

Imperial matters

Summer | 2008

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



**The
world's
biggest
experiment**



A fond farewell

After nearly eight years Sir Richard stands down as Rector

Science and Society

Lord Winston speaks about his new role

Plus all the news from the College and alumni groups

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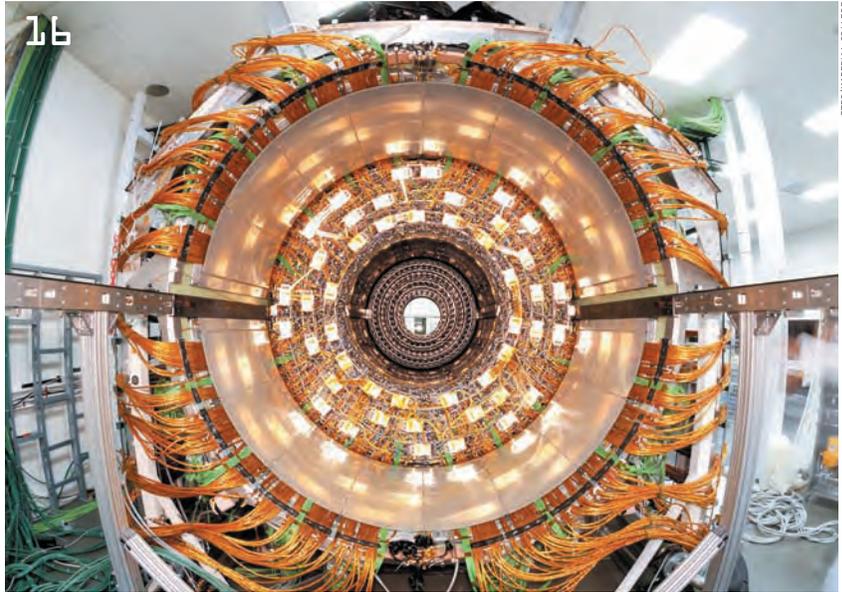
NEVILLE WILES

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THE OPEN UNIVERSITY

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STFC/IMPERIAL COLLEGE

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CERN, GENEVA

The insertion of the last electromagnetic calorimeter (ECAL) supermodules into the Compact Muon Solenoid detector at CERN, Geneva. The ECAL forms the first calorimeter layer within the detector and is designed to measure, with high precision, the energies of electrons and photons from the Large Hadron Collider beam.

Imperial College London

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Welcome

It is a great pleasure to welcome you to the summer edition of *Imperial Matters*, and to introduce myself as the new Rector of Imperial College.

We said farewell to my predecessor, Sir Richard Sykes, in June, following his exceptionally successful seven years of leading the College. His appointment as Rector in 2001 ushered in a period of great energy and a strong sense of purpose, the most obvious sign of which is Imperial's status as an independent university with a new Royal Charter reaffirming its unique mission.

You can read an overview of Sir Richard's time at the College on page 10. His are very significant achievements and my task is to further develop Imperial's facilities and reputation. I am very excited about the opportunities ahead.

As some of you may know, I have had a long relationship with Imperial. I studied zoology here as an undergraduate and went on to complete a PhD in parasitology in 1971 – perhaps some of you reading this are my old classmates!

Following my student days, I was lucky enough to spend a great deal of my career at the College, most recently as the Head of the Department of

Infectious Disease Epidemiology, which my colleagues and I established in 2000. For those who are interested, my full biography is available online at www.imperial.ac.uk/rector.

So I have firsthand knowledge of what a vibrant, exciting and important place Imperial is, home to some of the best and most dedicated students and staff in the world. It is a place where challenges are tackled head on, where a spirit of entrepreneurship infuses every corner of every campus, and where all eyes are focused on making the world a better place, in a myriad of ways.

As the world squares up to the challenges of the twenty-first century, science, technology and medicine will become ever more important. It is incredible to think that there have been as many scientific advances in the last five years as there were in the previous 50, and as many in the previous 50 as there were in the 500 before that.

It is Imperial's task, and its desire, to be at the forefront of these advances, conducting ground-breaking research and finding ways to turn it into real-world solutions in the service of society.

The continued support of our alumni

is fundamental to that mission, so it is wonderful that you maintain your connection with your old College and want to stay in touch with all that is happening here.

You will have noticed that this edition looks and feels a little different from the magazine you are accustomed to receiving. We would welcome your opinions on our redesign, and on any other subject you wish to discuss. The worldwide Imperial family is growing from year to year and I hope the future will bring me many opportunities to meet you. In the meantime, I would welcome any comments you wish to make, which can be sent to me at rector@imperial.ac.uk.



Sir Roy Anderson

Largest ever Postgraduate Awards Ceremonies



NEVILLE MILES

Over 1,600 students graduated, and five honorary degrees were awarded to leading figures in business and academia, at the largest ever Postgraduate Awards Ceremony on 14 May 2008.

The College's new purple robes, which symbolise Imperial's independence from the University of London, made a significant appearance for the first time as one third of students opted to receive an Imperial College London degree instead of a University of London degree.

The Student Award for Outstanding Achievement was awarded to Bioengineering PhD Adam Hill for setting up Operation Frameworks, a charity to help children with spinal and limb deformities in the developing world.

"I feel really privileged and honoured to receive this award; it was all the more poignant to be recognised by the institution that has made my passion for this possible," explained Adam.



NEVILLE MILES



Working in tandem

A new international career development scheme focusing on mentoring, training and networking for female research staff was launched in February 2008.

Designed by the IDEA League, a network of Europe's leading technical universities; TANDEMplus aims to increase the number of women in high level scientific positions.

Each female scientist is paired with a mentor who is best placed to provide career guidance. The scheme's launch event gave researchers from different countries the opportunity to meet each other and discuss cultural similarities and differences, as well as to gain valuable contacts, and identify and clarify their personal career aims.

Throughout 2008 there will be eight days of seminars on career planning, analysing personal potential, obtaining research funds, applications for appointments and promotions, and managing people.



Boost for university fundraising

A new government initiative aimed at encouraging universities to enhance their fundraising efforts and stimulate further investment from individuals and private investors in higher education was announced in April 2008.

Following a consultation with the higher education sector, the scheme will operate on a three-tier basis, designed to allow institutions to set their own fundraising aspirations. Colleges and universities will choose from one of the three funding tiers to win a share of a £200 million matched funding scheme.

Find out more about this initiative on page six of your copy of *building the connection*.

Aspiring inventors wanted

A new competition for aspiring inventors in the College community has been launched by Imperial Innovations, the College's technology transfer and commercialisation company.

The Imperial Innovators of the Year Competition will award £1,000 for the best innovative idea from either staff and students. Individual academics, graduates and students of Imperial, or teams of people, can enter the competition by describing an idea that has evolved from their research and has significant commercial value.

Students go green



In February, Imperial joined universities across the capital in collaborating with the Greater London Authority and the charity People and Planet for *Students Go Green Week 2008*, London's first

unified green week.

The week's events included a lecture by climate change experts who shared their insight on the work of the Intergovernmental Panel on Climate Change, and what can be done to mitigate global warming in the future.

A Green Fair was held to promote Fair Trade products and the College's new recycling scheme, and stalls were set up by Friends of the Earth and the Whole Foods Market, who gave a cooking demonstration using locally-sourced ingredients.

Green week was rounded off with a Big Green Party held at the College Union with live bands and an ethical fashion show with models wearing organic cotton.



Awards and Honours

New Medical Sciences Fellows



Professors Terence Cook (pictured), Jonathan Friedland and Anne Dell are amongst 40 leading academics who were admitted to the Fellowship of the Academy of Medical Sciences in June, in recognition of their exceptional contribution to medical science.

Researchers win Brian Mercer Awards



Royal Society awards that encourage innovation in science and technology, and promote its commercial application, have been awarded to Professor Andrew Livingston (pictured), Department of Chemical Engineering and Chemical Technology, and Professor Roy Taylor, Department of Physics. Each received a £25,000 Brian Mercer Award.

RCOA honour for Biophysics Head

Professor Nick Franks, Head of Biophysics in the Department of Life Sciences, has become the first basic scientist to be elected a Fellow of the Royal College of Anaesthetists.

Outstanding contribution to space physics



The Royal Astronomical Society has awarded the 2008 Chapman Medal to Emeritus Professor Andre Balogh, Department of Physics. The Medal recognises a long career of contributions to the field, including most recently his work on the magnetometer instruments for the European Space Agency's Cluster mission.

