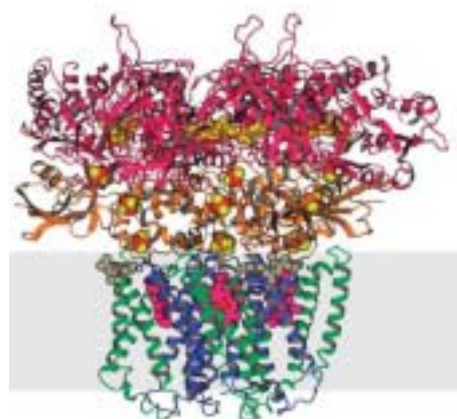
Scientists researching the population numbers of saiga antelope in Russia have found that in the case of the male, there may be a deadly truth in the old boast, 'So many women, so little time.'

It seems the species is being driven to extinction because selective hunting of the saiga males for their horns has led to a gender bias 100:1 in favour of females. "At present, the saiga population is halving each year and the species could soon be lost. Action must be taken now to provide a sustainable future for the antelope," said Dr Eleanor Milner-Gulland of the Department of Environmental Science and Technology, who led the study.

www.imperial.ac.uk/P4079



Structure of cog at the hub of metabolism reveals anti-ageing function



Our eternal quest to slow the ageing process has been given a helping thanks to Imperial-led research. By visualising the structure of a key energy-releasing enzyme for the first time, an international team of scientists has shown the protein is designed to minimise free radical production – a process linked to cellular ageing.

"Solving the structure of succinate dehydrogenase opens up new leads in the quest to understand longevity and ageing," said Professor So Iwata of the Department of Biological Sciences, senior author of the paper.

www.imperial.ac.uk/P391

Three times a winner

Imperial has been awarded its third Queen's Anniversary Prize, this time for excellence in the field of process systems engineering. The Prize, which recognises the outstanding contribution UK universities and colleges make to the intellectual, economic, cultural and social life of the nation, was presented to the Director of the Centre for Process Systems Engineering, Professor Stratos Pistikopoulos, by Her Majesty The Queen in a ceremony at Buckingham Palace.

www.imperial.ac.uk/P3996

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In the club _Imperial College is the first international member of ORAU (Oak Ridge Associated Universities), allowing researchers easier access to facilities at Oak Ridge National Laboratory, near Knoxville, Tennessee.

Dr John Nemeth, Vice President for Partnership Development, ORAU visited Imperial in May to present a membership plaque to the rector and give a talk about activities and facilities at Oak Ridge.

He described the progress of Oak Ridge's major new project - the

construction of the world's largest Spallation Neutron Source (SNS) and invited potential Imperial College participation in collaborative research.

Imperial joins 88 existing United States university members. Endorsing the linkup, Professor John Kilner, head of the department of materials, commented: "This is an exciting move for the College, allowing placements of students, post-docs and exchange of staff, but most importantly the ability to participate with Oak Ridge through ORAU."

Professor Tim Jones, head of

electronic materials group in chemistry added: "A major benefit will be the use of the state of the art laboratory facilities at Oak Ridge. There is great scope for Imperial staff to collaborate and get access to the equipment, particularly in the materials area."

London Centre for Nanotechnology _Work began on the building that will house the London Centre for Nanotechnology (LCN). The interdisciplinary centre, a joint venture between Imperial College and University College

London, will bring together engineers, chemists, physicists, biologists and medical researchers.

The 4000 sq. m. facility, due to be completed by spring 2004, aims to rival the best research facilities in the world.

Upgrade worth £23.2 m _Imperial College's R&D facilities, upgraded through the SRIF 1 Programme, will benefit from a European Investment Bank loan of £23.2m (€33.58m).

Part of a £100m (€144.76m) loan given to HEFCE, the Higher Education

New Director for Imperial's Business School

Professor David Begg is the new Director of the College's Business School. Formerly Professor of Economics at Birkbeck College, London, Professor Begg took up his appointment at the end of April 2003. "I am delighted that David Begg will lead our Business School," said Imperial's Rector, Sir Richard Sykes. "His blend of creativity, intellect and passion will be invaluable to the leadership of the School in the coming years."

www.ic.ac.uk/default.asp?P=3766

Futuristic diagnostic tool

A test that can help predict the likelihood of a heart attack in a matter of minutes from just a few drops of blood is being developed at Imperial. The science behind the non-invasive diagnostic test, which measures the magnetic properties of molecules in blood using high frequency radio waves, is known as metabonomics and was developed in Imperial labs.

Professor Jeremy Nicholson of the Division of Biomedical Sciences who led the research said: "Atherosclerosis is one example of many major diseases that in the future will be diagnosed more efficiently using this type of approach – it is the closest that science has come so far to the hand held diagnostic analyser used by Dr McCoy in Star Trek – but that is still a very long way away."

www.ic.ac.uk/default.asp?P=3759

Too little too late... Rector's view on White Paper

The White Paper on Higher Education has failed the university sector, according to rector Sir Richard Sykes.

Released on 22 January, the paper, cited as offering the biggest and most controversial changes in higher education for a generation, falls significantly short of providing universities with the means to compete internationally as world-class institutions.

"We're moving from education, education, education to regulation, regulation, regulation," he said. "An historic opportunity has been missed and it means we will not be able to raise sufficient funds to compete internationally. The whole thing has been stitched up."

The reforms fail to address the real needs of universities and Imperial will continue to lose around £1,000 per undergraduate student per year despite the rise in fees, he added.

"We've already lost five years since the Dearing report. The new fees don't start until 2006 and we won't feel the benefit until 2010. We will immediately charge the maximum £3,000 allowed but it's too little too late."

The White Paper's key points are:

- **The cap on tuition fees will be raised to £3,000 from the current maximum of £1,100, paid after graduation once income reaches £15,000;**
- **Students liable for the whole sum will be those whose parents earn over £30,000 – those who pay nothing now will pay a maximum of £1,900;**
- **Students from families with an income of less than £10,000 will receive a grant of £1,000 each year;**
- **An 'Access Regulator' will be appointed to monitor the proportion of students from poor backgrounds each university admits;**
- **Best departments rated 5* in 2001 RAE to get 6* rating with boost in funding over next three years.**

Two more views on the White Paper

My own view is that the package isn't perfect, and that in an ideal world I would prefer not have tuition fees at all. However, this is an imperfect world, in which universities do not want to be and should not be wholly-owned subsidiaries of the Treasury. In such a universe, a combination of increased funding, grants for students who enter higher education for the first time in a generation, rewards for first rate research, and money for better teaching all seems like a pretty good way to go.

TREVOR PHILLIPS (Chemistry 1975)

While we recognise universities' need for greater funding, we consider that making students pay upfront will inevitably deter able, poorer students from even considering applying to the College. We believe that the government should scale back its 50 per cent target and concentrate its expansionist policies on vocational education.

ETIENNE POLLARD (4th year, MEng, Information Systems Engineering) *on behalf of the Tuition Fees Working Group, Imperial College Union*

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Funding Council for England, the arrangement was established in co-operation with the government and Department of Education and Employment to provide support for selected English Universities.

Hospital of the Year _ St Mary's was named Hospital of the Year in the *Sunday Times Good Hospital Guide*.

"Close links with Imperial College London enable the hospital to offer higher level services such as the country's first specialist retrieval team, which can collect patients with

meningitis from as far away as Cornwall," the paper announced.

The award was given on the strength of the hospital's performance in the key areas of waiting times, mortality rates and staffing levels.

Chief Executive Julian Nettel said: "An organisation is the sum of its people and we have a fantastic workforce at St Mary's. This is our staff's success, there has been real drive and energy over the past three years to improve the way we do things for patients."

£5m DTI funding _ Major new

collaborations between the UK and USA in areas of biotechnology and medical research have been given a £5 million boost from the DTI.

The money will help UK scientists find world-class partners and promote link-ups with a Texas science base. The UK will also set up training programmes in the commercialisation of research.

Science Minister Lord Sainsbury said: "Scientific advances in areas such as genetics, heart research and drug development are crucial to our future quality of life."

Imperial cross channel swim

Mark Fleet, third year medic, attempted a 22 mile relay cross channel swim with five colleagues, to raise money for the children's department of Paediatric Physiotherapy, Hammersmith campus. He was advised by alumnus Nick Adams who has swum the Channel several times.

news from alumni and development

Can you help students secure vacation placements in your company?

The Internship Centre is a service dedicated exclusively to Imperial students to help them obtain summer work placements. This online service has been used by students and employers for the past three years and dozens of students continue to secure jobs every year.

Over three years ago student volunteers from the City and Guilds College Union (CGCU) realised the shortage of resources available to students to help them secure summer vacation placements. The idea of the Internship Centre was proposed where students could be put in touch with City and Guilds College Association (CGCA) members offering summer work placements.

With support from the CGCA and departments within the Faculty of Engineering, student volunteers mailed over 2,500 members of the CGCA in summer 2000 with requests for summer jobs. The response was overwhelming with many smaller companies even creating internships for students for the first time. An online database of these jobs was made accessible on the web to College students and the Internship Centre was born in January 2001.

After its inaugural year the service was expanded and improved with the help of student and employer feedback. The website was redesigned to be more functional and included specific details on each placement. Regular newsletters were sent enabling closer links to be formed with companies.

Now in its third year, the first ever **Internships Fair** took place in December 2002 with an inaugural speech from the Engineering Faculty Principal, Professor John Perkins. The fair was attended by 15 companies and saw several alumni, graduates from the 70s to new millennium, exhibiting their companies. They were excited to be back at Imperial, enthusing some of today's students and sharing first hand their experiences.

The Internship Centre is constantly looking for more placements both for summer 2003 and 2004. If you or a colleague is in a position where you could offer or initiate a placement within your company, please get in touch with the Internship Centre Coordinator, Mr Shrenik Patel at

internships@cgcu.net. The team would also like to hear from you if you are interested in attending the second Internships Fair, planned for December 2003. It is also possible to register your company online on the CGCU website, where you will find more information about the scheme: www.cgcu.net/internships.

Registering and using the service is entirely free for your company as the scheme is run by volunteers. The Internship Centre was conceived to enable past students to help out current students and the team would be delighted to hear from you if you want to help.



Telethon talking



In February 2003 the first telephone fundraising campaign in over seven years was launched to raise funds for the newly established Student Opportunities Fund. This will provide scholarships, resources and facilities for students at Imperial. Many of our alumni in the UK will be aware of the campaign, having received a telephone call from our team of 25 dedicated student callers.

Calling began in February 2003 from a call room in the Union. The students were committed and hard-working, and found that they generally enjoyed the experience, which also provided a great addition for their CVs. We tried to align alumni with callers from a similar course, giving students the chance to hear about how life at Imperial used to be, as well as gaining an insight into how things might turn out after graduation.

Kumar Rangunathan (3rd year Chemical Engineering) thoroughly enjoyed the calling experience. "I'm really glad that I participated in the campaign and got the opportunity to speak to alumni. I got lots of useful advice and generally talked to some really great people. I feel my interpersonal skills have improved greatly and I could talk to anybody on the phone without any nerves at all!"

An astounding £101,215.86 was pledged during the campaign, with many more unspecified gifts promised. Just weeks after calling finished, the College has already received over £80,000; figures that we could only have wished for when we launched the campaign back in February.

Thank you to all of you who were called and took the time to talk to our callers. Your resulting generosity and kindness have proved a huge boost the launch of our scholarship campaign and means that the College can now start to provide financial support to young people who really need it.

We will be rolling out the second phase of the campaign in autumn 2003, again to a random selection of alumni. Calls from the student team are always preceded by a letter giving the option to opt-out. If you do receive a letter please do support your old College to provide for the many young graduates of the future.

We will be providing regular updates of the progress of our fundraising efforts for the Student Opportunities Fund on the alumni website and in future issues of *Imperial Matters*. To read more about the Telethon and the Student Opportunities Fund, please visit www.imperial.ac.uk/alumni/supporting/telethon/index.asp

Citigroup Scholar

The Citigroup Foundation has recently awarded Imperial College a grant of \$20,000. The money will be used to employ a graduate as the Citigroup Innovation Scholar, who will work in the Office of Alumni and Development.

Starting in autumn 2003, one of the Scholar's main tasks will be the development of a network of alumni working in the city. He or she will also support the relationship between Citigroup and Imperial and will work towards developing corporate philanthropy to the College.

We are very grateful to Citigroup for their valuable support and look forward to working with them closely in the future. More news on the chosen Scholar in the next issue.

Questionnaire – an update

Firstly, many thanks to those who completed and returned the investment fund questionnaire that was mailed with Issue 21 of *Imperial Matters*. Some 544 alumni and friends of the College responded positively to the possibility of investing in the future of our spin-out technology companies, either directly or via a portfolio fund for different levels of investment.

Following this excellent response, we invited alumni to join an investment information evening on 20 March 2003.

The 70 or so alumni and guests heard presentations from Dr Tidu Maini (Pro Rector, Development and Corporate Affairs); Susan Searle (Managing Director, Imperial College Innovations Ltd); as well as David Donnelly (CEO, Gordon House Asset Management), who gave an initial introduction to the high-end Imperial College International Fund LLP.

The evening was a great opportunity for our team from Imperial Innovations to get to know those alumni keen to support our commercial endeavours. Moreover, it enabled alumni to meet each other and learn more about the special role they can play in supporting Innovations.

During the event itself and since, we have received positive feedback from alumni expressing an interest in investing their finances, knowledge and experience in our spin-out companies. As a result, Innovations will be inviting interested parties to future networking events.

You can learn more about our spin-out companies and Innovations' activities by visiting the Innovations website at www.imperialinnovations.co.uk

Once again, a big thank you to all who joined us!

Imperial College Association

Imperial College London has an active network of over 80,000 alumni in more than 180 countries worldwide. We formed the Imperial College Association in October 2002 as an umbrella organisation for all alumni, founding constituent colleges and schools, as well as other supporters of the College.

We want to draw together the expertise and membership of the constituent college associations, with that of non-affiliated alumni and supporters. This will enable us together to develop and coordinate networks, career initiatives, student support, communications and information.

Membership of the Association

- Membership of the Association is free on graduation.
- Members are welcome to join one or more of the affiliated chapter groups, where subscriptions do apply.
- In due course we anticipate that students will also become members.

Benefits and services

- *Imperial Matters* twice yearly;
- Opportunities to join special interest chapters;
- E-mail and mailed announcements of events and news;
- A wide range of web and database services (see next article);
- Invitations to central, regional and international events;
- Lectures and seminars at Imperial and around the world;
- Advice on event management, publications, marketing and communications for events of common interest.

Affiliated chapters

The Association fully recognises that there is a history of over 100 years of support, experience and goodwill from alumni, which the existing constituent college associations and international groups have harnessed.

The existing constituent college and school associations, 64 international branches and Friends of Imperial College will become

part of the chapter network, making the Association's reach wide-ranging and global. Each chapter will be an independent entity, with its own constitution protecting the purpose, structure, membership subscription and activities of the group; providing members with a sense of particular inclusion and affiliation.

Additional benefits will depend on each chapter but could certainly include a dedicated events and networking programme, targeted publications and communications; and careers, internship and mentoring initiatives.

Association Advisory Board

The Association Advisory Board was formed to report progress, coordinate alumni activities and provide a link between chapters and the College. Membership of the board includes up to two senior representatives from each chapter and at least three meetings will be held each year. Although not always possible, we hope that at least some representatives from the international branches will be able to join future meetings.

The future

The Association will be key to supporting services to alumni as well as harnessing support through various means including funding, knowledge sharing, loyalty and association. As the centenary of the College approaches we hope that Imperial College Association will become a necessary and integral part of College life.