Support for young researchers

Two Royal Society Wolfson Research Merit Awards have been presented to Professors Dan Davis and E.J. Milner-Gulland, both from the Department of Life Sciences, in recognition of their outstanding achievements and great potential. The Merit Awards offer universities support to enable them to attract and retain young researchers.

Entrepreneurship reach extends

Tanaka Business School's expertise in entrepreneurship research and development has been reinforced by the creation of the Entrepreneurship Hub. The Hub sits alongside the School's

existing Entrepreneurship Research Centre, and aims both to exploit the knowledge the research group creates and to establish relationships with relevant corporate partners.

The Hub now runs the School's well-established business plan competition, which is being redesigned for the next academic year. The competition has run for seven years and inspired previous College winners to go on and win international contests.

Professor Bart Clarysse, Head of the Hub, said: "This move reflects the School's ambitions of working on rigorous research in partnership with a wide range of partners. Providing insights that are useful for multinational corporates and one-man entrepreneurs – facilitating cutting edge research that in turn informs teaching. The Hub's outreach activities will drive us in this virtuous circle."



THE PHOTOGRAPHIC UNIT

Telecare lessons to be learnt by business school team

Professor James Barlow and Dr Jane Hendy have received a £350,000 research grant from the Department of Health to investigate the sustainability of the government's 'telecare' initiatives, which use sensors to monitor vital signs remotely.

Telecare is heralded as a way of increasing the independence of people with long-term chronic diseases, whilst helping to reduce the demand on healthcare resources, like hospital beds.

Professor Barlow said: "Telecare is now embedded in government health and social care policy but it has yet to be embedded in mainstream services. There is a great deal of expertise in the UK in the development of telecare products and the challenges in introducing them. The task now is to translate this into practical lessons that can help its widespread adoption and diffusion."

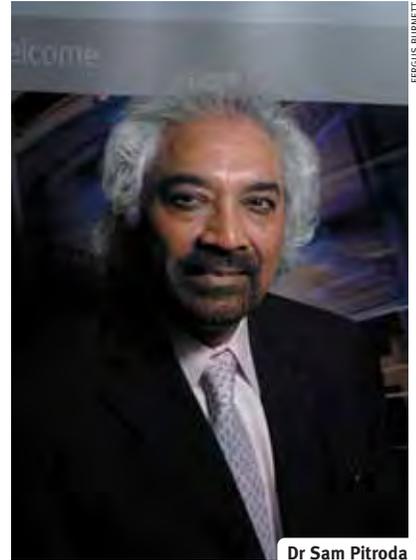
The research will focus on the roll-out of telecare in the Department of Health's Whole System Demonstrators programme, which will see telecare services launched in a large-scale trial in three UK regions – Cornwall, Kent and east London.



Professor James Barlow

THE PHOTOGRAPHIC UNIT

Centre's conversation begins



FERGUS BURNETT

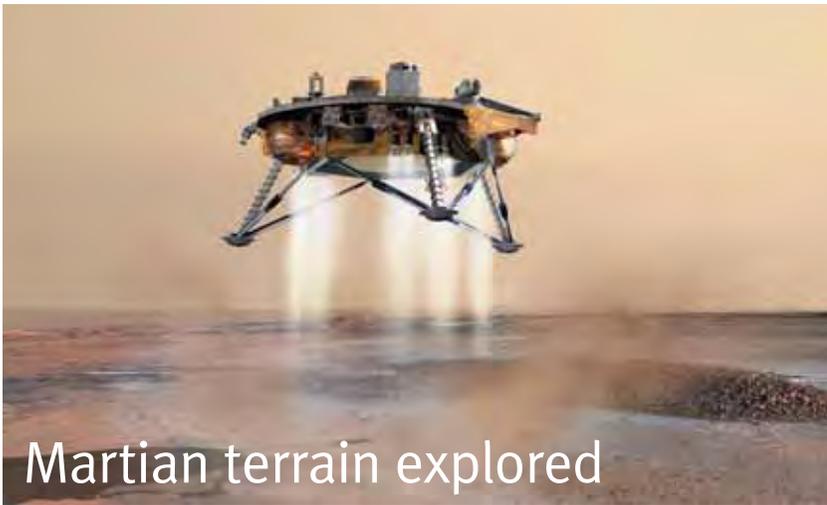
Dr Sam Pitroda

The High Commissioner of India to the UK, His Excellency Shiv Shankar Mukherjee, and Dr Sam Pitroda, Chairman of the Indian Knowledge Commission, joined Professor Gerry George in the first *Conversations with India* seminar at the Rajiv Gandhi Centre for Innovation and Entrepreneurship in May 2008.

During the talk Dr Pitroda said: "Collaborative networks with global partners, like the Rajiv Gandhi Centre, will unlock India's next millennia of technological innovation and help India become the workforce of the world."

Dr Pitroda and the High Commissioner invited the Centre and Imperial College to make "a significant contribution to [India's] journey in the coming 20 years and beyond – as it has since the 1950s with the establishment of the Indian Institute of Technology (IIT) Delhi."

A film of the event is available at www.imperial.ac.uk/rajivgandhicentre. The next conversation will be held in September with Sir Mark Tully and Ramalinga Raju on the opportunities and challenges faced as India's healthcare infrastructure expands.



NASA

Martian terrain explored

Following the successful touchdown of NASA's Phoenix spacecraft near the red planet's icy north pole in May, Imperial engineers were amongst the first to carry out the most detailed analysis of Martian soil and dust samples ever.

Drs Tom Pike and Sanjay Vijendran, and PhD student Hanna Sykulska, all from the Department of Electrical and

Electronic Engineering, are part of a NASA team who are looking for ice particles in soil samples which would indicate that Mars could once have had conditions sympathetic to life.

Dr Tom Pike said: "This is an exciting mission giving us the rare chance to be the first people to analyse water, frozen and stored beneath Mars' surface."

Journey to the centre of the Earth

The first direct evidence of how and when tectonic plates move into the deepest reaches of the Earth was published in February's edition of *Nature*.

An Imperial and Swiss team found that, contrary to common scientific predictions, dense plates tend to be held in the upper mantle, while younger and lighter plates sink more readily into the lower mantle, which is a zone underneath the Earth's crust encompassing its super hot molten core.

Lead Imperial researcher, Dr Saskia Goes, said: "It is exciting to see direct evidence of plates transiting from the upper and lower mantle."

The mine of the future



DEPARTMENT OF EARTH SCIENCE AND ENGINEERING

Advanced mining and mineral processing techniques to extract minerals from deep underground are being developed at Imperial thanks to the establishment of a £6 million research centre.

The centre is a partnership between Imperial College London and mining company Rio Tinto aimed at developing the mine of the future. It will push forward innovative mining technologies and techniques to improve the extraction of minerals, whilst minimising environmental impacts.

Professor Jan Cilliers, Department of Earth Science and Engineering, said: "If we were to find copper close to a major city, the associated environmental and social concerns would make it impossible for us to mine this resource. However, research to be developed by the Rio Tinto Centre for Advanced Mineral Recovery could make this a reality without any adverse impact on the environment."

Henry Moore sculpture could be re-erected

The Arch, a dismantled Henry Moore sculpture, could be re-erected in London's Kensington Gardens thanks to the latest rock engineering techniques.

Imperial engineers working with the International Drawing Institute, Glasgow School of Art, and Tate carried out an analysis of the sculpture to see whether engineering and computer simulation techniques could be used to preserve complex artefacts experiencing structural problems.



IMPERIAL COLLEGE AND THE INTERNATIONAL DRAWING INSTITUTE, GLASGOW SCHOOL OF ART

The team believe that they have devised a method using fibreglass dowels and bolts, which could see the six-metre tall Arch re-erected next to the Serpentine Lake.

Lead researcher Dr John Harrison, Department of Earth Science and Engineering, said: "We can now apply this knowledge to preserving some of the nation's most important and historic artworks."

Heart research boosted with £8.9 million award

Finding innovative ways to prevent, diagnose and treat heart and circulatory disease is the focus of a new Centre of Research Excellence at Imperial, established in April 2008 through an £8.9 million award from the British Heart Foundation (BHF).

Over 2.6 million people in the UK live with coronary heart disease, and almost a million with heart failure. The new centre brings together medical researchers, scientists and engineers from 20 different disciplines to find novel approaches to tackling heart problems.



Professor Michael Schneider, the new centre's director, said: "At Imperial, the BHF Centre can be best described as a triangular alliance among cardiovascular medicine, the underpinning biomedical sciences like genetics and stem cell biology, and leading edge research in the physical sciences, such as chemical biology, computational biology and bioengineering."

Cause of disease revealed by metabolic fingerprinting

Your metabolic 'fingerprint' can reveal much about the possible causes of major diseases, according to the first ever 'metabolome-wide' association study, published in *Nature* in April 2008.

Analysing the metabolic fingerprints of 4,630 adults in the UK, USA, China and Japan showed that adults in the UK and USA, which have similar incidences of high blood pressure and cardiovascular problems, have similar metabolic fingerprints, reflecting similar lifestyles. In contrast, adults in Japan and China have similar genetic profiles but very different metabolic fingerprints.

Professor Paul Elliott, Division of Epidemiology, Public Health and Primary Care, said: "Whereas a person can't alter their DNA, they can change their metabolic profile by changing their diet and lifestyle."

Gene sequence that can make half of us fatter



A gene sequence linked to an expanding waistline and weight gain was revealed in a new study published in *Nature Genetics* in May 2008. The study showed that the gene sequence is significantly more common in those with Indian Asian rather than European ancestry. The research could lead to better ways of treating obesity.

The sequence, found in 50 per cent of the UK population, is associated with a two-centimetre expansion in waist circumference, a two-kilogram gain in weight, and a tendency to become resistant to insulin.

"Until now, we have understood remarkably little about the genetic component of common problems linked with obesity, such as cardiovascular disease and diabetes," said Professor Jaspal Kooner, National Heart and Lung Institute.

New TB test means quicker and easier diagnosis for patients



A study published in the *Annals of Internal Medicine* in March 2008 showed that doctors can determine that a patient does not have tuberculosis (TB) with 99 per cent accuracy when using a new blood test, ELISpot-Plus, in conjunction with a skin test known as tuberculin skin testing, already in use.

TB is difficult to diagnose and the combination of ELISpot-Plus and tuberculin skin testing can rule out TB within 48 hours. Obtaining results using existing testing methods can take several weeks.

Professor Ajit Lalvani, National Heart and Lung Institute, said: "Our new test could revolutionise the way we manage people with suspected TB."

› More news online at www.imperial.ac.uk/news › £3.4 million Centre for Respiratory Infection is launched

What's the difference between a human and a fruit fly?

A new study published in *Proceedings of the National Academy of Sciences* shows that the dramatic differences between humans and fruit flies are due not to the number of genes each species has, but to the number of protein interactions in their bodies.

Humans have approximately 10 times more protein interactions than fruit flies, and 20 times more than single-cell yeast organisms. This contradicts comparisons between the numbers of genes in different organisms; humans have approximately 24,000 genes, but fruit flies are not far behind, with 14,000 genes.



Professor Michael Stumpf, Department of Life Sciences, said: "Understanding the human genome does not go far enough to explain what makes us different from more simple creatures. Our study indicates that protein interactions could hold one of the keys to unravelling how one organism is differentiated from another."



'Sudden oak death' disease tackled

A disease that kills trees by creating cankers, open lesions in plant tissue, which girdle their trunks and clog up their water-carrying 'veins', is the target of a major research project underway at Imperial.

The project, based in the College's Centre for Environmental Policy, is focused on predicting and preventing future outbreaks of Sudden Oak Death which, despite its name, primarily affects beech trees.

To assess the risk of a future epidemic of Sudden Oak Death, researchers are analysing experiences from the 1970s when an epidemic of Dutch Elm Disease claimed an estimated 30 million trees, changing the face of the British countryside forever.

DANIELLE REEVES



140-year-old maths problem solved

A problem which has defeated mathematicians for almost 140 years has been solved by the Department of Mathematics' Professor Darren Crowdy.

The breakthrough in conformal mapping, a key theoretical tool used by mathematicians, engineers and scientists, translates information from a complicated shape to a simpler circular shape so that it is easier to analyse.

Professor Crowdy has made additions to the formula used in conformal mapping to improve its performance. He explains: "This formula is an essential piece of mathematical kit which is used the world over. Now, with my additions to it, it can be used in far more complex scenarios than before."

Launch of new Institute to study shockwave science



The Institute for Shock Physics, a new £10 million research institute dedicated to studying the fundamental science behind shock waves, high velocity collisions and extreme temperatures and pressures, is to be established at the College, it was announced in April 2008.

Steven Rose, interim Director of the Institute, said: "The Institute will bring together a team of scientists and engineers who each specialise in

different aspects of shock physics: experimental, theoretical and computational. Together this group of specialists will work to understand and accurately predict the outcomes of very fast impacts, wherever they take place."

The Institute's research could be applied to analysing the effect of meteorite impacts on planets, spacecraft and satellites, understanding how tsunamis are formed, and using shockwaves to break up kidney stones.

Masterplan moves to phase two

Imperial College Union has announced that it has secured funding for the second phase of its Beit Quad redevelopment project, the so-called Masterplan. After months of negotiations, the College agreed to grant the Union £1.9 million, taking the total funds raised for the second phase to £3.3 million.

This pot of gold will be used to rejuvenate the Union building's ageing facilities, including refurbishing entire floors and upgrading the early twentieth century mechanical and electrical infrastructure. The main change will be an entirely revamped Student Activities Centre on the second floor mezzanine, which will act as a central hub for the Union's 300-plus clubs and societies.

A considerable amount of reshuffling will be required within Beit Towers, including shifting meeting rooms to the east basement along with the relocation of the staff offices; the latter of which has caused ire amongst the current sabbaticals since it looks probable that the Deputy Presidents' successors will be forced to share offices. The horror!

Financing for the second phase will also come from the Imperial College Trust, the Harlington Trust, the College's Annual Fund and the Union's own coffers. The Union will be hoping for a swift and efficient construction, especially since completion of the Masterplan's first phase took twice as long as intended. Work is due to begin in September 2008, and students can get odds on when it will be finished at all good betting outlets.



Quest to find sabbaticals complete

This year's sabbatical officers election passed without the anticipated farce students have become accustomed to over the years. In fact, the turnout surpassed that of many previous years with an impressive, by Imperial standards, 18.5 per cent of the electorate casting their votes in the presidential race.

Next year's team of sabbatical officers will be led by a member of the Royal College of Science Union (RCSU), Jennifer Morgan. The current RCSU President managed to beat her nearest rival by 1,011 votes to 821 in the final round, after clawing her way into the lead by way of redistributed votes from candidates knocked out in the early stages.

Felix decided to congratulate Miss Morgan and her fellow election winners by organising a photoshoot under the pretence that the pictures would be published on the front page of the next issue. This wasn't a lie; however, we forgot to mention that copious amounts of shaving foam and paper plates would be involved.

The stage was set, albeit without two of next year's ultra-efficient Deputy Presidents who were late arriving. After a few genuine photographs, two contract hit men from the City and Guilds hit

squad emerged from the shadows and planted pies into the unsuspecting faces of the incoming sabbaticals. The hit squad completed their contract when the late arrivals finally showed and were unable to escape their foamy fate; job done.

The current *Felix* Sport Editor, Jovan Nedic, will be next year's *Felix* Editor. Engineer, Christian Carter, and medics, Lily Topham and Hannah Theodorou, won the remaining places.



A Rector to remember

> by Abigail Smith

Sir Richard Sykes made his mark during seven years at Imperial College's helm. *Imperial Matters* looks back at some of his defining moments.



Sir Richard's portrait by Paul Brason, unveiled on 12 June 2008, is on display alongside paintings of all former Rectors in the Council Room of 170 Queen's Gate.

In December 1999, the pharmaceutical company Glaxo Wellcome released a statement regarding its Executive Chairman that declared: “Sir Richard Sykes has no plans to join Imperial College or any other institution. His prime focus remains fully on the business of Glaxo Wellcome.”

In June 2008 however, Sir Richard stood down after seven and a half years as Imperial’s Rector, a period that saw the College celebrate its Centenary, establish itself as an independent university and award its own degrees.

His global outlook and innovative thinking has propelled the College into the *Times Higher Education’s* list of top five world universities, helped to create the UK’s first Academic Health Science Centre, and provoked horror at UCL by the proposition of a merger with Imperial.