Getting globally connected

We have provided a dedicated website for alumni for many years. Through our involvement with schemes such as ic4life.net we have also looked at providing dynamic services for alumni worldwide. As a result of the recent and ongoing relaunch of the main College website, the Office of Alumni and Development have taken the opportunity to provide our own dedicated alumni services online.

The main attributes of the Internet are its global reach and 24 hour access. Vast quantities of easily updateable information can be stored, and interactive services can supplement existing services.

What should we offer our alumni through the web?

We asked alumni at focus groups over the past six months this question to ensure that we are working to fulfil requirements and priorities important to real Imperial alumni.

The most consistent view from these groups was that networking was one of the most useful services that we could offer. With this in mind, we have developed:

- A searchable **online alumni directory** with facilities for contacting other alumni online.
- A secure facility to **update and view your details online** will allow users to see their information and let us know of changes immediately.
- A **trial email forwarding system** rolled out to existing ic4life.net email users with a view to expansion in the future.
- An **online feedback system** to let us know what you want the College to provide online and offline.

To back these up we are developing web services to support our alumni chapters. We will also be tailoring our events, news and services at a faculty level.

Please keep checking the alumni website to see these services go live and let us know what you think using our online feedback form at www.imperial.ac.uk/alumni/form/feedback.asp

news from the faculties

Business School



In 2003 Imperial welcomed Professor David Begg as new principal of the Business School. Joining Imperial from Birkbeck College, London, where he was Professor of Economics, Professor Begg succeeded founder director of the Management School David Norburn.

Shortly after his arrival, Professor Begg hit the headlines in his role as chair of an international commission exploring the economic consequences of saying no to the euro. It concluded that a rejection of the single currency could damage UK trade, investment and financial markets, and warned that delaying entry further would reduce Britain's influence over crucial changes taking place in the EU.

Another Business School academic contributing to Britain's economic policy is Professor David Miles, who has been called in by Chancellor Gordon Brown to examine how, and whether, the UK should develop a market for long term fixed rate mortgages like the deals common in Europe and the USA.

April 2003 saw the 'topping out' ceremony of the Tanaka building, attended by Dr Gary Tanaka and his wife Renata, whose donation is funding the new home for the Business School. The building work, which will also create a new, highly-prestigious entrance to Imperial on Exhibition Road, is now halfway to completion.

Faculty of Engineering



Shell International Exploration and Production BV have made a £500,000 endowment to fund the establishment of a Shell chair in sustainable development in energy at Imperial.

Imperial will seek applicants with expertise in a range of sustainable development in energy research fronts including geothermal energy, bio-remediation, sustainable use of the subsurface, migration to the hydrogen economy and carbon dioxide sequestration.

Professor John Perkins, Principal of the Faculty of Engineering, said that Imperial had identified sustainable development in energy as a key interdisciplinary research area and is committed to bringing engineers and scientists together with industrial partners to find and develop energy solutions addressing major social, economic and environmental concerns.

To mark the completion of a major refurbishment programme in the department of materials, an official opening ceremony for the Goldsmiths' Wing was held last September. The new laboratories, teaching facilities and electron microscopy suite, are part of the refurbishment programme for the whole of the Royal School of Mines. Photographs of the event are at

www.mt.ic.ac.uk/events/goldsmith/opening_2002.htm.

New courses in civil engineering were launched in February. They aim to tackle the fall in numbers taking specialist Masters degrees that is leading to a skills gap across the UK civil engineering industry.

Speakers at a launch event attended by experts from industry, institutions, government and universities highlighted the causes of the 'coming HR crisis' and warned that it will ultimately damage the viability of the UK's £75 billion construction industry and its construction consultancy businesses worth £7 billion.

The launch of 25 new MSc titles, available for entry from October 2003, is the result of a year long review by the department in collaboration with students, alumni, industry and government.

For more information: www.cv.ic.ac.uk/courses/msc/pg_index.asp

In January this year, Imperial College and neighbouring NGO LEAD International announced seven new research-and-action project proposals to address critical problems in water and sanitation, energy, healthcare, agriculture and biodiversity in the developing world.

LEAD International: www.lead.org

Humanities Programme



On the undergraduate programme we have this year introduced a new course in beginner's Mandarin, which has proved so popular that next year students will be able to continue at intermediate level. In addition we are introducing a special stream for Cantonese speakers. Dr Ruth Herd, this year's Humanities Teaching Fellow, has been preparing this course as part of her brief.

Next year we will introduce a new course in creative writing, which has already attracted considerable interest. In addition, a range of courses have been revised and revamped. These include Science, Culture and Display (previously Science, Communication and Society) and A Global History of Twentieth Century Things (previously History of Technology). In addition to our South Kensington-based activities we have expanded our offerings at Wye, including, this year, a course in Communication of Scientific Ideas, which has proved very popular.

The evening class programme recruited better than ever this year, and next year we plan to offer Portuguese in response to popular demand. The English Language Support Programme has recently complemented its existing, five-week pre-session course with an expanded, eight-week version.

The MSc in Scientific, Technical and Medical Translation with Translation Technology attracted 30 new students in the 2002-03 academic year. We are currently planning to expand the number of language combinations which are available on this innovative and exciting programme.

The MSc in Science Communication continues to recruit strongly while the new MSc in Science Media Production is running well in its second year. Last year, the Science Communication group doing the radio practical option won a BBC Radio 5 Live award, and a Science Media Production student television project received a commendation in the annual Learning-on-Screen production awards.

Numbers of PhD students have increased to include the first research students in translation studies and language studies. The Humanities Programme has gained two Teaching Development Grants, one for English Language teaching and the other connected with distance learning.

Faculty of Life Sciences



In March, Rector, Sir Richard Sykes opened the Centre for Bioinformatics. The Centre's brief is to promote and coordinate research and training in bioinformatics at Imperial while supporting College members in their research. The event attracted 150 guests from across the UK and was held in the Sir Alexander Fleming Building. Invited speakers included Professor Janet Thornton, Head of the European Bioinformatics Institute; Professor Lon Cardon of the Wellcome Trust Centre for Human Genetics, Oxford; Professor Carole Goble, Computing Department, Manchester University; and Professor Peer Bork, EMBL Heidelberg.

Professor Mike Sternberg, Director of the Centre for Bioinformatics, and Professor Mike Hassell, Principal of the Faculty of Life Sciences also contributed to the day.

For more details of the Centre's work go to

www.imperial.ac.uk/bioinformatics

Imperial's Silwood Park campus opened its doors to the public earlier this year with a range of activities to celebrate National Science Week. The week-long programme of events included a 'Beer and Science' evening in a nearby pub where a panel of experts from Imperial joined locals to discuss issues surrounding global warming and climate change. There was also an opportunity to visit the Reactor Centre at Silwood, the only civil nuclear research reactor in the UK, to learn about the work carried out there.

Four new postgraduate degrees have been launched at Imperial's Wye campus that aim to find ways of meeting the challenge of conserving natural ecosystems while meeting global food needs. The new taught degrees, which are available from October this year all lead to Master of Science qualifications and include topical course material from sustainable agricultural production to conservation of genetic resources, ecosystem management and the role of the agribusiness industry in developing economies.

Faculty of Medicine



Earlier this year, the Faculty of Medicine celebrated its first five years with a dinner at the Science Museum. As part of the celebrations a number of teaching fellowships were given to staff from Imperial's partner NHS trusts. High profile guests including Sir George Radda of the Medical Research Council, also attended.

Imperial has been at the forefront of research into the SARS virus. A team led by Professor Roy Anderson from Primary Care and Population Health Sciences has been working with colleagues from Hong Kong University to model how the SARS virus was able to spread. The results of this research have been used to develop more effective public health prevention measures to stop the spread of the disease.

In May the Margaret Turner-Warwick Library and Sir Halford Reddich suite were refurbished through a £60,000 grant from the National Heart and Lung Institute Foundation.

Professor John Henry from Surgery, Anaesthetics and Intensive Care has reopened the debate over the issue of legalising cannabis with an editorial to the British Medical Journal. Professor Henry and colleagues from St Mary's Hospital argued that cannabis could be far more dangerous than previously thought, potentially causing up to 30,000 deaths a year. This resulted in significant interest from the public.

Professor Geoffrey Smith from Investigative Sciences has recently been elected a Fellow of the Royal Society. His research area is the

vaccinia virus, especially his analysis of its genome structure in relation to the enzymes involved in its replication, and to the processes by which it modifies immune responses to infection.

A new multidisciplinary research group has been set up in the Flowers Building on the South Kensington campus to look at heart muscle cells, and to develop rational therapies. This was possible through a £1.5 million donation from the Asmarley Trust, and £0.5 million from the National Heart and Lung Institute Foundation.

Professor Paul Elliott, from Primary Health Care and Population Health Sciences has been awarded a £5 million grant to study the effects of TETRA, a radio system used by the emergency services, on the health of emergency services personnel. TETRA was developed to allow all the various arms of the emergency services to communicate with each other.

Faculty of Physical Sciences



Professor Peter Dornan, Department of Physics, has been elected a Fellow of the Royal Society for his contributions to high energy physics. He led the Imperial group into the ALEPH international collaboration on the Large Electron-Positron Collider at CERN in 1984, and was made spokesman for ALEPH in 1997.

Physics researchers are leading a UK consortium to develop and build the first attosecond laser system capable of freeze-framing and controlling the motion of electrons. They have received a £3.5 million research grant from the UK Research Councils' Basic Technology Programme.

Announced in January 2003, the award is made to a collaboration of groups led by Dr John Tisch and Professor Jon Marangos in the Department of Physics. The group of 30 comprises researchers from Imperial, Kings College London, and the universities of Oxford, Reading, Birmingham, Newcastle and the Rutherford Appleton Laboratory, Oxfordshire.

Researchers hope that the attosecond system will reveal fundamental insights into atomic behaviour and may eventually lead to new applications in molecular and surface sciences, nano-scale and biological structures.

Sir Isaac Newton's non-scientific writings are being brought together for the first time since his death in 1727 by an online initiative based at Imperial College and Cambridge University.

Newton is universally acknowledged as one of the most influential scientists in history and his achievements are fundamental to modern mathematics and physics. However, his papers show that Newton himself considered his non-scientific writings to be of at least equal value.

The Newton Project website was launched in November with the first set of transcribed theological papers.

For the first time, the Project will make available online transcripts and digitised images of these texts, alongside his mathematical and scientific papers, in time creating a technologically sophisticated and free-to-access edition. www.newtonproject.ic.ac.uk

The hardware inside a Chinese space satellite underwent its final tests in London last October to ensure that it can 'talk' to the European science instruments it will be carrying, when it launches in December 2003.

Double Star will study the effects of the Sun on the Earth's magnetosphere - the 'magnetic bubble' that protects the Earth from the worst effects of solar storms.

In a unique move, and to meet a tight mission schedule, instrument-builders and researchers at Imperial proposed that the pre-integration, the first meeting of European instruments with the 'brain' of the Chinese spacecraft, be done in Europe, the home of five of the instruments, rather than in China, where the satellites are being built.

feature

Commemoration Eve dinner_2002

A SPLENDID DINNER WAS HELD at the Natural History Museum on the eve of Commemoration Day in October to celebrate the achievements of our new graduates and other honoured guests.

Senior Minister of Singapore Lee Kuan Yew, who received the Fellowship of Imperial College the following day, gave the keynote address. Fellowships were also awarded to Dr Gary Tanaka, Philip Ruffles of Rolls Royce plc and Dr Lloyd Old from the Ludwig Institute of Cancer Research. The pictures here give just a flavour of the evening.



PHOTOS: NEVILLE MILES



Senior Minister Lee Kuan Yew enjoying the evening



From left: Dr Gary Tanaka, Senior Minister, Rector and Mrs Renata Tanaka deep in conversation



IDEA League sports_2003

BY NEIL MOSLEY

IT WAS IMPERIAL'S TURN TO HOST THE annual IDEA League sports event in 2003, and we were determined to vastly improve on our position in 2002.

The programme included a 5k run in Hyde Park; rowing on the Thames; an ultimate frisbee tournament; men's and women's football; and a series of fun cricket matches. A range of social events were incorporated into the programme, including hospitality at the Boat House and a presentation dinner with the current President of the IDEA League, Imperial Rector, Sir Richard Sykes.

The IDEA League sports event was established two years ago as an annual competition between the four institutions.

The first, in November 2001, was held in Aachen, Germany. The sport was volleyball and Delft prevailed, narrowly beating Imperial in the final.

In 2002 Delft played host and the competition grew to include men's football, women's football, volleyball, basketball and rowing. As the event was held in May many Imperial students were taking exams so we were not full strength. ETH

were the victors this time. Unfortunately Imperial's strongest event rowing had to be cancelled due to problems on the Delft shipping canal, resulting in Imperial trailing in fourth.

Get full details of the event at www.imperial.ac.uk/events in the sporting events section.

We will run a full results service with photos on the IDEA League website (www.theidealeague.org) and there will be a competition report in the next edition of *Imperial Matters*.

The IDEA League is a pan-European partnership of the leading science, technology and engineering university institutions:

- I – Imperial
- D – Delft (Netherlands)
- E – ETH Zürich (Switzerland)
- A – RWTH Aachen (Germany)

IDEA League

feature

BY TANYA REED

AS THE WHITE PAPER ON HIGHER EDUCATION WAS RELEASED, Alistair Burt, Parliamentary Private Secretary to Iain Duncan-Smith and the first MP to take part in an experiment aimed at introducing politicians to the realities of university life, gave an insider's view to the government approach to higher education.

Alistair Burt asks many questions. Universities are businesses. What will that mean as the 21st century matures? Also, what do we do when we have a worldwide brand but market conditions are held in check by local, territorial governments?

The MP has spent the last year gaining sneak previews of university life after taking up a University Fellowship – an initiative designed to strengthen links between universities and Parliament, brokered by the Industry and Parliamentary Trust and four universities.

He has visited Imperial three times in the last six months, talking to staff, shadowing a student, gaining confidences, exploring ideals. His question in the House last month about access echoed the views of many about the latest White Paper.

“It raised the point whether appointing a regulator with the implications of lack of trust would undermine relationships between the Secretary of State and vice chancellors,” he explained.

“An Access Regulator is an appalling move, bearing in mind how hard universities are working at opening up access. It's a most unfortunate political step which is bound to lead to division and worst of all, put fresh doubts into the minds of parents and students over university entrance.”

During the current education furore, the man who spent five years as Kenneth Baker's Private Parliamentary Secretary, five years as a Minister and a year as a front bench spokesman, now regularly debates issues raised with colleagues on both sides of the House.

“My aim is to enlighten Parliament where I can, to ensure it makes the best decisions in relation to the sector. I have made serious commitments to debating higher education while providing Shadow colleagues with information about how universities really work.

“Imperial is taken very seriously in the House and is known for setting the pace. People are aware of its reputation and the appointment of Sir Richard Sykes was a significant landmark by bringing in a senior figure in the world of business as its head.

“Batting for a team already known to be strong means he wasn't brought in with a view to just bending the Prime Minister's ear. I'm sure the Rector has far more influences than many members of Parliament. There are not many doors he can't open.”

He also felt that the College was confident with its position in the world, relished its challenges and was keen to see changes, while being worried about the science base of the country and the implications for research graduates opportunities and jobs, although there was no visible signs of hand wringing about this.

“I picked up that universities feel that the government has a lot to say in what they do but that doesn't work on a long term policy basis. I received a very strong impression that there is a confident and clear-eyed vision of the future for Imperial – its reputation for science and how it develops in this country is second to none. Certainly, there are different issues in HE, but it's not an occasion to sit down to a tale of woe.”

A small number of colleagues in the House know HE well and care about it, a handful take it seriously and most have an understanding of schools and classrooms but have forgotten what it's like to be a student, he continues. Consequently, the vast majority have only a hazy idea of how it works.