At the same time, he threw himself into all aspects of College life, from submitting to the annual RAG Week pieing to dancing enthusiastically at the Centenary staff party, a video of which made its way onto the *YouTube* website.

Tuition fees

After taking up the post of Rector in January 2001, Sir Richard quickly established himself as one of the most quotable university leaders in the country. In March of the same year, he put his first toe into the tuition fee debate, in which he was to become thoroughly immersed throughout his tenure at Imperial.

The UK’s best universities, he told

The Sunday Times, should be freed from government constraints on tuition fees, as long as mechanisms were in place to offer financial aid to less well off students. Universities producing ‘Rolls-Royce’ graduates, he added, should be allowed to charge more than those producing ‘Skodas’.

The question of how university teaching should be funded continues as one of the major education issues of the decade. The height of this debate came at the end of 2003 and start of 2004, with the government’s Higher Education Bill which proposed that the cap on tuition fees should be raised to £3,000.

Sir Richard became one of the first university leaders to put their head above the parapet in support of the bill. Following a costing exercise showing that Imperial lost an average of £2,800 per year for every home undergraduate student it taught, he insisted that more money had to be injected into the system.

“Every university in this country is under tremendous pressure because it is running at a loss,” he told *The Guardian* in 2002. “To have this artificial system where students pay £1,000 a year and the government gives you some additional money that’s not enough to cover the cost of teaching the students is ludicrous.”

The Higher Education Bill scraped through parliament with a majority of just five votes in January 2004. Sir Richard spent much of that evening huddled inside a BBC van parked next to Imperial’s Southside bar giving his

After taking up the post of Rector in January 2001, Sir Richard quickly established himself as one of the most quotable university leaders in the country.

reaction to the success.

“The introduction of tuition fees at any level is a start, one that I am certainly not complaining about, and one that I believe will in time be seen as essential to maintain the quality of university education in this country and for the true knowledge base of any country, its universities, to prosper,” he said.

While the tuition fee debate rumbled on, Sir Richard also had his mind fixed on finding ways to improve Imperial’s financial robustness and ability to compete internationally.

Introducing the faculties

One of his first moves was to introduce a faculty system at Imperial, streamlining management and establishing an environment that encouraged collaborative, cross-disciplinary research. Over time, one of the most tangible benefits of this approach has been the growth of innovative interdisciplinary institutes and centres, including the Institute of Biomedical Engineering and the Grantham Institute for Climate Change, each of which bring together researchers from across the >



Sir Richard’s first official Imperial College photograph



With winners of the first Green Design Challenge, aimed at female sixth-form students with an interest in maths and science

Sir Richard Sykes

scientific spectrum to tackle major global challenges.

At the same time, he led the College to completely re-think its pay scales, negotiating Imperial out of national pay bargaining and allowing it to offer competitive salaries to attract the best staff from around the world.

UCL merger

Other bids to cement Imperial's international standing were more controversial. In October 2002 Imperial and UCL (University College London) announced that they were talking seriously about a merger, holding out the prospect of the creation of a new heavyweight 'super university' with global clout.

Interpreting the proposed merger as an Imperial takeover bid, UCL staff and students sprang into action. Their campaign of defence included the launch of a 'Save UCL' website, which resurrected philosopher Jeremy Bentham, the College's spiritual forefather, to offer sage advice on resistance tactics.

The weight of dissenting voices caused merger talks to be abandoned a month later, and Sir Richard subsequently commented that he doubted any merger of this nature could be successful.

"I think it was very logical at the time," he told student website *Live!*, "to put those two institutions together, get all the synergies one could get out of a merger, and create what would have been one of the first class institutions in the world. But

knowing what I know now, I just think it's almost impossible to merge universities."

With the two institutions left to get their breath back following the end of their whirlwind courtship, Sir Richard turned again to his day-to-day concerns – strengthening Imperial's financial position and world standing.

Transforming the campuses

The following years saw huge investments made in Imperial's research and teaching infrastructure, with the South Kensington Campus transformed through new buildings including an impressive new Norman Foster-designed front entrance on Exhibition Road, opened by Her Majesty The Queen in 2004.

Motivated by his belief that "good students deserve to be looked after", Sir Richard made improving Imperial's accommodation a particular priority. Central to the Prince's Gardens Restoration Project, launched in 2005, was the demolition of the outdated Southside halls of residence dating from 1963, and their replacement with new buildings designed and built to a high standard.

The new Southside halls opened in September 2007, with similar accommodation in Prince's Gardens, known as Eastside, on track to welcome its first students in October 2009. Another exciting development for staff and students was the opening in 2006 of *Ethos*, a state-of-the-art sports centre with facilities, including a gym and swimming pool, available free to students.

Financial security

The redesign and refurbishment of Imperial's campuses has been possible thanks to one of Sir Richard's overriding priorities – making Imperial financially secure and reducing its reliance as far as possible on government funding.

The main plank of this was the establishment of the Imperial College Fund, into which all College assets not required for its core academic mission have been transferred, allowing them to be centrally managed.

Other pioneering financial schemes included the flotation of the College-owned technology transfer company, Imperial Innovations, and a £50 million unsecured private placement borrowed on a 50-year term. The favourable terms on which Imperial was able to access these funds – at under five per cent cost – shows the extent to which it has come to be regarded as a fiscally stable institution under Sir Richard's leadership.

Global reputation

This cementing of its worldwide reputation has also provided the College with the enviable status as partner of choice for leading governments, agencies and businesses around the world. From the Imperial College Diabetes Centre in Abu Dhabi to the Schistosomiasis Control Initiative established at the College with £20 million funding from the Gates Foundation, Imperial researchers are in demand to tackle the major challenges of today and tomorrow.

06. 2004



Her Majesty The Queen, Prince Andrew and Sir Richard at the opening of the College's new main entrance and Business School

03. 2005



Following the announcement of a £10 billion investment in UK science, Tony Blair, then Prime Minister, joined Sir Richard for a tour of Professor Blackmond's laboratory

Despite this, government funding remains important to the higher education sector and the mechanisms by which universities receive this support remained on Sir Richard's mind. They formed the main topic of conversation during an interview with the *Financial Times* in March 2004, in which he was quoted as saying:

“For a maths student going to Imperial College we get less than the maths student going to Luton... Is that the way the Chancellor wants to spend his money? Because a penny spent here is a hell of a lot better than a penny spent at Luton for the economy.”

Predictably a media flurry erupted

with some commentators applauding him for speaking out and others deploring such candidness. The fact that Professor Les Ebdon, Luton's Vice Chancellor, was an alumnus of Imperial added an extra piquancy to the debate.

Luton used the media attention to defend its standards and teaching, winning it the *Times Higher Education Supplement's* 'best spin' award later that year. The newspaper commented: “Other universities must be praying for an insult from Sykes.”

The Richard Sykes years, which have been characterised by imaginative leadership, passion and a willingness to

speak openly on the issues of the day, have provided Imperial with a stronger and higher profile role on the world stage than ever before. In June 2008 the College is a thriving, financially sound, independent university, rated the fifth best in the world by the *Times Higher Education Supplement's* 2007 rankings.

Shortly after taking up the post of Rector, Sir Richard told *The Times*: “I would like to leave this university in a strong financial position and for it to be recognised as one of the top universities in the world.”

Seven and a half years later, there can be no doubt that he has achieved those goals. 

A fond farewell to alumni > Sir Richard Sykes

It's been a wonderful seven and a half years as Rector of Imperial College London, and there are many people I would like to thank for their support and generosity. Foremost among them are you, the worldwide family of Imperial alumni, whose active involvement in the College is so important to its continued success.

I always say at our graduation ceremonies that the day does not mark the end of a student's association with Imperial, but the dawning of a new relationship and one that we hope will last a lifetime. We are genuinely very proud of our talented graduates and are always excited to follow your progress.

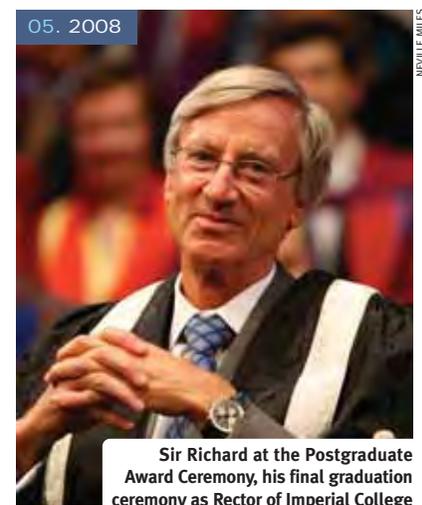
Imperial is more than just a place of work and study – it's a living, evolving community. Nothing could have brought that home more than the Centenary celebrations we held last year. Alumni played a vital part in commemorating our landmark birthday, and I took great pleasure in meeting many of you at events both in the UK and in many countries around the world.

It was terrific to see the enthusiasm people still have for their old College and the connection they still feel. I very much hope this continues and I'm sure that there will be many more opportunities in the future for everyone to get together.

I would like in particular to thank all of you who have supported the College during my time here. In 2003 we started the Annual Fund to which over 3,000 alumni have made a gift, and through this, you have given valuable support to projects which directly help our students. Other alumni besides have made significant gifts to specific projects and I thank these donors for supporting the College in this way.

I know Imperial will continue to grow and flourish in the capable hands of its new Rector, Sir Roy Anderson. I look forward to Imperial's future with a great sense of optimism, and I hope that you do too.

> View Sir Richard's farewell at www.imperial.ac.uk/alumni



Imagine a surgeon who can operate with extreme precision and enhanced three-dimensional vision, without scalpels or stitching tools, whilst reducing blood loss and post-operative trauma for patients.

› by Sophie Corcoran

The rise of the virtual surgeon

The scope of medical robotics is changing the face of global healthcare delivery. Clinicians and scientists at Imperial College London have led these developments from their inception and now have the opportunity to further develop their research and innovations thanks to the launch of the Hamlyn Centre for Robotic Surgery.

Establishing the Centre was made possible thanks to support totalling £10 million from both the Helen Hamlyn Trust and Lady Helen Hamlyn personally, and the funding initiates a major campaign to establish an international centre of excellence for medical robotics in the UK.

The Centre is based both at the South Kensington and the St Mary's Campuses, where its contribution to translational research supports the concept of the Academic Health Sciences Centre. It houses world-leading experts across a range of disciplines, creating a national resource in medical robotics to benefit other UK research groups and industry. Two UK pioneers in medical robotics, Professor

Lord Darzi (Division of Surgery, Oncology, Reproductive Biology and Anaesthetics) and Professor Guang-Zhong Yang (Department of Computing) co-direct the Centre.

The Centre's launch on 5 March 2008 was marked by an official reception at 170 Queen's Gate, attended by Lady Hamlyn, Chair of Trustees of the Helen Hamlyn Trust. Lady Hamlyn said: "I am delighted that the funding from my Trust, together with my personal donation, will be contributing to the future development of robotic surgery and other innovations in this very important new field, which will greatly improve patient care in many areas, particularly in cancer care. My Trust has been closely involved with the

development of robotics for some years, and this national Centre will enable Imperial to extend their pioneering work in this unique field."

Welcoming guests to the launch event, then-Rector, Sir Richard Sykes, spoke about a growing awareness of the need for researchers from all kinds of different disciplines to come together to tackle the big scientific problems. Sir Richard also personally thanked Lady Hamlyn and her Trust's generosity, saying: "We are absolutely delighted that you will be our partner in this new centre, and we look forward to sharing the adventures to come."

The next generation of surgical robotics

The Centre's overarching aims are to push forward the integration of robotics into medicine and patient care by developing advanced robotic technologies that will transform conventional key-hole surgery, develop new ways of empowering robots with human intelligence, and create revolutionary 'microbots' that have integrated sensing and imaging for cancer surgery and treatment.

Fifteen years ago, the ongoing debate



From left: Lord Darzi, Lady Hamlyn, Sir Richard Sykes and Professor Guang-Zhong Yang

in medicine was whether robotics would ever play a leading role in surgery. Today, robots are a fast-growing division of the medical industry, and whilst the idea of robotic systems in the operating room may seem new, they have in fact been in use for over a decade.

Ara Darzi was one of the first surgeons in the world to pioneer the use of robotic surgery with the Da Vinci Surgical System, which was created by California-based company Intuitive Surgical, and is currently the most widely used robotic surgical system in the world.

Despite the extraordinary achievements of surgical robotics to date, early technologies are missing a number of key capabilities and many challenges and exciting discoveries are sure to be on the agenda for the Hamlyn Centre over next few years.

The direction of next-generation development in surgical robotic devices was the focus of an inaugural workshop organised by the newly launched Centre in May 2008. Speaking at the workshop, Dr Frederic Moll, Co-Founder of Intuitive Surgical and now CEO of Hansen Medical Inc., discussed the latest international advances in surgical robotics and suggested that the Da Vinci robot is currently missing significant competencies.

In the Da Vinci system, a surgeon sits at a computer console, looks through a three-dimensional video display of the surgery site and moves the finger controls that direct the motion of the surgical tools inside the patient. Currently, this system does not use haptic feedback, which sends

information to the surgeon about what the mechanical tool feels inside the body, therefore the surgeon's sense of touch is lost. Dr Moll suggested that the development of haptic technology could be particularly beneficial, especially for use in knee surgery, where minute precision is required.

Haptic feedback could also be useful during robotically assisted cardiac surgery, where only an enclosed and small area of the heart is visible, and there are forbidden regions (such as those containing veins and arteries) which must be protected, as well as regions in which the robot can freely move. Excessive force could damage or completely destroy tissues or objects. On the other hand, a minimal amount of force is needed for decisive gripping, particularly when gripping solid objects such as needles.

Radiosurgery is a medical procedure which allows non-invasive treatment by means of directed beams of ionising radiation. Dr Moll proposed that continuous image guidance could improve the accuracy of radiosurgery, in a moving chest cavity for example, by autonomously tracking and detecting patient movement in real time.

Commenting about the workshop, Professor Guang-Zhong Yang said: "The benefits of medical robotics in healthcare are enormous and the workshop provided a forum to discuss some of the latest advances in the field. We were particularly fortunate to have Dr Frederic Moll on board to discuss his research which is pushing forward the boundaries of medical robotic care."

The future

In addition to considering the latest advances, concepts and breakthroughs in robotic technology, the Centre's inaugural workshop also discussed some of the projects currently underway and showcased some of its latest innovations.

ORMIS (operating room management information system), is an orthopaedic robot designed to aid minimally invasive surgery in the 64,000 hip fracture operations that are performed in the UK each year. ORMIS helps to guarantee accurate and precise surgery, decreases radiation exposure and reduces the number of attempts needed to ensure successful procedures first time round.

The workshop also examined a new type of endoscope probe which can plot a three-dimensional course inside a patient using fibre optics. Once the software has found a route, the robot can push the probe safely through delicate tissue to deliver drugs and carry out biopsies in areas of the body, such as the brain. This will help to guide the surgeon in real time, as he or she performs delicate, minimally invasive medical procedures.

A similar proposal was also presented which looked at using probes to investigate soft tissue conditions. Such abnormalities are traditionally difficult to recognise. By using a probe with camera abilities, surgeons have the opportunity to see the damage first hand and prepare the correct course of action to encourage recovery. **m**



The Da Vinci Surgical System consists of an ergonomically designed surgeon's console, a patient cart with four interactive robotic arms and a high-performance vision system. Da Vinci also has a patented feature known as the EndoWrist, designed to mimic the movement of human hands, wrists and fingers to ensure that a surgeon's actions are accurately translated with unmatched precision.

Thanks to the benefits of robotic-assisted surgery, mitral valve repair and coronary artery bypass grafting (CABG) are just two mainstream cardiac procedures being performed with significant reductions in operative invasion. Minimally invasive mitral valve repair offers an alternative to open heart surgery, enabling surgeons to operate with supreme precision and dexterity and requiring just a few small incisions. CABG creates a path around blocked heart vessels so that blood can reach the heart muscle. Conventional surgeries have required the chest to be opened with a 15–25cm incision. Robotic surgery however, allows the surgeons to gain access to the heart with several small incisions and precise motion control.

The world's biggest experiment

According to CERN, our understanding of the Universe is about to change. Meet the Imperial alumni and staff who are involved in CERN's Large Hadron Collider, the world's biggest experiment.

by Liz Gregson

Staring through the 12,500 ton CMS detector, which was built around a huge solenoid magnet that generates a field of 4 teslas, about 100,000 times that of the Earth. Unlike other detectors associated with the LHC, the CMS was constructed on the surface, before being lowered underground in 15 sections and reassembled.