His own ideas appear far from hazy, partly helped by the insights he gained from visits to Imperial. About shadowing a student for a day, he recalls: “I was most impressed by both him and his friends.

an inside view

They were surprised to see a Conservative MP in the flesh who didn't have two heads. I found them diligent, interesting and opinionated. I also appreciated watching a lecturer using mixed media and computer video clips in his presentation. In the old days, you could only describe molecular movement in the body. Today, you can observe it which fixes a student's mind on what's happening.”

He found Imperial's students to be very hardworking and serious minded with a real focus on the future. They seemed less involved in external political issues than he remembered from his own generation. They also didn't seem to worry about the wider world and take part in demonstrations. “Perhaps they are more mature.”

The man who describes politics as ‘my expression of loving my neighbour,’ admits his own university days were slightly more carefree and relaxed in relation to his eventual destination. He read law at St John's College, Oxford.

“There were no financial concerns, no expectations of leaving with debt. It all seemed slightly more innocent somehow. Drugs were about, but not as an everyday experience for the majority. Drink and sex were the main temptations and most of us enjoyed them hugely.”

Mr Burt sums up: “I don't believe the present structure of HE will hold in the next 15-20 years. We have to think seriously about what universities are for. What do we do when we have a worldwide brand but market conditions are held in check by local, territorial governments?

“Future governments need to come to terms with this and foster a relationship with universities which allows them to grow and develop. Sir Richard Sykes has said universities are businesses – not in the industrial or commercial sense, but a university business with its own agenda. What will that mean as the 21st century matures?

“The Imperial market is already worldwide. In the future, the question to ask is how does Imperial see the UK government in a worldwide role?”

“IMPERIAL IS TAKEN VERY SERIOUSLY IN THE HOUSE AND IS KNOWN FOR SETTING THE PACE.”

feature



feature

From punk to podium

BY TANYA REED

RICHARD DICKINS, IMPERIAL'S DIRECTOR OF MUSIC, FACED HIS ultimate challenge when punk singer, Chris Sweeney arrived on his doorstep in Islington for almost a month's tutoring in the fine art of conducting.

The pink mohican was a giveaway that the classical training of the 25-year-old from Leeds was somewhat lacking. Richard's task, should he choose to accept it, was to transform the singer of *The Dead Pets* into a maestro capable of conducting the Royal Philharmonic Orchestra while hoodwinking three judges into the bargain.

"I was taught by the late conductor, Norman Del Mar who made us sing the music we were going to conduct, whether piccolo or bass drum," Richard explained.

"A Channel 4 researcher came to Imperial and took video footage of me talking about ideas about how to teach someone from scratch by singing through bits of the score and finding out what made them tick.

"My connection with Imperial appealed, not least when we agreed the student symphony orchestra would be one of the guinea pig orchestras with whom the protégé would work. At first I decided there was no way I was going to do it as it would disrupt my life too much and was too intrusive, but after two hours of talking to producer Stephen Walker, I realised it was the opportunity of a lifetime."

"WE WERE NEVER APART. ALL THAT ANGST MEANT IT WAS JUST LIKE A MARRIAGE."

FAKING IT

Richard was signed up in June for what became Channel 4's showcase edition of its *Faking It* series. The "faker" hadn't yet been chosen but someone from a rock or pop background was being sought and studs, earrings and leatherjackets were hinted at – Richard agreed he could cope with anything except a smoker.

"The first I knew about him was when he walked through my door to live with me for a month during filming. I have a terraced house in Islington so he took the ground floor, I lived on the top and we met in the middle. On occasion, my home felt very small indeed.

"Chris had ripped jeans half way down his bum, a pink mohican and didn't stop talking. We played a CD of his band in my car while driving past St James' Palace. Screaming professionalism came across somehow although the words were totally unintelligible."

Richard learned his protégé wanted to publicise his punk band, had tremendous charisma and attitude and didn't like classical music much. "He spent the first few days going through my collection, buying classical records and getting more and more uninterested in everything. My stuff was either too arty or too boring. After a week, I was ready to kill him.

"The one piece I didn't think he'd want to conduct, he found himself – Rossini's overture, the *Italian Girl in Algiers*. He said he liked its charm."

“I WENT FROM THINKING HE DIDN’T HAVE A HOPE
IN HELL TO TOTAL TRANSFORMATION.”

Faking It with gusto



Chris watched Richard conduct in the Great Hall before being given the baton to conduct Mozart’s *Magic Flute* overture and the beginning of Beethoven’s fifth symphony – one of the hardest pieces to master as it requires incredible technical control and understanding, added Richard.

“At one point while conducting Rossini, after only a week’s tuition, there was a very touching moment as the orchestra stopped and applauded. I went from thinking he didn’t have a hope in hell to total transformation.”

ESTONIA

Both flew to Estonia to work with the Estonian National orchestra and conductor, Paavo Jarvi who thought they were completely mad.

“By week three, Chris was feeling very out of his depth and realising the huge task ahead. We got on each other’s nerves in a big way. It felt like we were never apart. All that angst meant it was just like a marriage.

“It was a different way of life for him. He was used to getting up at midday and going to bed at 5am after his band had finished. We expected him to be ready for work at 9am and he found that extremely demanding.”

In the run up to the big night – conducting the Royal Philharmonic in Croydon’s Fairfield Hall in front of 1,500 while attempting to beat three other conductors – both worked with a lot of other orchestras as the last week’s preparation became more and more terrifying.

Chris was persuaded to cut off his pink mohican but refused to wear a wig. “He thought he looked daft toggged up in tails but he looked like the real thing.



“We drove down to Croydon and were parted as he went to his dressing room and I was hidden away with the camera crew to watch the judges’ reactions. His friends with piercings and punk hair were in the audience with his mother who couldn’t quite believe what was happening.

“I felt complete terror and pride as Chris walked from the dressing room to the stage. I’d given him as much help as I could.”

The series, *Faking It*, won a Bafta in May, and three extracts from the episode which featured Richard were shown at the awards ceremony.

The episode also won the Golden Rose award and the Press Prize at the Montreux Festival.



Eco-technology warrior

BY LIZ GREGSON

ON 15 NOVEMBER 2002, DR BARRY COOPER BECAME THE 23RD recipient of the prestigious Honda Foundation Prize. This award recognises Dr Cooper, a senior executive with Johnson Matthey, as someone who has made significant achievements in 'eco-technology'.

To accept the award, Barry gave a presentation entitled 'Catalytic Control of Emissions from Motor Vehicles', based on research he has conducted over his 35-year career with Johnson Matthey.

Hikomori Kawashima, President of the Honda Foundation, who presented Barry with an honorary certificate, a medal and an honorarium, said: "Dr Barry Cooper contributed greatly to the development of an advanced technology related with the tail-end processing system of vehicle exhaust gas, and thus made a pioneering contribution to the protection of environmental air in the automobile society. He pioneered diesel vehicle technology that does not require increased consumption of fuels, which he – as do so many others – considers to be highly valuable and important."

The Honda Prize is not the first time Barry Cooper has been internationally recognised for his work on catalytic systems for Johnson Matthey. In 1980, he was part of a five-man team from the company presented with the Royal Academy of Engineering's MacRobert Award for their pioneering work in the development and commercialisation of autocatalysts for the control of emissions from petrol engines.

Barry returned to the Academy in 2000 to pick up an unprecedented second award for his work on the invention and development of the Continuously Regenerating Trap (CRT[®]), making him the first and only recipient to be awarded the prize twice. Barry was subsequently made a Fellow of the RAE in early 2002.

Barry Cooper's career began at Imperial when he started his PhD studies in the Department of Chemical Engineering. He worked under David Trimm and was sponsored by Johnson

Matthey, conducting part of his studies at Johnson Matthey's research centre in Sonning Common.

Amongst the audience at the awards ceremony in Tokyo was Professor David Trimm, Barry Cooper's supervisor at Imperial, now based at the University of New South Wales in Australia.

Barry said: "at that time, David Trimm was a hard taskmaster but an excellent teacher, particularly for research. He was responsible for providing me with great experience, which was vital for my later work."

During the early part of his PhD, Barry also worked with Sir Geoffrey Wilkinson FRS, who was awarded a Nobel Laureate for his work on organometallic 'sandwich' compounds in 1973.

"My PhD gave me my first real flavour of true university campus life including exposure to first-class research labs and techniques." A dedicated student, he fondly recalled "listening to the 1966 World Cup Final on the radio in a laboratory on Prince Consort Road, which faced out onto the entrance to Beit Quad".

Five years into his PhD, the emphasis of his research shifted to automotive catalysis as Barry and Johnson Matthey realised that new environmental legislation, in the form of the US Clean Air Act of 1970, could persuade car companies to fit catalytic converters to control exhaust emissions. As a consequence, Johnson Matthey obtained several early patents on platinum/rhodium catalysts, which subsequently became the primary catalytic system to control emissions from automobiles.

Barry's journey with 'eco-technology' had begun.

By 1972, Johnson Matthey had proven catalytic converter technology in a 25,000 mile vehicle demonstration, using a Chrysler Avenger. The successful trials were hailed in the British media with such headlines as *British Invention Rocks Car Companies*.

In 1976, the year that Barry submitted his PhD thesis, he was



TWO MAJOR DISCOVERIES IN THE WORLD OF CATALYTIC SYSTEMS TECHNOLOGY HAVE MADE DR BARRY COOPER (PHD CHEM ENG 1976), ONE OF THE WORLD'S MOST RESPECTED AND HONOURED EXPERTS IN HIS FIELD.

given the opportunity to move away from industry into academia. David Trimm moved to Trondheim, Norway and his erstwhile student decided to go with him to teach and carry out post-doctoral research programmes linked with industry, while working for SINTEF, the Foundation of Scientific and Industrial Research at the University of Trondheim.

"I found the experience extremely valuable and enjoyed teaching. My background in industry helped me to teach my students how to develop a practical approach to tackling complex technical problems. I view Trondheim as a kind of payback for my years of study at Imperial College," Barry added.

After three years in Norway, Barry was offered the opportunity to rejoin Johnson Matthey and continue his work on the development and application of emission control catalysts. There followed a move, with his wife Anne and three young children, to Wayne, Pennsylvania, where they have remained ever since.

Professionally, this was an exciting time for Barry, as researchers in the US were leading the field in emissions control. The 1970s and 1980s were defining years in the industry, and Barry contributed through applied research, focusing on the development and commercialisation of new autocatalyst formulations delivering better control of emissions from petrol engines. Johnson Matthey became world-leaders in the autocatalyst technology used in automotive emissions control, a position they maintain today.

In the late 1980s, the emphasis for Barry and his team shifted to exhaust pollution from diesel engines in large articulated vehicles and buses. These present unique pollution problems in that the primary pollutants are particulates and nitrogen oxides.

Diesel particulates, known to aggravate respiratory and cardiovascular health problems, contain ultrafine carbon particles which can become lodged deep inside the lungs. In the United States, both the California Air Resources Board, and the Environmental Protection Agency have declared Diesel Particulate a toxic substance, prompting health-based regulations to cut particulate emissions from vehicles.

Research had shown that diesel particulate could be filtered from the engine exhaust, which offered a potential solution whilst providing Barry and his team with a challenge. The filter materials rapidly filled with diesel particulate and became clogged. A regeneration technique had to be devised to remove the particulate from the filter, allowing it to continue filtering the exhaust without blocking.

In 1989, Barry discovered that by generating nitrogen dioxide in the exhaust, the temperature of combustion of diesel particulate could be substantially reduced.

The team developed catalyst technology to convert nitrogen oxide (NO), present as a pollutant in diesel exhaust fumes, into nitrogen dioxide (NO₂), which then reacted with carbon particles to convert them to carbon dioxide (CO₂). Crucially the reaction

occurred at the temperature of a diesel exhaust, enabling the continuous trapping and burning away of carbon particles.

This led to a system capable of removing 98 per cent of the particulate, and the Continuously Regenerating Trap (CRT®) was born.

Full commercialisation of the CRT® was not possible until the late 1990s, when low sulphur diesel, the fuel on which the trap operates, became more widely available. Since then, legislation in favour of the use of low sulphur fuel for diesel vehicles has created many new markets for Barry Cooper's invention.

Although environmental legislation has changed dramatically in both the UK and America in recent years, Barry believes that the attitudes of the two nations towards vehicle emission pollution are radically different.

"The Americans believe that the protection of public health is fundamental and are extremely aware of emerging technologies. They have a 'can-do' attitude towards technology and have harnessed this to reduce the amount of pollutant being emitted into the atmosphere.

"Conversely, Europe seemed to tolerate the problem of vehicle pollution for longer and when the Green movement and public pressure eventually came to bear, its emphasis was on behaviour-changing policy as opposed to technology."

As Barry explained: "The number of vehicles on the roads, the mileage that these vehicles cover and the amount of pollutant that these vehicles emit all contribute to pollution. European policy measures have traditionally sought to cut the car's growing contribution to mobility but getting people out of their cars can have unwanted side effects, like diesel pollutant emissions from the buses that are often the mainstay of public transport.

"The US approach has undoubtedly been more focused, accepting that vehicle ownership and use will increase over time and concentrating on technology-forcing legislation to drive down pollutant emissions. There may be three cars today for every one in the early 1980s, but importantly, overall pollutant emissions have been cut because the cars of today are very much cleaner."

Public transport is where CRT® use has come into its own. First launched on buses in Gothenburg and London, the technology is now in service in major cities all over the world, from New York to Tokyo.

The next time you board a bus, it is likely to be fitted with an environmentally friendly CRT®. To the unassuming Barry Cooper, you get the feeling that this contribution to a cleaner environment worldwide means more to him than any of the awards and prizes that he has received over the years spent in the field.

To view Barry Cooper's presentation to the Honda Foundation, visit their website at www.soc.nii.ac.jp/hf/eng/prize/index.html. The Honda Foundation strives to promote and recognise technology that is efficient, profitable and eco-friendly.

INSPIRE-ing

BY CHRISTINE GRANT

IMPERIAL UNDERSTANDS THAT IT IS FUNDAMENTAL TO ADDRESS the fact that few scientists are electing to become science teachers. If this cycle of decline continues then the number of people with an aptitude and interest in science will continue to fall, in turn affecting research and development in science, technology and engineering.

INSPIRE (**I**nnovative **S**cheme for **P**ost-docs in **R**esearch and **E**ducation) is a unique pilot programme developed by Imperial to raise the profile and importance of science and science teaching, and to enthuse young people in science.

As Dr Nick Price, *INSPIRE* Director explains, "The lifeblood of Imperial is the annual intake of young, talented students, enthused to study science, technology or medicine. To maintain the supply of these undergraduates it is essential that school science education is of high quality and generates not only exam success but also enthusiasm for science based disciplines. The *INSPIRE* scheme seeks to boost the quality and depth of school science education in a totally novel way. It will provide sustained and continuous contact between university level scientists and school science departments. For the first time post-doctorate research scientists will become actively involved in school science education, bridging the gap between school and university and providing a novel and informed resource for science specialist schools."

Over the next four years, the project will sponsor schools to become specialist Science or Science and Engineering schools, defined as existing maintained secondary schools that teach the full National Curriculum but which place a special emphasis on teaching and learning in their chosen specialisation.

Post-doctoral research assistants from Imperial will be positioned in selected partner schools, located in the London region. The post-docs spend around 50 per cent of their time based in partner schools as trainee teachers, and the remainder at Imperial, researching their chosen area of science, engineering or medicine.

The programme attempts to go some way towards addressing two of the four issues affecting science education as identified in the Roberts Review, namely the requirement for more science and maths teachers, and the need to inspire and interest pupils in science.