RALPH HODGSON



CERN (the European Organisation for Nuclear Research) is one of the leading scientific laboratories in the world, with 2,500 employees and 8,000 visiting scientists from 580 universities throughout the world. Its current focus, the Large Hadron Collider (LHC), is one of the most exciting projects in fundamental physics for decades.

The LHC is a 27km particle accelerator spanning the border between Switzerland and France, located about 100m underground. After over 20 years in planning and construction, it is being switched on this summer, and hopes to revolutionise our understanding of the laws of nature.

In a number of experiments linked to the LHC, physicists from around the world will study the smallest known particles, which will be created by the collision of the two hadron beams inside the accelerator. There are four large and two small experiments planned on the LHC, and two of the former are led by Imperial College physicists.

The Compound Muon Solenoid (CMS) experiment, led by Professor Jim Virdee, is looking for signs of the Higgs boson, the particle responsible for generating mass. Professor Virdee was one of the small number of physicists responsible for

setting up the worldwide collaboration for the CMS in 1990. Today, this experiment involves over 2,000 scientists and engineers from over 170 institutes in 37 countries, and its central magnet contains more iron than the Eiffel Tower.

The Large Hadron Collider beauty (LHCb) experiment, led by Professor Andrey Golovtvin, is looking for matter-antimatter asymmetry (the fact that our universe is made of matter remains a puzzle!).

All of the LHC experiments are an extraordinary challenge and a huge intellectual endeavour; decades in planning, with billion dollar budgets, delivered on time and on budget. How many other projects like that do you know of?

Imperial's High Energy Physics Group has been involved with CERN since its inception, and preparing for the LHC has been its focus for more than a decade. When data-taking starts, they will be dealing with more data per second than all of the radio stations and all of the TV stations in the world broadcasting together.

The many staff and students from Imperial, supported by the Science and Technology Facilities Council, have devoted years to this project and we eagerly await the first science to emerge.

» Professor Sir Peter Knight,
Principal of the Faculty of Natural Sciences

In addition to the Imperial physicists who are playing a vital role in the LHC, many alumni of the College are also involved, both as staff members at CERN and as staff of institutions involved in research there. *Imperial Matters* spoke to some of them about what it is like to work on the threshold of the world's biggest experiment.



STFC/IMPERIAL COLLEGE

Marco Cattaneo

Marco (PhD Physics 1986) was born in Italy and moved to the UK at the age of 10. Today he lives in France, works in Switzerland, has a Swiss-British wife and two children who can speak three languages fluently. "When asked what I



"The vast majority of people working at CERN are highly skilled in their field and very motivated by their work. It is not unusual to be on first name terms with Nobel laureates"

am, I can only answer European!" he says.

Marco has been a member of CERN staff since 1994, although his first visit to CERN took place a decade before when studying for his PhD, as part of a team who were developing a silicon detector capable of measuring the trajectories of particles with a precision of 20 microns. The technology was the precursor of the pixel detectors in modern day cameras.

Today, Marco is deputy project leader on the software and computing project for the LHCb experiment. His main job is to coordinate the work of around 50 physicists, who develop software which enables reconstructions of the original trajectories of the particle collisions recorded by the detector, and then to integrate this into one single reconstruction programme, so that others can subsequently study the

characteristics of the collision event. He is ultimately responsible for the performance of the selection software, which uses fast pattern recognition to select approximately one in 20,000 of the 'pictures' taken by the detector, and the analysis software used on the reconstructed data.

Marco values the working environment his job affords: "CERN is a world leader in many of the technologies it uses, not only its particle accelerators and detectors, but also cryogenics, superconducting magnets, and grid computing.

"It attracts about 50 per cent of the world's particle physics community, meaning that the vast majority of people working at CERN are highly skilled in their field and very motivated by their work. It is not unusual to be on first name terms with Nobel laureates." >

Dr Jo Cole

Jo (Physics 1995, PhD 1999) is a postdoctoral research associate at the University of Kansas, and has worked on the CMS experiment since 2006. Her PhD at Imperial involved her working on the ZEUS detector at the DESY laboratory in Hamburg.



“Now I am helping to write chapters in physics textbooks instead of reading them!”

Much of Jo’s time is spent refining data acquisition for the CMS silicon strip tracker, which sits at the heart of the experiment, providing precision measurements of the charged particles produced in proton-proton collisions. She explains: “It is made up of two sections: the silicon pixel detector in the centre, which gives a very precise measurement of the position of the primary interaction point, as well as identifying the decays of any long-lived particles. It is surrounded by the strip tracker, which then follows the charged particles seen in the pixel detector, giving precise momentum and charge measurements.”

The tracker was installed underground in late 2007 and Jo’s days are currently filled with preparations prior to the LHC being switched on, checking that all the connections are supplying power, retrieving signals, properly connected and that the associated electronics are working well.

Jo says: “I think it is the international nature of CERN that I enjoy the most. I have lots of friends from many different countries and it is a lot of fun to learn about different aspects of each others’ cultures. This makes for a very good atmosphere, although sometimes differences can make it interesting. The fact that we are all aiming for the same goal, namely, the best detector possible, means that there is a great sense of community.”

“A lot of what I learnt at Imperial is directly relevant to the work I do today,” she continues. “It’s just that now I am helping to write new chapters in physics textbooks instead of reading them!”

Dr François Grey

François (Physics 1984) has been Head of IT Communications at CERN for the last four years, having previously worked as a Professor of Nanotechnology at the Technical University of Denmark. He was employed to establish CERN openlab, a new concept for public-private partnership where leading IT companies sponsor testing and validation of their latest technologies in CERN’s demanding computing environment. For CERN, this provides valuable insight into future trends in computing hardware and software, as well as supporting additional research funding.

François has managed a wide range of communications projects, including the volunteer computing project, LHC@home. This initiative was set up in 2004, and allows the general public to contribute to LHC computing via their personal computers. He says: “This has been very popular, with over 60,000 people contributing over the last few years, producing the equivalent of more than 3,000 years of continuous computing power. The results of these calculations are being used by the



“The facility is not the shiny high-tech place depicted in Dan Brown’s *Angels and Demons*.”

accelerator physicists to find the optimal parameters for tuning the LHC proton beams, so they remain in stable orbits.”

Of his workplace François says: “The facility is not the shiny high-tech place depicted in Dan Brown’s *Angels and Demons* and this reflects the fact that most of the budget is invested underground, in the accelerator facilities. Above all, there is a magnet effect; if you wait around long enough, just about anyone who’s somebody in physics and technology will come by for a visit or to give a seminar.”

François enjoyed his time as a physicist at Imperial: “In particular, I enjoy being able to tell CERN colleagues that I was in the lecture theatre when Abdus Salam burst in to announce the discovery of the W and Z bosons at CERN. It has always been a great throwaway line!”



Katharine Leney

Katharine (Physics 2004) is currently in the second year of her PhD at Liverpool University, and is based at CERN full-time, where she is working on the ATLAS detector experiment at the LHC. Her thesis will ultimately focus on the search for the as-yet undiscovered Higgs boson. In addition to this, Katharine is also developing a tool to look at conditions in the detector, in order to ensure that the data obtained will be usable.

She says: “It’s a really exciting time to be here, working alongside some of the

world’s top physicists. The LHC is the largest, most complex machine in the world, and aims to recreate conditions in the universe as they were just a few billionths of a second after the big bang. There’s still lots of work to do before it is switched, and once the LHC starts, it will be running 24 hours a day and each experiment will need to be continuously manned.”

Katharine finds the practice that she had giving presentations at Imperial incredibly helpful for her PhD studies. “In my third year, I took the ‘Communicating Science’ course,” she explains. “This was great for understanding how to explain scientific concepts to a non-scientific audience and how what you say can impact their views on science. Recently I became a CERN guide, showing visitors the experiments and explaining the work we do here. Since starting this, I have come to appreciate just how useful this course was.”



“It’s a really exciting place to be working alongside some of the world’s top physicists.”

Dr Shaun Roe

Shaun (Physics 1985, PhD 1988) has been based at CERN since 1992, first as a fellow and then in a permanent position as an applied physicist. He is currently working on the silicon tracker and database software elements of the ATLAS experiment, having also been involved in the early development of electronics for the experiment.

His role involves developing C++ software for data capture, and using various web programming techniques and

“Being a physicist and working at CERN is like being a bit-part actor in Hollywood.”

languages to display the data stored in the databases, everything from the current temperature inside the detector, to the processing status of the latest data run.

After Shaun completed his PhD, supervised by Professor Geoff Hall, he took a research assistant post at the College, working on radiation damage to silicon detectors and the use of silicon drift chambers for liquid xenon calorimetry. He was able to transfer a lot of this expertise to CERN when he took up his fellowship there.

Shaun says: “Being a physicist and working at CERN is like being a bit-part actor in Hollywood: all the names are here or pass through, and, even in the present under-financed climate, there

is still a sense that it is a privilege to work here.”

Shaun has found the skills that he gained at Imperial useful in his work, but not necessarily in the most obvious ways. He explains: “Everyone takes it for granted here that you know about particle physics, so it’s the little extras from other courses that can make one stand out: using autocorrelation in noise analysis (optics), understanding charge mobility in semiconductors (surface and electronic materials), or the courses on statistical analysis of measurement uncertainties. Imperial also instilled a note-taking discipline I maintain to this day...I now have log books spanning 20 years!”



STIC/IMPERIAL COLLEGE

Working on the first half tracker inner barrel/inner disk in the CMS clean room at CERN in 2006.



STIC/IMPERIAL COLLEGE

The last piece of the CMS, which was lowered into its underground cavern in early 2008.

Dr Jamie Shiers

Jamie (Physics 1978) has worked in the IT department at CERN since 1984. He is currently Head of the Grid Support group, which enables the LHC experiments and others to use the LHC computing system effectively in terms of handling vast amounts of LHC event data. This involves working with offline computing communities outside of CERN, including many in the UK (Imperial is part of London Grid), to ensure that all of the computing systems are fully ready for first data.

Jamie has worked in many different areas within CERN, initially in central computing services, focusing mainly on

the large electron-positron (LEP) collider experiments and the services related to the construction of the LEP machine. He then moved into the area of data management and application software, had a spell in R&D and then onto his current role.

Jamie says that one of the best experiences that he has had at CERN was: “mixing with Tim Berners-Lee as ideas leading to the World Wide Web were actively discussed. These days this is replaced by delivering production grid services and evangelising about how they could be used for a wide range of disciplines with very different needs. For someone with a physics background there is currently no better place to be.” 



CERN GENEVA

“For someone with a physics background there is currently no better place to be.”

› You can watch a lecture by Professor Jim Virdee on his work at CERN at www.imperial.ac.uk/media/onlinelectures/2007onlinelectures.



Pitch perfect

Showcasing the best musical talent from UK universities through orchestral repertoire, *Symphuni*, a major new competition, confirmed the Imperial College Symphony Orchestra as the finest university orchestra in the country

› by Zoë Perkins

The rhythmical sound of oars meeting the waters of the River Styx as ferryman Charon carries the recently dead across the boundary between Earth and the underworld, Hades, underlies Sergei Rachmaninoff's symphonic poem *Isle of the Dead op.29*. The Imperial College Symphony Orchestra's portrayal of the river's inky depths was one of two performances that brought them victory in *Symphuni*, a UK universities' orchestra competition sponsored by the Royal Philharmonic Orchestra that took place on 29 March 2008.

The orchestra, which focuses on a nineteenth and twentieth century

"This programme was a complete change of gear so it gave us a real buzz"

Richard Dickins

repertoire, completed its dramatic music selection with the thunderous rain and spray of Benjamin Britten's *Storm* from the *Four Sea Interludes*.

Remarkably it was three months since the orchestra had last performed these pieces, which were part of their autumn term repertoire. Richard Dickins, the orchestra's conductor and Imperial's Director of Music, commented: "We did a whole series of concerts in the spring term of a totally different repertoire, and then in one evening rehearsal had to put together these two pieces that we hadn't done for three months. It's a great testament to the orchestra that in one four-hour rehearsal they managed to relearn these two pieces."

Not only had the 90-strong orchestra had very little practice, but the competition was tough. Up against symphony orchestras from the

"The great delight of my life is coming here to the College"
Richard Dickins

Universities of Cambridge, Manchester and Southampton, the Imperial College orchestra represented the only university in the final that does not teach a music degree. But whether that proved a disadvantage, Isobel Blake, principal second violinist and the orchestra's Chair, wasn't so sure: "When you have to study so hard, you need something to take your mind off it all sometimes. Our attitudes are so different to other university orchestras because it's a change to our everyday subjects."

Home to the Royal Philharmonic Orchestra, Cadogan Hall, formerly a church, is London's newest concert hall. With its steeply raked stalls and low



JOEL BALDWIN



FIGANTOR



JOEL BALDWIN



FIGANTOR



gallery, audiences enjoy a surprisingly intimate venue and fantastic acoustics. No strangers to the venue, Imperial's Orchestra took to the stage to face their audience for the afternoon, a tough judging panel made up of cellist Julian Lloyd Webber; the first female leader of the Royal Philharmonic Orchestra, Clio

“We weren't sure how we'd compare, but we were all out there to win”
Isobel Blake

Gould; composer and Ivor Novello award winner Debbie Wiseman; and *Classic FM* magazine editor John Evans.

Each orchestra had just 30 minutes to demonstrate the depth of their musical talent, and clearly Imperial impressed. In his *Daily Telegraph* column, Julian Lloyd Webber said: “The vast majority of players

in the four orchestras we heard have not chosen music as their career. More's the pity as the standard displayed – especially by the winning Imperial College orchestra under their excellent conductor Richard Dickins – was quite exceptional.”

Richard trained as a conductor at the Royal College of Music, coming to the College as its first Musician-in-Residence whilst still a postgraduate student. When away from the College, he works with some of the UK's finest musicians, and has conducted a number of first performances including works by Timothy Salter and Anthony Bailey.

Not only did the orchestra earn the title *Orchestra of the Year 2008*, they also won the £5,000 prize money. “We've got it earmarked for some exciting projects; buying instruments that we couldn't otherwise afford, spreading the word that we're off on tour in a year's time,

and promoting our autumn term concert in December,” said Richard.

The orchestra will be returning to Cadogan Hall for their next concert on Friday 6 December 2008. This time they will be joined by the Imperial College Choir and singers from Dorchester's Thomas Hardye School for William Walton's *Belshazzar's Feast*, and by international cellist Raphael Wallfisch for Edward Elgar's *Cello Concerto in E minor op.85*. 

➤ Hear the magnificent Imperial College Symphony Orchestra for yourself on 6 December 2008; tickets for the concert can be purchased directly from Cadogan Hall at www.cadoganhall.com or by calling +44 (0)20 7730 4500.

Pillar of society

Science is an essential part of our culture, yet much is still to be done to draw society into scientific conversations. Professor Robert Winston's new role aims to do just that.



by Zoë Perkins

Maintaining an environment in the UK where scientists are able to work at the cutting edge of stem cell and embryo research is the foundation of the Human Fertilisation and Embryology Bill, which is currently working its way through the Houses of Parliament. The bill hit the headlines in May 2008 when MPs voted in favour of the use of admixed embryos – those which contain both human and animal material – in stem cell research, as a means of developing treatments for cancer and conditions such as Parkinson’s and Alzheimer’s diseases, having previously been backed by the House of Lords.

Encompassing assisted reproduction and embryo use in research and therapy, the bill begets impassioned debate and strong public opinion. As a member of the House of Lords, and its sole stem cell practitioner, Professor Robert Winston has been at the centre of these debates. Speaking about January’s vote in the House of Lords, he said: “There weren’t many speeches in favour of the stuff I was doing, but when it came to the vote on the hybrid embryo I had a 200-vote majority, which is very, very significant.”

Despite the potentially lifesaving therapies for debilitating human conditions that could result from the bill’s approval, it is not without opposition. Among the moral and ethical concerns raised by pro-life groups is the inserting of human cells into animal eggs. The case of admixed embryos is not the first, and will not be the last, scientific advance which causes controversy; legitimate public interest in the research priorities that are pursued and the results that emerge is the reason that scientists must engage with public opinion.

The concept of public engagement has, in recent years, been based around public understanding of science as the catalyst for less hostile criticism in the press and greater public acceptance of science. However, Robert Winston is among a growing number of scientists now challenging that view. He observes: “What this is really about is scientists’ understanding of the public. As scientists we need to change the environment in which we do our research and teaching, to try to explain to the public that actually the science we do is the science that they own because they’ve paid for it. It’s their science.