The Government is keen to see around half of the UK's eligible secondary schools receive specialist status by 2005, and one benefit of *INSPIRE* is that it helps to generate such schools. This innovative project has attracted funding from a number of partners, including the individual schools involved, and GlaxoSmithKline, who are providing up to £1 million of sponsorship over the four-year period. Additionally, the DfES has provided funding of £72,000 for the first year of the pilot and the Teacher Training Agency has also agreed to provide funding towards a teacher training qualification for each *INSPIRE* post-doc. The project is also being supported by the specialist Schools Trust which supports the Specialist Schools movement and has worked with Imperial College and GlaxoSmithKline throughout the planning and implementation stages of the *INSPIRE* project.

INSPIRE has strong government support and was launched by the Prime Minister on 13 June 2002. Speaking at the launch, Tony Blair gave his strong support for the programme, saying: "Children in schools today will be our teachers, our scientists and our doctors tomorrow. By investing in the education of our children now, we are investing in the future of the economy and society as a whole".

Implementation of *INSPIRE* began in September 2002 in the first two partner schools, with an additional three schools set to join the scheme later in 2003. By the end of the four year pilot, it is envisaged that around 14 schools and 18 *INSPIRE* Associate Researchers will be involved. Imperial hopes that not only will the scheme continue at the College, but that successful elements will be replicated in many other schools and universities across the country.

INSPIRE IS A UNIQUE PILOT PROGRAMME DEVELOPED BY IMPERIAL TO RAISE THE PROFILE AND IMPORTANCE OF SCIENCE BY ENTHUSIASMING YOUNG PEOPLE

the next generation

Steven Cook, one of the three post-doctoral researchers initially recruited, has already gained a lot from his involvement in the programme. "The *INSPIRE* scheme gives post-docs a chance to share our knowledge and experience with a wider community and allows us to give something back to the education system that got us where we are today. Most school children probably don't even know what a post-doc is, and when they think of scientists, they don't imagine they are young people with a passion for communicating their work. *INSPIRE* gives us the chance to change the public stereotype of scientists and to show pupils how exciting a career in science can be."

Neil Mellor is another post-doc involved in the programme and he describes his first experiences of working in a school. "Working in a school gives me a chance to go back to where it all begins. It's where many children get the first taste of a subject that may interest them for the rest of their lives. So far, what I've really had the opportunity to do is to get pupils thinking about how the things they learn in science lessons apply to the world around them. Hopefully, I'll be able to spark interest in them and they'll begin to see science as something fun and interesting, and ultimately something they might consider taking further in the future."

Through *INSPIRE*, pupils will benefit from being introduced to cutting-edge science and being made aware of the opportunities presented by science and the excitement that it brings. They will also develop increased awareness of science-based career opportunities through links with sponsors of the project.

By the end of the pilot some 15,000 pupils, across 14 specialist schools, will have benefited, either through direct teaching from the *INSPIRE* post-docs or through the development of the science curriculum and other science-based enrichment activities in their school. Pupils from other local schools and across the community will also benefit through interaction with nearby specialist schools.

Links between schools and universities will also be strengthened and those pupils who have the potential to flourish

in scientific higher education can be identified and encouraged at an early stage of their education. School teachers will benefit from having direct access to subject specialists and, more generally, through association with university academics.

Crucially, *INSPIRE* will generate a group of qualified science teachers with high academic ability and direct experience of scientific research. We hope that many of the post-docs involved will choose to remain in the teaching profession. Even if they don't, the experience of teaching will give them many skills for life that they might not otherwise gain in an academic environment, such as leadership, communication and the ability to motivate and influence.

Imperial fundamentally believes in the importance of using its wealth of teaching and scientific expertise. Through *INSPIRE* the College has the opportunity to address our most important role in the wider community: the enthusing and inspiring of young people in science, engineering and medicine.

For further information on the project, please contact Dr Nick Price, nick.price@imperial.ac.uk, 020 7594 8128; www.imperial.ac.uk/inspire

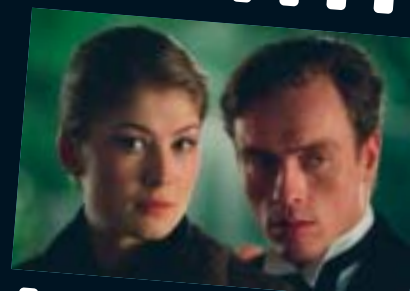
feature

Our Bond with

BY TANYA REED



THE ACTION IS PACKED, THE SPY SUAVE AND THE GIRL STUNNING. DIE ANOTHER DAY DELIVERED BETRAYAL, HI-TECH WEAPONRY AND MILITARY DOMINATION ON A HUGE SCALE IN THE 40TH YEAR OF BOND FILMS.



007

KEITH HAMSHIRE



THE ACTION IS PACKED, THE SPY SUAVE AND THE GIRL STUNNING. *Die Another Day* delivered betrayal, hi-tech weaponry and military domination on a huge scale in the 40th year of Bond films.

Imperial's involvement started in January last year when Professor Ara Darzi, Professor of Surgery at the Faculty of Medicine's Academic Surgical Unit at the St Mary's campus, collaborated with Eon Productions to feature the Da Vinci machine, the first minimal access system to eliminate tremor in a surgeon's hand, in an early scene.

The robots' three arms can be seen early in the film scanning Bond's body and taking a blood sample. Production designer Peter Lamont and Art Director Mark Harris spent time at St Mary's learning about the machine's ingenuity as they practised sewing stitches, picking up balls and putting them in boxes – standard practice for those learning how to operate with the machine.

"I'd seen the Da Vinci on *Tomorrow's World* and in *Time* magazine. It's an amazing machine for non-invasive surgery and I thought we'd have to make a mock-up. I was delighted when we found it at St Mary's," said Peter, who originally wanted to be a surgeon before he won a scholarship to art school and went on to work on 17 Bonds. In 1997, he won an Oscar for *Titanic*.

He added: "All spy stories have a similar theme. There is a set

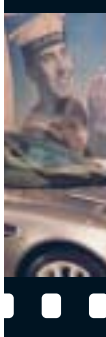
formula. But this time we were doing things that have never been done before... the hovercraft chase, the car chase on ice. And it will never be repeated, because that look was unique, absolutely unique. I'm very happy with the way the whole look of it turned out. It was a huge team effort... there are a lot of people to be congratulated."

Sarah Robinson, product placement coordinator, said of Da Vinci's role in medicine: "Both the producers and director thought this machine was fantastic; it's a very important part of the film.

"It's very difficult to keep up with technology – we have to be one step ahead and try and come up with great new products, which is where the Da Vinci came in. It was also incredible to see St Mary's Hospital – we had a great day. We were definitely in awe of the work carried out there – our world is fantasy whereas St Mary's is real – we don't save lives."

Professor Darzi has been fascinated with Bond films since he was very young. "Surgeons and spies are alike as both aspire to serve their subjects with minimal fuss while using the best technologies around. Bond films have always been an inspiration to those with a technology interest," he said.

"I never thought that one day the department I headed would be making a contribution. It's great that Imperial College's knowhow has made it to the movie screen." *Die Another Day* was released on 20 November 2002.



feature

A gateway

BY LIZ GREGSON

A GUIDED TOUR BEHIND THE SCENES OF HAMMERSMITH HOSPITAL BY LORD WINSTON, PROFESSOR OF FERTILITY

WATCHING A MULTI-MILLION POUND ELECTRON MICROSCOPE ANALYSE MATERIALS USED IN JET ENGINES

HEARING ABOUT THE IMPLICATIONS OF CREATING HUMAN TISSUE FROM HEART AND LUNG TRANSPLANT PATIENT PROFESSOR JULIA POLAK

LAUGHING AT AN ERUDITE BUT VICIOUSLY FUNNY EXPOSÉ OF THE EFFECTS OF THE UK'S INABILITY TO INVEST IN RAILWAYS BY PROFESSOR ROD SMITH

A CHRISTMAS CAROL CONCERT FROM THE IMPERIAL COLLEGE CHOIR AT 170 QUEEN'S GATE

ALL THESE, AND MORE BESIDES, SHAPE THE WAY THAT THE Friends of Imperial College seek to 'enable the wider community to share in the life and work of Imperial College'. "Friends' events provide a convivial platform to bring together neighbours, alumni, staff and supporters of the College to hear about leading-edge science, talk about its implications and chat with world-class scientists," says current chairman Rod Rhys Jones (Civil Eng 1964).

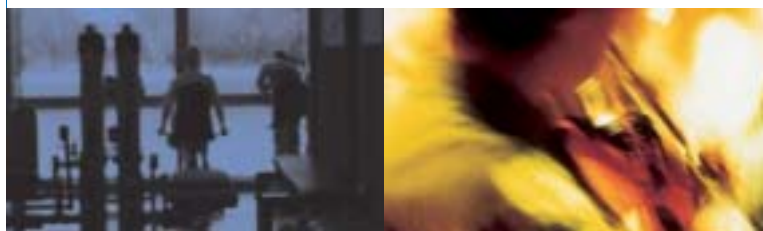
Established in 1991 by then Rector's wife, Lady Clare Ash, Friends give those in the wider community an opportunity to learn more about the College and to seek their support and understanding. They set out not only to explain something of the College's work through invitations to inaugural and special lectures, but also to give privileged access to some of the best facilities at Imperial, providing a unique experience of campus life.

Currently, members have access to the Sports Centre in Prince's Gardens with its modern swimming pool and gym, the College's IT suite and language laboratories, the library, campus shops and restaurants, including the exclusive dining facilities at 170 Queen's Gate.

It is no wonder that with nearly 50,000 Imperial alumni living in London and south east England, many alumni are joining Friends as a means of keeping in touch with Imperial and to explore the new scientific and technical developments taking place here.

As John Chadwick (Mech Eng 1957), who has been a Friend for a number of years, points out: "We may have read science or engineering here but we are like amateurs when it comes to understanding what is happening outside our discipline. I find these lectures and visits enthralling and Friends events allow me to keep up with new science and technology, explained to me in terms that I understand. It allows me to meet a diverse group of people in the place where I went to university, and I would, and have, endorsed membership of the group to anybody."

to Imperial



PAN GHEBOK

The quest for knowledge and the needs of society means that change is rapid. Two recent Chemistry alumni joined the Friends on a visit to their old department last year. They were amazed by the changes that had taken place: new equipment and the emphasis on new areas of research.

Renée Medney, a Fulham resident and member of the Friends' Committee says that she is continuously amazed by the ability of the speakers to explain complex science in simple terms to the non-scientist. "I approach some of the subjects with a certain degree of trepidation," she says, "but every time I find there is no need for apprehension. The explanations are always clear and concise. I hope more people take advantage of this gateway into the College."

In addition to this unique forum, the Friends support Imperial by donating all profits from activities to the Student Opportunities Fund, which provides scholarships, resources and facilities for students studying at the College. Last year £2,250 was donated to the Fund, a sum which Friends expects to build upon in future years.

For more information about joining the Friends of Imperial College, please contact the Office of Alumni and Development:

friends@imperial.ac.uk
+44 (0)20 7594 6138
www.imperial.ac.uk/alumni

FRIENDS EVENT PROGRAMME

- In May 2002, more than 200 people attended the Friends' private screening of 'the Human Body', narrated by Lord Winston, at the IMAX cinema in the Science Museum, followed by a lecture from Producer-Director, Peter Georgi and supporting presentations from a number of Imperial's academics whose work was featured in the film.
- Earlier this year Professor John Gruzelier, Head of the Department of Cognitive Neuroscience and Behaviour, talked to a rapt audience about his research into how people can train brainwaves to improve their performance in sport and music. Olympic oarsman, Simon Dennis, now Imperial's head rowing coach, and Royal College of Music alumnus, pianist Samantha Newbold gave their insights into their states of mind leading up to and during peak performances.
- More recently, Professor Steve Bloom, Head of the Department of Metabolic Medicine, talked about his work on the PY3-36 hormone – aptly dubbed the 'hunger hormone' as it has a controlling effect on our feelings of hunger and satiation. A lively debate followed amongst well over 100 Friends and guests led by 'It' girl and beauty columnist Normandie Keith, sport dietician Jacqueline Boorman and medical ethicist Dr Richard Ashcroft. The debate continued over the wine and bites until late.
- These lecture and discussion evenings are balanced by the 'Behind the Scenes' programme which allow Friends to visit one of Imperial's departments and learn about some of the key areas of current research. A recent visit to Materials included watching a multi-million pound electron microscope analysing the microstructure of alloys used in jet engines in order to improve their strength and durability, and learning about how apatite, a calcium phosphate, contributes to the health of teeth and bones.
- The Friends have access to the College's special and Inaugural lectures series, as well as its calendar of music and arts.

Further lectures and 'Behind the Scenes' events are planned for 2003 and 2004, including an evening focusing on Entrepreneurship, with reduced ticket prices available to Friends. All are welcome to attend and further details will be sent out in the monthly alumni e-bulletin.

Wye's crowning

BY TANYA REED

AS A 26 YEAR-OLD ECONOMIST, DONALD SYKES (pictured top right) would spend his lunchtimes climbing the hills overlooking Wye and the Weald of Kent, sitting and eating his sandwiches at the centre of a piece of history.

Just over 100 years since Wye Crown was first carved in chalk into the Wye Downs in honour of the Coronation of HM King Edward VII, he trod the path again to join other alumni in May at the Crown viewpoint, unveiling two plaques to mark the Queen's Golden Jubilee and the Crown's centenary.

Director of the Crown Project for many years, Donald joined Wye College in 1952 as an assistant lecturer and later senior lecturer, teaching economics.

"The Crown, originally cut into the chalk, was in a fairly good condition when I first came, but the after effects of the war were clear. It had been camouflaged with netting and the quarry just below it had been used as a target for machine gun practice.

"Also, myxomatosis had flattened the rabbit population that had helped graze the grass which marked out where the Crown was so it had lost some of its definition.

"However, it was always recognised as unique. On Guy Fawkes night, students would march through the streets of Wye with flaming torches before winding up the hillside to illuminate the Crown. They still do today."

Student 'stirs' were also responsible for creating a lasting memory of Wye for principal Dr Harry S Darling's retirement in 1977.

"For miles around, people could read the words 'Goodbye Harry' stretched out across the top of the Crown. Students had worked through the night spelling out the words with weed killer and emphasizing them further with wooden pegs and binder twine.

"The land didn't belong to us at the time so they were definitely taking a liberty!"

GRAZING CONTROLS

In an effort to reinstate the ecological site – the areas surrounding the shoulders of the Crown had created a micro environment which had proved perfect for rare orchids – the Crown, which measures 52 metres high and 55 metres wide, was fenced off in 1975 and grazing controls put in place – a method still used today.

A visit from HRH The Princess Royal, shortly after she became Chancellor of the University of London in the 1980s, spurred further work to be carried out.

"The Princess Royal had visited expecting buttercups and daisies and had found the Crown and surrounding area in a ruinous state due to erosion and the weather – being 600 ft high it is very exposed. Also, people and animals walking across it hadn't done any good."

In 1991, a five year reconstruction, eventually costing £29,000, began, using pieces of flint, known as gabions, kept in place in a galvanised wired cage, and re-whitened at regular intervals.

"At first, we thought we could use the quarry below the Crown but instead, village volunteers scoured the countryside for flints. Twenty-two students helped us who were the salt of the earth."

Since restoration, the Crown has been re-whitened six times – the last occasions were in 2000 and 2002 using a power spray. The bill for work during the last 12 years may stand at £45,000 but few would deny it has been worth it.

"It's always been a puzzle how to restore the Crown while reinstating the important natural environment, but I think we've done it very successfully," Donald concluded.

"Wye was a royal manor for 1,500 years and acted as the centre of administration for this block of Kent, dealing with the legal affairs of Britain in pre-medieval times.

"I wouldn't be surprised if it was one of the oldest settlements in the country."

The site has now been granted National Nature Reserve status and has been designated a Site of Special Scientific Interest.

feature

glory

PHOTOS: JAYNA REED, JEFF BROOKS, AND COURTESY OF DONALD SYKES



THE NEWLY RESTORED WYE CROWN – READY FOR ANOTHER 100 YEARS

Chris Anderson, head of estates at the Wye campus, added: “It’s been a very interesting and rewarding project, although quite taxing at times due to the weather and the Crown’s position on an exposed hillside. Hopefully, it’s something that will still be there for another 100 years.”

John Prescott, formerly Principal at Wye College between 1988 and 2000, concluded: “When I first came, it was beginning to disappear as a landmark and the edges had become indistinct. People in the village would often ask what was happening to their landscape feature.

“I live in the village and now as I walk onto my drive, I have the most magnificent views of the Crown. There’s no question its been enormously enhanced by the restoration using flints and the regular re-whitening. I am delighted and proud that it was restored and enhanced when I was Principal.”

A FURTHER CAUSE FOR CELEBRATION

The centenary plaque was unveiled by John Hosking, president of the Agrícola Club whose members comprise many generations of Wye College alumni.

He paid tribute to the interest taken by Lord Brabourne, former chairman of governors at Wye College/Imperial College London, Wye campus .

The ceremony took place around around the Millennium Stone which bears the motto *Floreat Wye – may Wye flourish*. It rests on a low flint base and contains a time capsule of Wye past and present.

The Compass Rose was also unveiled. Engraved with the words *Wye Crown Viewpoint*, it acts as an orientation table, pointing towards Canterbury, Hastings and York, among other historic English towns and cities.

news from the associations

Business School Alumni Network

The Alumni Network Centre for Health Management hosted its second Life Science Forum in February 2003. Guest speaker Lord Winston (Professor of Fertility Studies at Imperial College) focused on current research into stem cells, exploring the opportunities and the ethical issues in this area.

Known for his BBC TV series and for his research in reproductive medicine, embryology and genetics, he communicated this complex science to a wide-ranging audience.

The Business School held an informal presentation on 15 May when new Director, Professor David Begg, shared some initial thoughts with alumni and current students.

A fellow of Worcester College, Oxford until 1986, David most recently held the position of Head of the Institute of Financial Research at Birkbeck College, London. At Birkbeck he successfully established the executive course enabling the College to win contracts to provide management development for government departments.

The Business School is on course to move across Exhibition Road into the new building in early 2004. Construction is on schedule and you can read more about it on page 8.

The first issue of our Annual Review Magazine will be published later this summer, and all Business School graduates will receive a copy by post. If you are not sure whether we have your current home address, please email paulo.gomes@imperial.ac.uk

Last but not least, the Postgraduate Awards Ceremony took place on 14 May 2003, so many congratulations to all those graduating from the Business School on this prestigious occasion!

PAULO GOMES
ALUMNI ADMINISTRATOR

Charing Cross and Westminster Medical School Alumnus Society

The Annual Reunion Dinner of the CXWMS Alumnus Society was held on Friday 4 October 2002 at the Savoy Hotel, with Dr Richard Staughton in the chair. Some 300 alumni and their guests attended yet another splendid occasion organised by the indefatigable Dr Bob Phillips.

During the preceding morning and afternoon, the Old Students' Day took place at the Chelsea and Westminster Hospital. Guests received informed presentations from, amongst others, Mr Merv Rees on liver metastases, Dr David Bottomley on carcinoma of the prostate and Mr Joe Cahill on day surgery. It was splendid to see Emeritus Professor Harold Ellis taking the chair on this occasion. Many thanks go to Bob Phillips and his helpers for the immense amount of work which made both these events so successful.

The last of the Society's annual intercalated BSc bursaries were awarded last year to Tom Evens (Pharmacology) and Ramesh Yella (Neuroscience), as part of the final group of students admitted to Charing Cross and Westminster Medical School on the intercalated BSc course.

The Society's committee is currently discussing in what form prizes from the Alumnus Appeal Fund should be given in the future. They have invited the student President of the Faculty of Medicine Union to join the committee, to keep in touch with the present student body.

Memorabilia for all three former Schools are available from the Honorary Secretary (who may be contacted through Urmila Weller on +44 (0)20 7594 6129; u.weller@ic.ac.uk, in the Office of Alumni and Development), although please note that they are in short supply.

PETER GRIFFITHS
HON SECRETARY

City and Guilds College Association

The period since the last *Imperial Matters* has been eventful, but sadly overshadowed by the death of our President, Professor Peter Hills, in December (see page 33). Peter provided superb leadership at a demanding time and showed extraordinary commitment by remaining actively involved whilst fighting serious illness. We will remember him with immense gratitude and affection.

Some of the highlights of the latter part of 2002 reflected Peter's involvement and contacts in the field of transportation. In November, Steven Norris gave a thought-provoking and entertaining speech at the House of Lords on the subject of Ken Livingstone's congestion charges.

This was followed, at the Christmas Lunch, by a talk by Professor Stephen Glaister (Civil and Environmental Engineering), member of the Board of Transport for London. He spoke on the Private Finance Initiative and Public Private Partnerships, with particular reference to the London Underground. The Decade Reunion Luncheon in November was exuberant and enjoyable as usual, and attracted a particularly large group of civil engineers from 2002.

February 2003 saw the publication of the Association's new Membership List – the first College-related publication of its kind since 1998. This handbook contains a company index as well as details of nearly 4,500 members. Another achievement was the re-launch of the Association's website www.cgca.org.uk. This has been completely redesigned by Neil Madhvari and includes a frequently updated events list.

The Annual Dinner in March was a memorable evening at the Honourable Artillery Company headquarters in the City of London. Acting President Sir Colin Terry spoke as Chairman of the Engineering Council (UK) and Professor Ann Dowling of the University of Cambridge replied on behalf of the guests.

Past President David Hattersley has organised further guided walks, following a successful series in the City. Walks covering the East End and the Jubilee River have already taken place this year, and there will be others in Southwark and Chelsea in September and October.

Sir Colin Terry's formal election as President took place at the AGM and President's Evening in May. This included a talk by Rear Admiral Mike Wood on *War in Iraq and Support to the Front Line*. Sir Colin's year promises to be a notable one, with significant developments anticipated with regard to CGCA's relationship with the College.

For more information on the CGCA, including how to join, please contact Adrian Winchester: +44 (0)20 7594 6131; cgca@imperial.ac.uk

PETER JUSTESEN
HON SECRETARY

Royal College of Science Association

A preoccupation over the last year for the Association has, of course, been how to adapt to the changes to the structure of the College. We feared that the disappearance of the Royal College of Science Union would weaken the relationship between the Association and the student body and the College generally. But we are pleased that already we have started to make links with the new student associations within the Faculties of Life Sciences and of Physical Sciences and have moved smoothly to becoming a chapter within the wider Imperial College Association.

Against this background of change the usual activities of the Association continue. The 2002 Annual Dinner was held outside College but only just, as we moved across Exhibition Road to the Polish Club. A month or so later a group of members visited the Magic Circle for dinner and demonstrations. We are pleased to report that none of our members emerged sawn in half or in the guise of a large white rabbit.

Another successful London walk took place starting this time at Embankment Station (we seem to be moving steadily east along the District Line!). Our guide clearly understands our priorities and her route along the Strand and back through Covent Garden took in a number of refreshment stops.

The last cricket match against the RCSU was held in July. The Association team felt it fair that, as it was their last match, we should let the Union win (well, that's our story anyway).

On the more serious side, the Careers Forum was particularly successful with over 100 students filling the Union Dining Hall to capacity. The deserved winner of the annual RCSA Prize, which acknowledges the student who has made an all-round contribution to the College community, was Miss Rosanna Eurim Jon of the Department of Mathematics.

If you would like to join the RCSA or support the RCSA Trust please contact Urmila Weller: rcsa@imperial.ac.uk; +44(0)20 7594 6129 or visit our website at www.rcsa.org.uk

DAVID LEGG
HON SECRETARY

Royal School of Mines Association

Our last report for *Imperial Matters* was written before the Annual General Meeting of the Association in June, at which Bernie Pryor's second year as President was confirmed.

Since then, the 15th issue of our newsletter *Update* was published in October, and we held our annual dinner in November. We have continued the essential task of supporting current students, and the committee has devoted much time and energy to our efforts to maintain the identity and traditions of the Royal School of Mines.

Once again, we chose the Polish Club in Exhibition Road as the venue for the annual dinner. There were 77 at the dinner including 27 current students, who were all guests of members, together with 19 visiting staff and students from the European mining course. The speakers were David Pearce and Greg Hawkins. The dinner is now always held on the second Thursday in November, for the benefit of our many overseas alumni who may be choosing a date for UK visit well in advance – so mark 13 November 2003 in your diary now!

The Association has taken a strong and proactive role towards maintaining the identity of the RSM in the context of the Imperial reorganisation. The only undergraduate teaching in mining which remains at the RSM is a partial involvement in the European mining course, and our efforts continue to reintroduce mining and extractive metallurgy related courses at Masters level with funding from industry. It is also recognised that the RSMA has to make sure that it is at least

as relevant for future alumni as it has been for its older members.

One tradition that remains as popular with today's Imperial students is the annual 'Bottle Match' against Camborne School of Mines, which the RSM won by 12 (a try and a goal) to 5 (a try) at Harlington on 22 February 2003. A sizeable crowd of both students and alumni watched the rugby and other associated games. The RSM team won the soccer match (1-0) and the squash game (3-2), drew the women's hockey match (1-1) but lost the men's hockey match (2-3).

The RSMA Trust (a registered charity) currently makes loans and small grants in cases of genuine student hardship. However, the sums involved are small and the Trust needs more funds to expand its activities. Members' donations are more than welcome.

Finally, a notable advance is that *Update* is now received electronically by over half of the Association's membership. The latest edition is available on the Imperial alumni website.

For more information on the RSMA, including how to join, please contact Urmila Weller: +44 (0)20 7594 6129; rsma@imperial.ac.uk

JOHN BRAMLEY
HON SECRETARY

St Mary's Hospital Association

St Mary's Association maintains strong links with the current student body and it is fair to say that a meeting towards the end of last year was almost besieged by members of the various student clubs and associations in their enthusiasm to request funds for their members!

Each seemed a worthwhile cause and after many deliberations, I can report that the money available was shared out fairly. It has helped to fund a diverse number of activities including drama weekends, a new boat, a mountaineering expedition and the Association's own *Gazette*.

The other main issue at that time was the proposed merger between Imperial and UCL. It was felt by almost everyone that such an institution would be much too large and would disadvantage both undergraduate education and research. It is with relief that the Association has subsequently heard that this will not be going ahead.

It is not only students and academics facing changes at St Mary's. As I write, plans are afoot to consolidate certain specialist services across various trusts within west London. Elective orthopaedics is already established at Ravenscourt Park; renal services are due to move to the Hammersmith and there are ongoing talks regarding urology, gynaecology and vascular services. It would seem that the days when every hospital provided all services are already gone.

Both clinically and academically however, the future seems bright for St Mary's. Behind the scenes, work is already in hand in planning the provision of services for the new Paddington Health campus development. The various canal side commercial developments have transformed the area to the extent that it seems as though we have leapt from the 19th straight to the 21st century in the space of a few years. Although we anticipate some difficult times in the short term, it is certain that the Hospital is entering a most exciting era.

For more information on the St Mary's Hospital Association, including how to join, please contact Patricia Dymond: +44 (0)20 7886 2251.

MIKE JENKINS
HON SECRETARY

news from around the world

Fond farewells, mining and medals

Western Australia Alumni Association



Saying farewell to Barry

Imperial alumni in Western Australia held two functions during 2002: a Roast Night in August at the home of my wife Rita and I, and a dinner held just before Christmas to say goodbye to Professor Barry Brady (MSc Min Tech 1975; PhD Min Tech 1979 – alumni focus page 35) and his wife Colleen, before they headed back to their home state of Queensland.

The first function had a good attendance of 28; the latter, at 48,

broke all known records (even more than when the Rector visited us in July 1995!). Perhaps the reason was that Barry had taught the majority of the miners present during his time in the Royal School of Mines. If you are interested in hearing further details about the activities of the Western Australia Alumni Association, please contact Alan Dickson at alan@dickson.com.au

ALAN DICKSON (Mining Eng 1968)
CONVENOR/EDITOR OF NEWSLETTER
alan@dickson.com.au

Royal School of Mines Association in Australia

As a group we have not been very active as our membership is spread over the length and breadth of Australia. Of around 500 minesmen and women in Australia, there are about 35 in Sydney, and 50 in Perth. We continue to be well represented in the mining and exploration camps around the country.

In Sydney, we have thrown in our lot with the Imperial College alumni group, and go along whenever they get together. If you do come to Sydney, please get in touch – we'll put on a right royal welcome.

It is pleasing to record that Bob Humphris (Mining Eng 1963) was awarded an Order of Australia Medal (OAM) in the recent honours list. Congratulations, Bob!

RON BUTLER (Materials 1952)
CORRESPONDENT
rbutler@acenet.com.au; +612 2 4862 2352

Living it up in Köln

Imperial College Club of Germany eV

The Imperial College Club of Germany enjoyed a great meeting in Köln in summer 2002, joined by Professor Nigel Bell from the Centre for Environmental Technology, and Thorsten Kurr from MIT.

Nigel fascinated us with the work he has been doing analysing the effects of pollution, in particular in third world countries.

Thorsten Kurr amicably demonstrated that we have a long way to go before we achieve the professionalism of MIT alumni. And I believe I can safely say that all enjoyed the throbbing nightlife that Köln was able to offer us in the Altstadt.

Our thanks also go to the MIT and Dutch Imperial College alumni groups, who have both invited the Club of Germany to participate in their events.

In 2002 we were disappointed not to be able to hold an event with the College and Dr Tidu Maini in the British Embassy in Berlin. We will certainly be pursuing this for 2003 and will keep you posted!

And if you have ideas or requests for our activities and events, please let us know.

MIRANDA BELLCHAMBERS (Mech Eng 1986)
PRESIDENT
miranda_bellchambers@yahoo.com



Continuing education in Athens

Imperial College Management School Alumni Association of Greece

The Imperial College Management School Alumni Association of Greece, with over 250 members, regularly organises social and educational events.

The most recent Alumni Business Masterclass was held in November 2002 with two established academics as speakers – Professor Elias Karakitsos, Business School and Director of Trafalgar Asset Management, and Professor George Alogoskoufis, Athens Economic University and Member of the Greek Parliament.

Professor Karakitsos focused mainly on recent macroeconomic developments in the US and European economies and the reasons why the crisis will persist. Six months after his lecture, Professor Karakitsos' conclusions are still valid, reminiscent of his accurate forecasts on the appreciation of the GBP against the Greek drachma, some years ago.

As one of the major economic policy formulators of the opposition party in Greece, Professor Alogoskoufis spoke on the Greek macroeconomic environment, outlining the major reforms necessary for the Greek economy to become more competitive.



The Alumni Business Masterclass, Atlas

The lectures were followed by a question and answer session and a reception. The event was covered by a significant number of newspapers and magazines. There is a strong desire to continue with the Masterclass series in the future.

For more information on the activities of the Association, visit www.mba-ic-alumni.gr

DR CONSTANTINOS ARAVOSIS (MSc Management 1987)
PRESIDENT

YIANNIS RITSIOS (MBA 1994)
GENERAL SECRETARY
yirtsios@panafonet.gr

Changing times

Imperial College Alumni Association of Hong Kong

Dr Harry Lee SBS JP was elected Chairman and Dr Shen Shir Ming and Mr Simon Lam were elected to the Committee at our AGM on 27 May 2002. Our special and sincere thanks to three departing past committee members: Dr H K Cheng, Professor David Chan and Mr Leslie Pakianathan. Their contributions to the Association were enormous and we wish them well.

The annual Freshers' Reception was held on 31 August 2002 at the University of Hong Kong and was well attended by more than 70 new students and their parents.



'A Career of Excellence', 2003

To express our heartfelt appreciation to H K Cheng and David Chan, a Thank You Dinner was held on 14 November 2002. Later in the month the Association organised a boat trip and graduate reception.

Another exciting and new event was held on 4 January 2003 at the Conrad Hotel when the Association invited the Oxford and Cambridge Society of Hong Kong to host a joint careers exhibition. Entitled 'A Career of Excellence 2003', this inaugural event was a huge success, with more than 180 participants. The exhibition was exclusively organised for the current students, graduates and alumni from the three universities to explore a wide range of career prospects offered in Hong Kong.

Representatives from participating organisations included HSBC, Ernst & Young and The Hong Kong and China Gas Co Ltd. Subsequently offers have been made to a number of our alumni. Guest speakers also made presentations on a number of useful topics including career development and future career prospects in Hong Kong and mainland China.

Please visit our website at www.icaahk.org for more information.

On behalf of the Association, we wish you all a very prosperous Year of the Goat!

SIMON LAM (Mech Eng 1993, MBA 2001)
HONORARY SECRETARY
committee@icaahk.org

The 'Imperial Mafia'

Japan – The South Kensington Kai



AGM and meeting David Ewins

The South Kensington Kai Annual General Meeting 2002 was held on 9 November at the British Embassy in Tokyo. Over 40 members attended. We all enjoyed a talk by Toshiaki Sakurai on 'The University of London and Meiji Restoration'.

In July 2002, the sixth London Alumni Party was hosted by the Minister of the British Embassy at his residence in Tokyo. The South Kensington Kai was out in force, with 21 members attending. This was the largest number of representatives of any of the alumni groups present, prompting the Minister to term us the 'Imperial Mafia'!

Early in 2002, some members, met Professor David Ewins, Pro Rector for International Relations and Dr Tidu Maini with a view to strengthen the College's relationship with Japan.

Our activities can be seen at our website:

www.rt.sakura.ne.jp/~skk/index-e.html

SHIGETOSHI YANASE (MBA 1993)
SECRETARY
skk@rt.sakura.ne.jp

Cricket and ethics in South Africa

Royal School of Mines Association in South Africa

The informal Christmas lunch was held at the 'Jolly Roger' pub in December 2002. Committee members and stalwarts weighed in and a good time was had by all.

The 75th AGM was held in February, and ended in style with Méthode Cap Classique wine and snacks. Intriguing was the number of attractive women who drifted over – our members wondering whether the women were merely after our food or the fit, tanned men. Dreams aside, the AGM accepted the Chairman's report, accounts and re-elected the committee.

On a sadder note, the AGM learned of the death of Dougie Lawson (Mining Eng 1962) and of Roger Dixon's (Mining Eng 1971) serious accident in a decline shaft. We wish him a speedy and full recovery.

2002's Annual Cricket Match against the Camborne School of Mines Association was notable not only for the fact that we won but also for the number of father and son combinations who took to the field: four. Chris Rule (Materials 1979) had the pleasure of playing with his son but with Mark Cresswell's son loaned to the opposition, Mark (Min Res Eng 1984) had a ticklish ethical problem – how do you bat against your son's bowling?

Please contact daveproctor@xsinet.co.za or southafrica@cgca.org.uk for information about alumni activity in South Africa.

DAVE PROCTOR (Geology 1973)
CHAIRMAN
daveproctor@xsinet.co.za

A new point of convergence

Imperial College Alumni – Swiss Chapter

Switzerland is home to more than 200 Imperial College alumni and has existing academic links with Imperial through ETH and the IDEA League.

To strengthen these relationships a new association, the Imperial College Alumni – Swiss Chapter, has been established. Among its aims are the development of an alumni community through the organisation of informal events and meetings and the deepening of collaboration between Swiss institutions and Imperial.

Interested in becoming involved in the Swiss chapter? Get in touch: Imperial College Alumni – Swiss Chapter
Case Postale, EPFL-Ecublens, 1015 Lausanne,
Fax 0041 (0)22 794.28.14; e-mail: swissalumni@imperial.ac.uk

DAVID URBACH (Physics ICID 1996)
VICE PRESIDENT AND CO-ORDINATOR
swissalumni@imperial.ac.uk

Exiles go to Great Camp Sagamore

Imperial College Exiles in North America East

The 28th Annual Reunion for Imperial College Exiles in North America East took place in October 2002 at Great Camp Sagamore.

For the 20 or so attendees, it was a long weekend of cruising, golf, canoeing and lengthy walks around the lake. Once again the weekend was expertly organised by Mary Beverly-Burton, who has now stepped down after three years as chief 'stuckee' for the Exiles.

international news

Simone and Ian McWalter (Phys 1972; PhD Elec Eng 1975) have taken up the reins for 2003, which will be held from 3-6 October 2003, at Great Camp Sagamore. Activities will include a dinner cruise on the Thursday evening. Please contact icenaes.2003@cogeco.ca for information.

The Exiles also hold an informal pub lunch on the last Friday of every month at the Jason George Pub, 100 Front St. East, Toronto, (east of the St Lawrence Market), starting at 12.00. For further information contact Harry Burgess, 416 362 5135. All are welcome.

Find out more about activities at www.mccannscience.com/icenaes.htm

IAN MCWALTER (Phys 1972; PhD Elec Eng 1975)
icenaes.2003@cogeco.ca

Every third Friday

British Columbia Alumni Association

A group of Imperial alumni in the Vancouver meet for lunch at noon on the third Friday of each month in the Bull and Bear Bar, in downtown Vancouver (Days Inn, 921 West Pender Street). All are welcome at this informal meeting. The maitre d' knows the Imperial College alumni group and reserves the southeast corner of the bar for us. There are usually several minesmen and women present, but we welcome alumni from any part of Imperial College.

JOHN D AUSTIN (Mining Eng 1953)
CONVENOR
tedb@istar.ca

Future role of the Society

Brazilian Alumni Society of Imperial College

The new Brazilian President's programme is quite clear about the role of alumni from institutions such as Imperial: to create more opportunities for the less privileged through education.

As a civil engineer I recommend Imperial College for postgraduate or doctoral courses to my students, and I try to pass on not only the knowledge I acquired, but also the process of learning, discipline and the ethos that I experienced at Imperial.

The alumni group in Brazil has been holding informal meetings for some time, but in 2003 members met in May at PUC-Rio, where future actions of the Society were discussed.

We hope to organise an annual alumni meeting in Rio de Janeiro. Since distances between cities in Brazil are large, we would like a representative in each of the main cities and I would be very interested in hearing from any alumni living in Brazil who would be interested.

I have been greatly encouraged by the strength of the Imperial bond during visits to Tehran and Hanoi in 2002 where I received an excellent reception from local alumni. One did not feel among strangers!

PROFESSOR KHOSROW GHAVAMI (PhD Civil Eng 1976)
CHAIRMAN
ghavami@civ.puc-rio.br, khghavami@aol.civ

Rector visits Malaysia

Imperial College Alumni Association Malaysia

The Association remains under the presidency of Dr Foo Ban Nyen, who visited the College in July 2002, meeting the Rector and members of staff to discuss how links in Malaysia could be furthered.

On 1 August 2002 a welcome dinner was held for Dr Viphandh Roengpithya, Convenor of the Imperial College Alumni Association of Thailand. Wines from Dr Vip's vineyard were drunk in his honour and Dr Vip spoke to attendees with enthusiasm.

Over 40 members and guests attended a dinner on 25 September 2002, to hear a talk by Dr Nikolai Dobberstein, Managing Partner of McKinsey & Co in Kuala Lumpur.

The Rector and Dr Tidu Maini, visited Malaysia in October 2002 to

launch Imperial Internet MBA and MSc courses. The Association hosted a Gala Dinner in Kuala Lumpur with around 100 guests.

In March 2003, Professor Dr Justin Lin from the China Centre of Economic Research, Beijing University, spoke to members on the subject of 'the post-16th Congress Economic Policy and Direction for China'.

To support the College in its current drive for fundraising for scholarships, the Association are currently looking at donating part of the profits earned from events to the Student Opportunities Fund. We have launched our Distinguished Speaker Lecture Series with Prime Minister Dr Mahathir as the inaugural speaker.

For more information on the activities of the Association in Malaysia please visit www.icaam.org.my

DR FOO BAN NYEN (PhD Geology 1977)
PRESIDENT
bn_foo@hotmail.com

Lebanon living

Imperial College Alumni Association of Lebanon

The Association is active through the Lebanese Graduates of British Universities and the British Lebanese Business Group.

The Lebanese Graduates of British Universities organises mainly social and cultural events, including dinners, walks, exhibitions and theatre.

The British Lebanese Business Group focuses on business activities and organises one monthly event with a speaker from industry or government to talk about topical issues. Past speakers have included Members of Parliament, and prominent figures from Lebanese industry. In February 2003, the Group hosted an evening with the Secretary General of the High Council of Privatisation.

Imperial alumni make up a large proportion of the attendees and it would be great for more alumni living in Lebanon to become involved.

RAMY EL-KHOURY (Civ Eng 1992; MSc Civ Eng 1993)
CORRESPONDENT
relk&p@dm.net.lb

Association celebrates Silver Jubilee

Imperial College Alumni Association of Singapore

Raymond Kwok (Maths 1974) stepped down as President after many years of service in 2002. Although Raymond will be missed greatly, Dr Wong Limsoon (Computing 1988) has been elected to this key position.

On 29 October 2002, the Association was pleased to host a dinner for Sir Richard Sykes, where he spoke of the Fellowship of Imperial College awarded to Singapore's Senior Minister Mr Lee Kuan Yew.

The Association is also organising bi-monthly networking nights, inviting alumni of other universities such as MIT, Oxford, Cambridge and Stanford. The first events were very successful. As usual, networking was assisted by the conducive atmosphere (hic)!

Together with the National Library Board of Singapore, the Association continues to organise monthly public lectures on IT. The final monthly life sciences talk was given by Imperial alumnus, Ashvin Thambyah, Research Fellow, National University of Singapore in October.

In 2002, the Association embarked on a major project to establish a scholarship to sponsor deserving students in their studies at Imperial. The Association has secured the exclusive distribution rights for a DVD 'Success Story of Lee Kuan Yew'. The Association hopes to use the proceeds from sales towards this worthwhile cause.

We celebrate our 25th anniversary in 2003. Many events have been lined up to mark this quarter century of alumni fellowship, so watch out for them! Visit our website, www.icaas.org, for further details.

ALLEN CHONG (Biology 1998)
EXECUTIVE COMMITTEE MEMBER
achong@lit.org.sg

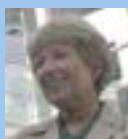
DAMIEN WONG (Mech Eng 1994, MSc Computing 1995)
SECRETARY

honours

New Years and Birthday Honours 2003

PROFESSOR DAME JULIA POLAK DBE

Head of the Centre for Tissue Engineering and Regenerative Medicine



Set up the Centre, after she underwent a double heart and lung transplant in 1995 as a result of pulmonary hypertension.

DBE for services to medicine.

ALAN BOOBIS OBE

Director of the Department of Health Toxicology Unit

OBE for services as Deputy Chairman on the Advisory Committee on Pesticides.

PROFESSOR ARA DARZI KBE

Head of the Department of Surgical Oncology and Technology

Honorary knighthood (KBE) as an Irish citizen for services to medicine and surgery. Pioneer of the use of minimally invasive 'keyhole' surgical techniques in surgery and robotics in the UK.

PROFESSOR COLIN HUMPHREYS CBE (Physics 1963)

Goldsmiths Professor of Material Science, Cambridge University

CBE for services to science as a researcher and communicator.

PROFESSOR SIR DAVID KING DSc, FRs, FRSC, FInstP (Chemistry 1966)

Chief Scientific Adviser to the UK Government, and Head of the Office of Science and Technology, DTI

Knighthood for services to science and technology in the UK.

PROFESSOR SIR RAVINDER MAINI

Professor of Rheumatology and former Head of the Kennedy Institute of Rheumatology

Knighthood for services to medicine. Development of new treatments for rheumatoid arthritis.

MR PETER SARAGA OBE (MPhil Electrical Engineering 1969)

Formerly Managing Director, Philips Research Laboratories

OBE for services to science and technology.

Awards

BOB HUMPHRIS (Mining Eng 1963)

Order of Australia Medal (OAM) in the 2003 Australian Honours List for services to the mining industry, in particular the coal industry.

PROFESSOR DICK SELLEY (PhD Geology 1963 and former Senior Research Fellow)

DR SIMON STEWART (PhD Geology 1992)

The Geological Society of London Silver medal for excellence in petroleum geoscience to Professor Dick Selley; and the 'Young Explorer of the Year' award to Dr Simon Stewart.

ROBERT FREER (DIC Civ Eng 1955)

Institution of Civil Engineers 2002 George Stephenson Medal, for his paper *The Three Gorges project on the Yangtze River in China*.

GEOFFREY FROHNSDORFF (PhD Chemistry 1959)



Currently a guest researcher at the Building and Fire Research Laboratory at the National Institute of Standards and Technology in Maryland, has been awarded the Bryant Mather Award by ASTM International. ASTM present this award to recognise the efforts of individuals in the continuing development

of standards for hydraulic cements.

Promotions

EDWARD BOGUCZ (MSc Mech Eng 1979)



Dean of Syracuse University's College of Engineering and Computer Science, of Fayetteville, New York, Edward has been named to the six-member board of directors of the Philadelphia-based Herley Industries Inc.

His teaching and research expertise includes fluid dynamics, energy systems, computational methods, and multidisciplinary analysis and design. He has led the strengthening of ECS in selected areas, including RF and microwave devices, information fusion, systems assurance and environmental technologies.

He has also become a leader in the establishment of university-industry partnerships. In particular, Syracuse University and Herley Industries have worked closely over the past three years to develop a successful microwave engineering internship program.

CHEW CHOON SENG (MSc Operations Research and Management 1970)

Singapore Airlines recently announced that Mr Chew Choon Seng is the new CEO for the company.

Mr Chew has moved extensively through the company since he joined in 1972 – including managing countrywide operations in Japan and Italy, going on to be Senior Vice-President for south west Pacific, the Americas and Europe.

DR ROBERT EASTON (Chemistry 1984)



Dr Robert Easton was appointed Managing Director for the Carlyle Group in January 2003, with particular focus on European buyout opportunities.

Prior to joining Carlyle, Dr Easton was Vice President of Corporate Development at Invensys plc, with responsibility for the execution of acquisitions and disposals. He was a key figure in the transformation of BTR from a diversified conglomerate to a focused engineering group.

He joined BTR in 1996 from Trafalgar House, another major UK engineering group where he was Director of Corporate Finance and Planning with responsibility for strategic planning, acquisitions and disposals.

obituaries

PROFESSOR SIR JOHN KNILL (Geology 1955, PhD 1957, DSc 1981)

Professor Sir John Knill, former chairman of the Natural Environment Research Council, (NERC) and Dean of the Royal School of Mines has died aged 68. Sir John was an internationally renowned engineering geologist – notably for his work on the construction of Britain's motorways and dams, in the nuclear waste industry and on similar projects worldwide. His work in industry was combined with a long and fruitful career in education at his alma mater, Imperial College. He spent 31 years as a member of staff with the College developing an international postgraduate geology programme.

Throughout his academic career, Sir John had the opportunity to work directly as a consultant on engineering projects, particularly dam and tunnel schemes. These included Latiyan, Cruachan, Ardingly, Tyne and Lar.

Beside his considerable academic and administrative skills demonstrated at Imperial College, Sir John also devoted time to establishing the Institution of Geologists – the status of chartered geologist is now recognised throughout the world.

In 1988, he left Imperial to become Chairman and Chief Executive of the Natural Environment Research Council until 1993. He returned to engineering geology, working mainly in the resolution of disputes and matters of safety and risk in south east Asia and the Middle East.

He was awarded many honours, including the Whitaker Medal of the Institute of Water and Environmental Management (1969); the Aberconway Medal of the Institution of Geologists (1989); the William Smith Medal of the Geological Society of London (1995); and the Hans Cloos Medal of the International Association of Engineering Geology and the Environment (2002). His services to science were recognised when he was knighted in 1994.

Alumni in Hong Kong may recall that Sir John accompanied Professor John Burland on a visit to Hong Kong in December 2001, when the Alumni Association hosted a dinner at the Hong Kong Club in their honour.

Sir John died on 31 December 2002 and is survived by his wife, fellow alumna Dr Diane Knill (Geology PhD 1957) and their two children.

MR DAVID ARNOLD-FORSTER OBE, TD (Rural Environment Studies 1978)

Mr David Arnold-Forster, OBE, TD, Chief Executive of English Nature from 2000, has died aged 46.

David Arnold-Forster grew up near Skipton, North Yorkshire and was educated at Rugby School and Wye College where he gained his BSc in Rural Environmental Studies in 1978.

Throughout his career, David Arnold-Forster maintained a diligent and welcome balance between different interests – notably between the needs of the farmer and the environmentalist lobby. This was reflected in the decision to appoint him Chief Executive of English Nature in 2000.

His main achievement there was his chairmanship of the Hills Task Force of the Ministry of Agriculture. He developed recommendations aimed at preventing continued abandonment of hill-farming land and also dealt with the implications of the foot-and-mouth outbreak in 2001.

After leaving Wye College in 1978, he joined the Civil Service as administrative trainee, going to the Ministry of Defence. From 1981 to 1984 he served as private secretary to the Under-Secretary of State for the Armed Forces.

In 1985 he decided to leave government service and, for the next three years, he worked for the chartered surveyors Richard Ellis, moving in 1988 to become a director of the Mountleigh Group.

In 1990, he rejoined the MoD, playing a key role in the framing of the chemical weapons ban treaty. From 1992 he served as civil secretary to the British Forces in Bosnia. For his work in setting up British bases in the region, he was appointed OBE in 1994.

Arnold-Forster's work for the MoD benefited from his Territorial Army experience. He had joined the TA in 1978, was commissioned in 1980, and served in the Hertfordshire and Bedfordshire Yeomanry. He was later promoted to major for South Nottinghamshire Hussars.

From 1994 to 2000, he was Chief Executive of the North York Moors National Park, a post that appealed to his roots and his desire to engage with all those who lived on, and made their living from, the land.

He died on 29 September 2002 and is survived by his wife Anita, whom he married in 1988.

EMERITUS PROFESSOR W R S (REG) GARTON, FRS (Physics 1936)

Professor Reg Garton, FRS, former Professor of Spectroscopy at Imperial College, was born in London on 7 March 1912. He died in St Andrews on 28 August 2002, aged 90.

Professor Garton will be remembered for his innovations in spectroscopy, both in exploring unsuspected complexities in 'simple' atoms and in pioneering applications of classical spectroscopy to new fields. His tenure as Chair of Spectroscopy at Imperial coincided with the early years of plasma spectroscopy and space astrophysics.

Born locally to the South Kensington campus, he left school at 16, obtained his matriculation through evening classes and, in 1936, he graduated from Imperial College with a first-class degree in physics.

Following time as a demonstrator with the Spectroscopy Group, he volunteered for the RAF in 1939 and spent the war years as a meteorological officer. After the war he returned to Imperial College as a lecturer, progressing rapidly to gain his professorship in 1964. He was elected to the Royal Society in 1969. During his later career, he had built up an international network of research colleagues, notably in North America, including Harvard College Observatory.

Professor Reg Garton will be remembered for his enthusiasm and knowledge of his field, coupled with his skills in the laboratory and range of ideas and insights.

PROFESSOR JOHN WOOLLEN 'BIMBO' TOMLINSON (Chemistry 1947, PhD 1949)

John Woollen Tomlinson (22 November 1927-9 August 2002) – an appreciation from a fellow student

'Bimbo', as he was called, sprang onto the scene in the autumn of 1945 and was immediately liked by everyone. Despite being at the Royal College of Science, he was elected eventually to all the Clubs (the Chaps, the Links, the '22' and the '69').

He gained his DIC and PhD in Physical Chemistry before going on to study at the Massachusetts Institute of Technology.

Not playing rugby or rowing kept Bimbo a bit on the edge of the athletic world, but he gained his half colours in squash and fencing, and acted in at least one Shaw play. As a beer drinker, he was without peer.

Originally from Sheffield, where his grandfather had been a steel manufacturer, John had a naturally enquiring mind, leading us into all sorts of curious situations we might otherwise have missed.

One afternoon comes back to me. We went to a pond in Surrey reputed to hold large pike. We patiently pulled every pike from the pond but the minimum length had to be 16 inches. The biggest we had

caught was just 15 inches. So, in a day with half our time spent in trees recovering each others' casts, we kept no pike at all.

Where are you now – the Stewart Coxes, the Jeff Pierces, the Marc Julia and the John Haywards? Those of us privileged to spend our youth with him carry the spell of these riches still, and we are grateful for his stay.

To say that he was a ladies' man would be a serious understatement, and his schoolboy good looks opened all manner of entrées in London denied to us more ordinary young men...

He leaves a wife and four children in New Zealand where he spent most of his working life. His last job was in Wellington, where he served as Vice Chancellor of the University.

Provided by Philip Togni (Oil Technology 1947, MSc 1950)

DR PATRICIA MORLEY, MBBS FRCR FRCP (Westminster Medical School 1953)

Dr Patricia Morley died on 2 February 2003.

During a long and successful career in medicine, she made a great contribution to radiology, especially ultrasound. Her extensive pioneering role and major commitment greatly benefited patient care, changed the practice of radiology and attracted much international acclaim.

She qualified in medicine in 1953 at Westminster Hospital, London, where she gained a scholarship. She then joined the Royal Navy and was one of the first female doctors to be a surgeon lieutenant RN. There she first met her future husband, Neil, a surgeon lieutenant. They later moved to Edinburgh where Pat trained as a radiologist.

In 1963 Dr Morley joined the radiology department at the Western Infirmary, Glasgow, working with the late Professor Ian Donald, who was a pioneer of medical ultrasound. She remained dedicated to this then new field of medicine and her publications with colleagues gained recognition from peers and the textbook, *Clinical Diagnostic Ultrasound*, which she co-wrote has since been considered one of the leading authoritative texts.

As a young radiologist she received the Couch award from the Royal College of Radiologists for the best paper by a junior doctor and in 1980 she was made a Fellow. From 1982 to 1984, Pat was President of the British Medical Ultrasound Society.

As chairman of the scientific committee, she contributed enormously to the highly successful 1982 meeting of the World Federation of Ultrasound in Medicine and Biology in Brighton. Pat's pioneering role and her hard work for BMUS was recognised in 1994 when she was made an honorary member, an honour also bestowed on her by the American Institute of Ultrasound in Medicine.

In her free time Pat had varied interests including gardening, ornithology, wild flowers, flying (she once had a pilot's licence), and cooking, but was happiest in her large garden at Boquhan with Neil, their four children, Carolyn, David, Alistair and Christopher and her friends. Sadly, Alzheimer's disease marred her last few years during which she was lovingly cared for by Neil and her family, and later at Bannockburn Hospital.

PROFESSOR PETER HILLS OBE, FREng, FCGI (Civ Eng 1961)

Professor Peter Hills died on 16 December 2002 following a long and courageous battle against cancer.

He was President of the City & Guilds College Association and despite his illness, showed great commitment to the Association, providing thoughtful leadership and chairing the 'Way Forward' sub-committee to

consider CGCA's response to current developments at Imperial.

A widely respected figure in transport engineering, acknowledged by high-profile guests such as Steven Norris at recent CGCA events, he wrote many books and papers which addressed problems related to the growth in transport during the last 30 years. He also made key contributions to reports for bodies such as the GLC and the Transport Research Foundation.

Peter was the youngest member of Sir Colin Buchanan's team in the early 1960s, working on the milestone report, *Traffic in Towns*, for the Ministry of Transport. Following publication, Sir Colin took up the newly established chair of transport at Imperial and invited Peter to become a lecturer. Peter was only 25 at the time.

He joined the University of Newcastle in 1977 as Professor of Transport Engineering and Director of the Transport Operations Research Group. From 1996 he was Dean of the Faculty of Engineering. His research group at Newcastle spent 12 years studying automatic toll collection technology – now highly topical in view of London's congestion charging.

Dr Tidu Maini, pro rector of development and corporate affairs and immediate past president of CGCA, said: "It was an honour and privilege to have known Peter for many years. His commitment and guidance will be desperately missed by all of us. Imperial is blessed with alumni who are prepared to put in an extraordinary amount of time and energy into helping the College, but Peter was exceptional in that he achieved the impossible whilst struck by terrible illness at the prime of his career."

Peter's many awards included the OBE in 1995 for services to transportation planning and research.

In 2000, he was elected to Fellowship of the Royal Academy of Engineering. He leaves a widow, Lesley, and two daughters.

DR ROBERT H TANNER (Elec Eng 1936)

With his wife of 62 years by his side, Robert Tanner quietly passed away on 2 November 2002 in Naples, Florida.

Following service in the Royal Signals during WWII, Robert emigrated to Canada with his young family in 1947. He joined Northern Electric in Belleville, Ontario, moving to Ottawa in 1960 where he helped found Northern Electric's research and development division, Bell Northern Research. Following an illustrious career as an acoustical engineer, Robert and Joan moved to Naples, Florida in 1975.

With the acoustic design of many churches and theatres to his credit, Robert was especially proud of his work on the Festival Theatre in Stratford in Ontario, the Elgin and Winter Garden Theatres in Toronto and the Naples Philharmonic Hall.

He was active for many years in the IEEE (Institute of Electrical and Electronic Engineers), serving as President in 1972. The IEEE awarded him the McNaughton Gold Medal, the Haraden Pratt Award for Service and the United States Activities Award for Engineering Professionalism.

In 1989, Concordia University in Montreal bestowed on him an Honorary LLD for his services to engineering.

PROFESSOR DOUGLAS SHEARMAN (Geology 1953)

A member of the Department of Geology for many years until his official retirement in 1983, he remained as Senior Research Fellow for some years following. A full report will follow in issue 23.

focus on alumni

Rallying in Russia

Two years ago, **Philippe Abboud** (Mech Eng 1991, MSc Composite Materials 1992) initiated a project to build a 4x4 rally car. By August 2002 the project had escalated to involve two full-time members of the technical team from the company where he currently works and Philippe found himself participating as co-driver and navigator in toughest and longest 4x4 World Rally Championship race, *Master Rally*.

“The idea of building a 4x4 rally car originated from a group project that I started two years ago in the textile factory where I work in Beirut, Lebanon. As the technical manager of the company I decided with the owner of the company, Soly Khattar, that it would be a good idea to create a project which would enhance and promote the team spirit in our technical department.

“In the beginning the idea was to build a 4x4 racing car whenever time was available in the factory. As time passed we found out that this idea was really working and that efficiency of the department was increasing in the factory, due to the team spirit which was being created.

“By January 2002, the project was no longer a recreational job, and as we had taken the decision by this time to participate in the *Master Rally* competition in August 2002, we decided that two members from the department should be assigned to work full time on the car under my supervision.

“We started from an old G Wagon Mercedes Jeep, dismantling everything and starting from the bare chassis to rebuild the complete vehicle according to racing specifications. Amongst the numerous tasks involved, we had to redesign the suspension system, reinforce both front and rear axle, install a new 5-litre engine, completely rewire the electrics and make the car lighter by manufacturing the engine hood and front and rear cabin sections from fibre glass.

“*Master Rally* is the longest race in the FIA 4x4 World Rally Championships which takes participants across Russia in an 11-day race of around 6,000km. After leaving St Petersburg, the race runs along the multiple twists and turns of the great Matouchka Volga, navigates between the Taiga and the immense desertlike Steppes, across the dunes of Astrakhan on the shores of the Caspian Sea, leading to the great undulating prairies of the Kalmoukie (Little

Mongolia). The race finishes close to Anapa, on the Imperial beaches of the famous Slavonic Riviera.

“For amateurs like us it was a difficult and challenging race. Around 80 per cent of the teams were backed up either by their car manufacturer or by big sponsors, and for every competing car there were at least two service cars and a truck positioned along the race’s course, or waiting for the car at the end of the day. Soly, the driver, and I were alone during the entire race with only one mechanic waiting for us in the bivouac at the end of the day for any major repairs. For small problems during the day, we had to rely on my mechanical know-how. Fortunately, as I had designed the entire car from start to finish, I knew it inside out and was able to cope.

“The stages were about 500km daily, and on most days no refuelling was possible. To combat this, we had installed a large 400-litre fuel tank and carried around 100kg of spare parts; making the car almost impossible to drive. Nature did not help. From day one it did not stop raining, making the trails very slippery. Some days it was almost impossible to get out of the car because there was so much mud! We had to cross around 10 rivers and many of the dams had collapsed because of the flooding. On one of these crossing the engine almost died and we barely managed to finish the leg, having to stay awake all night at the bivouac making extensive repairs.

“Physically it was maybe even more difficult. We were up at 06.00 every day, to face around 10-14 hours of racing. As the co-driver and navigator, my concentration had to be very focused at all times. At the end of each day’s stage, we would pitch our tent, eat a quick dinner and spend the rest of the evening making repairs to the car, often falling into our sleeping bags in the early hours of the morning.

“Since it was our first race in the World Rally Championship, we were the last car out of 50 to start. During the race we managed to move up several positions, finishing the race 29th overall and 11th in our category. Despite being a gruelling test of endurance this was a great experience, one I would recommend to all who love the adventure. At the end of it all, I can safely say that I have well and truly caught the racing bug.”



A fond farewell

Professor Barry Brady (MSc Mining 1976, PhD 1979), stalwart of the Imperial College Alumni Association in Western Australia, has decided to retire from academia after a long and varied career which began at Imperial in 1975.

Barry was born in Warwick, Queensland. He graduated from Queensland University with a BSc and MSc before moving to Mount Isa in 1967. In 1975 he left to take up a place at the Royal School of Mines as a Lecturer and PhD student, gaining an MSc(Eng) with Distinction along the way. From 1979 until 1983 he was Associate Professor at the University of Minnesota, returning to Australia in 1987 as Chief of the Geomechanics Division of the CSIRO in Melbourne, whilst still maintaining his position at Minnesota as Adjunct Professor until 1992.

Looking at Barry's CV one sees long periods where he seems to have had two full time jobs on the go all the time. From 1990 until 1994 he was Corporate R&D Manager at Schlumberger Inc and in 1994 he was tempted back to Australia to take the post of Professor and Head of the Department of Mining at the University of Queensland. In 1997, another move brought Barry to the University of Western Australia as Executive Dean of the Faculty of Engineering, Computing and Mathematics. Over the past five years he has been involved in the restructuring of the Faculty and the development of the BE degree. He has also been instrumental for introducing several new majors including Mechatronics, Software Engineering, Oil and Gas Engineering, the Mining and Minerals Degrees and Applied Ocean Science.

Barry has served on too many Committees to detail, but in particular he served as the Chairman of the US National Committee for Rockmechanics in the early 1990s and is currently the President of the Australian Council of Engineering Deans. In November he was awarded a Fellowship of the Australian Academy of Technological Sciences and Engineering – an excellent achievement with which to bow out of academia. Never one to stay in one place for too long, we wish Barry and his wife Colleen well for their new life in Melbourne.

PROVIDED BY **ALAN DICKSON** (MINING ENG 1968), CORRESPONDENT OF THE WESTERN AUSTRALIA ALUMNI ASSOCIATION

Former Bo' driver returns to give a helping hand

Sir Noel Davies (Mech Eng 1956), Chairman of Ricardo plc, and a former driver of Boanerges (known as Bo') during his student days, joined students in the London to Brighton Run in November 2002. With current driver Dan Lehmann, he presented the message of goodwill from the businesses and citizens of the City of London to the Mayor of Brighton and Hove, Councillor David Watkins and received a message for the City of London in return.

Bo', the only 1902 James and Brown car in existence, which has been maintained by students of the City and Guilds Union at Imperial College since 1934, celebrated his centenary by taking part in his 68th annual London to Brighton car run. Sir Noel said: "The journey was a reminder of happy years at Imperial during the 50s. I'm delighted to see how well Bo' has been maintained over the last 50 years."

Potential disaster struck after the Brighton Run when the 100 year old car, which has top speeds of 28 mph, was involved in an accident after the rally had been completed. The damage, caused when another participating vehicle accidentally rammed into the back of Bo', was limited. Happily, plans for Bo' to be the centrepiece of the Ricardo-sponsored City and Guilds Union float in the Lord Mayor's Show (Saturday 9 November) were unaffected.

Writing for Europe

Simon Hill (EEE, 1994) recently made it into Eurovision history, penning one of the songs which made it into the BBC1 Song for Europe final. The final took place on Sunday 2 March, hosted by Terry Wogan, and decided which out of the four final songs would represent the UK in Eurovision 2003, which took place on 24 May 2003 in Latvia. Unfortunately Simon's song Help Me, which was performed live by artist Emily Reed was pipped to the post, despite a strong crowd of supporters from Imperial who were rooting for him.

Bangladesh Minister for Health and Family Welfare

Following an MSc and junior lectureship in Geology at the University of Dhaka in the late 1960s, **Dr Khandaker Mosharraf Hossain** (MSc Geology 1970, DIC 1973) travelled to the UK to study at Imperial College. The start of the Bangladesh War of Independence in 1971 precipitated Dr Hossain's illustrious political career. Based in London at the time that war broke out, he took an active role in mobilising public opinion in favour of the liberation of Bangladesh, as the Convenor of the London-based Bangladesh Students Action Committee. Following the war, he founded the Bangladesh Students Association in Great Britain and was subsequently elected their first President.

In 1975 Dr Hossain returned to Bangladesh and rejoined the University of Dhaka as an Assistant Professor. Following subsequent promotions within the Department of Geology, he held the post of Chairman of the department from 1987-1991. Throughout this time, over 20 of Dr Hossain's research-based papers were published in scientific journals in Bangladesh and internationally. He was also elected General Secretary of the Bangladesh Geological Society from 1973-1982 and Editor of the Bangladesh Journal of Geology from 1979-1982. A method of structural analysis in geology, *Hossain's Method of Extension* was named after Dr Hossain, a truly international accolade in recognition of his talent in this field.

Never setting aside his earlier involvement in Bangladesh politics whilst a student in the UK, Dr Hossain joined the Bangladesh Nationalist Party (BNP) in 1979 as the Student Affairs Secretary of the Central Executive Committee. In 1986 he was elected as Joint Secretary General of the Committee, continuing until 1994 when he became a member of the Standing Committee, which is the highest policy making body of the BNP. Drawing on his long involvement in politics, he published a book in 1998 entitled *The role of Bangladesh citizens living in the UK during the liberation war*.

Dr Hossain contested in the 1991 parliamentary elections as a candidate for the BNP, winning the election by a margin of 45,000 votes and becoming a Member of Parliament. He was subsequently appointed as the Minister for Energy and Mineral Resources in 1991 and Minister for Home Affairs in 1996.

He has also been elected Member of Parliament in the three parliamentary elections following his first in 1991, and following a spell in opposition, the BNP were voted back into power in 2001, when Dr Hossain was appointed Minister of Health and Family Welfare.

Dr Hossain was also recently elected the 2003 President for the 56th World Health Assembly, a UN Forum of 192 nations, which took place in Geneva in May 2003. This is seen as a huge achievement for Bangladesh and a true indication of the international regard held for Dr Hossain.

Alumni focus

Busy year for Brian

In June 2002, **Brian May** (Physics 1968, PhD Astronomy studies to 1971) – guitarist and co-founder of rock band *Queen* – played the national anthem to start proceedings for the *Party at the Palace* event on the eve of the nation's Jubilee celebrations.

In May 2002, the band's latest venture opened in London's West End. The futuristic musical, *We Will Rock You*, was written with playwright and comedian Ben Elton, and has been a popular choice for London's theatregoers and tourists alike.

In November 2002, Brian also received an honorary science doctorate from the University of Hertfordshire.

Brian said after receiving his award at a ceremony in the Cathedral and Abbey Church of St Albans: "I'm just very thrilled. Astronomy is very important to me. I still keep up with astronomy, but only as an amateur." Brian added that it was a difficult decision to abandon academia to pursue the more unpredictable rock star life, but said: "I don't think I quite had the discipline to be an academic." (*The Herald*, 20 November 2002)

A reunion man

The Friends Reunited website is fast becoming a great British institution. With over 8,600,000 members and 48,000 schools, colleges and universities (including Imperial) registered on the site, it can boast success in putting old school friends back in touch, evoking memories of long forgotten teachers and school days, and has even helped old sweethearts to rekindle romance.

Stephen Pankhurst (Mathematics 1985), wife Julie and business partner, Jason Porter, are the brains behind the site, the idea originating from when Julie, pregnant with the couple's first child Amber, began to wonder what her old school friends were doing. The site was written by Steve in his spare time and launched in August 2000 – a pretty remarkable feat given that today it is one of the top 10 sites visited in the UK, ranking alongside sites like the BBC and Google.

Initially, the team took the decision to try out the site and gauge response before investing large amounts of money in its development. By November 2000, the site's popularity was such that it was beginning to take up more and more of Steve's time. After unsuccessfully trying to obtain revenue through advertising, the decision was taken to charge a registration fee of £5. At the same time, news about the site was spreading around the UK through word of mouth and media attention (an early example was a nomination for website of the day on Steve Wright's BBC Radio 2 afternoon show). By August 2001, only one year from launch, the site was receiving over 5 million hits per day and could record over 1 million registered members.

A slight glitch with the teacher memory boards notwithstanding, the site has continued to go from strength to strength. Through 2001 and 2002 there has been the addition of photo and voice messaging boards, a site which reunites old work mates, and *GenesConnected*, which allows users to construct their family trees online. Another successful spin-off has been the Friends Reunited 80s compilation album which went 'gold' in early 2003.



Following his graduation from Imperial, Steve started his working life at GEC as a software engineer before moving onto ITL and Bovis Construction. In 2000, Steve formed Happygroup with Jason Porter, with whom he had previously worked as a freelance consultant. Amongst his interests and hobbies he lists playing with daughter Amber, football and 'getting fatter'. Hopefully, with a growing team of employees, Steve will now be able to find more time to indulge.

Lessons in life

Greg Scott (Computing 2002) attended Commemoration Day in October 2002 after gaining a first class honours degree in Computing. His achievements are a credit to his hard work and natural ability after undergoing surgery for a brain tumour, during his first year. Just four weeks later he sat and passed his first set of first year exams.

Later that same year he won the Times award for Student Website of the Year. He had created the site for others in a similar situation, offering information and advice. Since graduating, Greg has taken the decision to apply for medical school and said: "My illness very much shifted my values and made me question what was most important in my life." (This is Weymouth, Newsquest Media Group Newspapers)

Dr Margaret Cunningham, senior tutor in the Department of Computing, said: "Greg has been incredible...This immense courage in facing a life-threatening condition by finding out all he could about it and sharing his knowledge with others in a user-friendly way left us all speechless with admiration. In academic terms, his first year results were seamless, as if nothing else had been going on."

Building bridges

Andris (Andy) Taurins (Civil Engineering 1962) was recently honoured by the Latvian government, when he was appointed the first Latvian honorary consul for Wales in May 2002. As Chairman of the Wales Baltic Society, and a former Latvian national, Andy was recommended for the honour by His Excellency Normans Penke, Latvian Ambassador to the UK. As a relatively new state, Latvian officials have recognised the strength of Andy's relationship with his homeland, his business acumen and his continued fluency in the Latvian language.

Andy Taurins is a management consultant and Chief Executive of Taurins Taylor Associates and lives and works in Abergavenny. He is married to Anne, whom he met whilst at Imperial when she was studying at the Royal College of Music. They settled in south Wales during the aftermath of the Aberfan disaster, when Andy was appointed manager for the repair of the mains water supply.

The Taurins family arrived in the UK when they were forced to flee from their Latvian home in 1944 by the advancing Soviet Red Army. Andy's father, Arnolds, managed to find work as a forestry official in Keilder in Northumberland shortly after WWII.

Andy's elder brother, Aivars, also studied at Imperial, gaining his degree in Oil Technology in 1960.

Since his appointment, Andy has used his experience and business networks to develop trade links between Wales and Latvia, as well as Lithuania and Estonia. He is looking forward to the challenges ahead, to uniting his homeland with his adopted country, both having achieved new levels of independence during recent years. He is currently planning a travelling exhibition entitled *Latvia returns to Europe*, charting the 51 years of German and Soviet occupation until independence in 1991, which will be shown at venues around Wales.

Hooked on science

How do you crack nuts with a piece of string? Reverse gravity? Make a ‘bazooka’ out of a vacuum cleaner (one which only sucks)? Broadcast radio to moles? These are all questions that **Neil Downie** (PhD Physics 1980) has addressed at the childrens’ club he runs each Saturday morning.

Neil was a member of the team at DESY, Hamburg which first discovered experimental evidence for the gluon sub nuclear particle. Since then he has worked on scientific and engineering problem solving in industry, mainly in industrial gases, currently for Air Products in Basingstoke. In his spare time Neil runs Saturday Science sessions for children in Guildford, and out of these successful sessions came a book, *Vacuum Bazookas*, detailing popular experiments, with a follow-up due out later in 2003.

“What gets people hooked on science? I know that for me it wasn’t really school science – although I had some really good teachers – it was mostly just ‘doing stuff’. I would buy electric motors, chemicals, balsawood, whatever, from the shops. I would evict the lawnmower and some pots from the shed in the garden and then get on with trying things out. Kids today don’t have it so easy. You can’t buy a small electric motor, a piece of zinc or pot of sulphur on the high street now. And you certainly can’t try things out in the shed at the bottom of the garden if you live in a modern small house or a block of flats.

“For many years now in Guildford, where I live, children up to aged 13 or so have come along to an informal club – the Saturday Activity Centre – to do everything from badminton to pottery. My own daughters, Helen and Becky, went along to the club. I suggested to the club that we ought to have a science session along with our other activities – a session which would let kids just get on with ‘doing stuff’ – let them do the kind of things they can’t do at home these days – and show them things which they wouldn’t see anywhere else, at home or at school.

“A couple of years later I discovered I had a whole array of counterintuitive science experiments, and some parents at the club suggested I ought to write down some of the projects. I drew up a list of 30 experiments, which were popular with the kids and were attractively maverick, wrote them all down – with some analysis of how they worked – and approached a lot of publishers.

“Rejections poured in for a year. Then Princeton University Press rang up and said that they liked it – and they liked the maths in it too – they did not want it ‘dumbed down’. The publishers helped me streamline my prose style, and I stirred in a generous dollop of historical and literary anecdotes, from Tolkien to Gilbert & Sullivan, to leaven the mix. We took the title, *Vacuum Bazookas*, from one of the most popular projects. The book has been out for 18 months now, and has sold 10,000 copies.

“I have been invited give talks with Saturday Science demonstrations in the US as well as the UK. Teenagers and businessmen from Pennsylvania to Sussex now know why bats hear Doppler effects better than humans, and how to make an amplifier out of iron filings. Like all good ideas, *Vacuum Bazookas* has spawned a sequel – *Ink Sandwiches, Electric Worms and 37 Other Saturday Science Projects* – out later this year from Johns Hopkins University Press. Next... the film rights! What about Hugh Grant and Julia Roberts in *Four Crazy Experiments and an Equation?*

To find out about Imperial’s latest initiative to bridge the gap between classroom and laboratory, read *INSPIRE-ing* the next generation on page 18.

Winning combination

As a student, **Helen Arney** (Physics 2002) had a strong interest in non-profit and charities. She worked at the Royal Albert Hall and later for Sinfonia 21, Imperial’s orchestra-in-residence. In her third year Helen became RAG chair, helping students in the College to raise £100,000 for charity.

After graduating in 2002, Helen had planned to take a trip South America. “I wasn’t certain what I wanted to do. I’d seen a newspaper article on a new scheme called *Teach First*, which sounded interesting. As it wasn’t yet running, I thought I’d travel before applying for their first intake in September 2003.” Then Helen saw her ideal job advertised: Manager of Graduate Recruitment at *Teach First*. “There is no other job I’d have changed all my plans for”.

Teach First began through a piece of pro bono work that McKinsey & Company carried out for London First and Business in the Community, which aimed to investigate how businesses could help improve pupil performance in London.

McKinsey’s primary recommendation was for the two organisations to increase the number of excellent teachers in challenging London schools through a short-term programme targeted at top graduates and heavily supported by businesses and education leaders. After a period of further consultation, the result was *Teach First* – a British programme inspired by the highly successful American scheme, *Teach for America*.

Over the last 12 years, *Teach for America* has placed 9,000 teachers in 16 urban and rural areas across the USA, and has an amazing track record in helping improve pupil performance levels in challenging schools.

Teach First is a unique business-led programme for top graduates. It combines two years paid teaching in challenging London secondary schools with cutting-edge education and management training from highly respected institutions in the UK.

The scheme aims to make a significant contribution to addressing the needs of the schools in challenging areas. Although it cannot claim to be the solution to the wider issues that education faces, it seeks to help by providing an additional pool of excellent teachers with the dedication and humility to help.

Teach First is currently recruiting its first group of graduates and Helen is pleased with the results. “The applications from Imperial are particularly high, easily rivalling Oxbridge in both the quality and number of applications. Out of the first seven people we have accepted on the programme, three are from Imperial”.

Helen believes that one of the main reasons *Teach First* has been so popular is that it is one of very few real graduate programmes to combine business skills and opportunities with education and a chance to make a real impact soon after graduation. “Many graduates are more than happy to dedicate a few years to worthwhile causes, especially when they can gain important skills and career options through doing so”.

The first graduate to be accepted on the programme was Keshava Shastry, who graduated from Imperial in 2002 with an MSc in joint Maths and Computing. *Teach First* appealed to him for a number of reasons, not least because it enables him to experience the rewarding nature of the teaching profession whilst preparing him for a successful career in the business world.

“*Teach First* will help me develop my leadership qualities early in my career, giving me the edge over others with similar academic qualifications. I believe that my degree from Imperial, coupled with teaching experience, support and mentoring from *Teach First*, will be a winning combination.”

For more information on *Teach First*, visit the website at www.teachfirst.org.uk

Lost alumnus – can you help?

Alan Webb and Lord Judd (House of Lords) are trying to contact alumnus, David Griffiths. They were National Service colleagues and crew members in the RAF Yatesbury Junior IV rowing team in 1959. Originally from South Wales, David was a graduate of Imperial College (degree unknown), possibly rowed for the Boat Club and was doing his National Service as an Education Officer at RAF Yatesbury, Wiltshire.

If you can help us find the correct David Griffiths, please contact Jackie Hughes, Research and Data Manager on +44 (0)20 7594 6136; j.hughes@imperial.ac.uk.

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