“It’s the notion that we listen to try to work out what the public’s concerns are. Why are people concerned by synthetic biology? What are the issues behind the acceptance of climate change? As citizens we have to have a responsibility to respond to the public’s concerns and take into account the issues they feel society faces in consequence of the work we do.”

Professor Winston demonstrates a huge personal commitment to public engagement in science, and it is for that which he is perhaps best known by the public. *Child of our Time*, the BBC documentary which has followed the development of 25 children since their births in 2000, completed its eighth series in May this year. It is one of many successful television series he’s made, and Professor Winston’s broadcasting work is

“As scientists we need to change the environment in which we do our research and teaching, to try to explain to the public that actually the science we do is the science that they own because they’ve paid for it.”



Professor Robert Winston with children from *Child of Our Time*



Professor Winston in *The Human Body*, a fascinating series showing the human body as never seen before on television

just the tip of the iceberg; he's also published a number of books, is a sought after speaker for audiences of adults and children alike, and despite all of that he still maintains a research group at Imperial's Institute of Reproductive and Developmental Biology.

It's within this context that Professor Winston has been appointed as Imperial's new Chair in Science and Society. Supported with funding from the Garfield Weston Foundation, the freshly-created Chair will focus on developing paths for better engagement between scientists and the public. As a highly regarded researcher, clinician and science communicator, he has a vast wealth of experience from which to draw.

Speaking about Professor Winston's new Chair, just prior to standing down as Rector, Sir Richard Sykes said: "With science and technology increasingly underpinning all our lives, a scientifically aware population is amongst the greatest assets a nation can possess. Robert Winston is one of the UK's most prominent scientists and has an impressive track record of drawing a diverse cross-section of society into scientific conversations."

It is Professor Winston's ability to make complex issues completely intelligible, so that people can feel that

"Giving young people the chance to get involved in practical work in a scientific environment is the key to inspiring them to see science as exciting."

they've had a stake in them, that has made him so successful at engaging with the public. He strongly believes that all scientists must also be communicators – something he's always tried to impart to his PhD students. He says: "If a PhD student can't explain to a completely lay member of the public in two or three sentences what the point of their project is, and what they hope to get from it, then the project probably isn't worth doing."

At least some of his communication abilities Professor Winston attributes to his Jewish upbringing. He says: "My earliest memories are of argument, but not acrimonious argument. It's a Jewish trait – you examine everything, you don't take it as given. I had a fantastic education both at home and at school, where we were taught to debate.

"Sadly school children nowadays aren't taught to debate enough, I think that's something we need to do more of."

Inspiring and motivating school children to engage with science forms one of the main pillars of Professor Winston's programme over the next five years. Expanding Imperial's already wide-ranging engagement activities, and

in line with the government's agenda for increasing science participation in schools, he will establish a school science laboratory and seminar facility based at the College to give pupils and teachers experience of hands-on science such as DNA analysis and robotics. To be constructed on the South Kensington Campus, the laboratory will give students ownership of science activities in a safe environment where expertise is on hand to provide that 'x-factor' that can inspire young people to pursue a science education.

He comments: "Giving young people the chance to get involved in practical work in a scientific environment is the key to inspiring them to see science as exciting."

The school science laboratory will be coupled with a 'teachers in residence' scheme, which will help the professional career development of science teachers. Initially two teachers will work within the new laboratory, and participate in research at the College. Professor Winston says: "These teachers have the advantage then of being in the best surroundings to give the latest experiments in ideal classrooms, but equally they will have access to research workers and they can rejuvenate their science after five or 10 years out of university."

"It is trying to harmonise how science is conducted in our own eyes and in the eyes of the public."

“The arts and the sciences are really the same expressions of the human mind.”

A third strand of Professor Winston’s programme will tie these elements together; conducting research into the most effective methods of science engagement and evaluating its impact.

“The school science laboratory provides an ideal test bed for research,” explains Professor Winston, “because you can research what kind of lessons work, how many lessons you need, do you bring back the same children to have repeat lessons or do you go for as many schools as possible?”

“You can evaluate the effect of this on the children, immediately, in three years time, and in 10 years time. So you can do actual research on the public in a very controlled way and you can compare different courses that you might undertake with those children.”

Imperial’s science community will feature strongly in his research plans as well. Whilst much has been written about the need for the science community to find out how best to engage the public and to measure the impact of engagement activities, there is a serious

dearth of good research. He explains: “We will see if after three or five years whether we’ve actually changed scientists’ perceptions of what they do, and equally we have to measure the impact on the public as a consequence.”

“It is trying to harmonise how science is conducted in our own eyes and in the eyes of the public,” he adds.

As an essential part of our culture, science should not operate in a vacuum, believes Professor Winston. He says: “The notion that the arts and science are actually one culture is a very important consideration. I think in our society there has been an alienation of these cultures, so people have said, almost proudly: ‘Of course I don’t know any science, I’m an artist’. However, the arts and the sciences are really the same expressions of the human mind.”

Bringing together the arts and the sciences, the area between Cromwell Road and Kensington Gore in South Kensington, affectionately referred to as Albertopolis, is home to a plethora of educational and cultural institutions, of which Imperial College is a key part. This has become the reality of Prince Albert’s vision for one of the most successful cultural quarters in the world, which is now presided over by his memorial.

At the centre of a modern re-establishment of Prince Albert’s vision is Professor Winston, who, as a member of the Exhibition Road Cultural Group and the recently appointed Chairman of the Royal College of Music council, is ideally placed to bring arts and science together in “one of the most powerful cultural areas in Britain.” 

“I had a fantastic education, where we were taught to debate. Sadly school children nowadays aren’t taught to debate enough, I think that’s something we need to do more of.”

A matter of time

On Saturday 20 September, Imperial College will welcome back alumni celebrating a decade anniversary since graduating to a reunion that celebrates innovation. *Imperial Matters* takes a look back at life in those years.

by Liz Gregson

1938

As Hitler assumed power of the German armed forces and Orson Welles broadcast his adaption of Royal College of Science alumnus H.G. Wells' *War of the Worlds* in the US, causing listeners to believe that Martians had landed in New Jersey, students at Imperial College celebrated the opening of their new boathouse in Putney.

The new sporting facility was opened by the president of London's 1908 Olympic games, Lord Desborough, on 21 October 1938. The commemorative plaque from the occasion reads: 'May all who use this boathouse in it find such happiness and make such friendships as may endure throughout their lives'.

1948

The year began with the assassination of Mahatma Gandhi on 30 January and the proclamation of the nation of Israel and the start of the Arab-Israeli wars

followed in May. In the US, scientist George Gamrow put forward the 'Big Bang' theory as an explanation of the origins of the universe and Edwin Land invented the Polaroid camera.

Meanwhile, Imperial College welcomed future Nobel prize winner Professor Denis Gabor to the Department of Physics, where he continued to develop the theoretical basis for holography; and future Imperial Professor Lord Patrick Blackett was awarded the Nobel prize for physics for his development of the Wilson cloud chamber method. The College's rectorship was handed from engineering scientist, Sir Richard Southwell, to former WWII Commander in Chief of Fighter Control, Sir Roderick Hill.

Alumnus **Peter Clark (Metallurgy 1948)** was coming towards the end of his undergraduate studies. He recalls: "The Royal School of Mines was such a small place, not many more than 100 students,

and everybody knew each other, including the staff who worked there.

"Music was important to me and I joined the University of London choir, singing carols in St Paul's each December. My last concert was in the Central Hall Westminster in June 1948 with the London Symphony Orchestra and the late Owen Brannigan. We sang Verdi's *Requiem* and Kodaly's *Te Deum*."

1958

As 1958 dawned, organic chemist Sir Patrick Linstead was in the fourth year of his tenure as Imperial's Rector, overseeing a period of great change and rebuilding for the College. Elsewhere, General Charles de Gaulle became first President of the Fifth Republic in France, and the US *Billboard* debuted its *Hot 100* chart with Ricky Nelson's *Poor Little Fool* the first number one. BOAC launched the first transatlantic jet passenger service

1938



1948



1958



1968



1978



from New York to London, and the existence of the Van Allen radiation belt was confirmed by the *Explorer 1* satellite.

Jim Platt (Mining Geology 1960) was in the first year of his studies, taking advantage of the variety of social activities on offer: “I joined the Rowing Club and was put to row in the number four position of the RSM Lowry boat crew (the second crew of two, the first being the Morphy crew) in the annual winter river race versus crews from Royal College Science (RCS) and Guilds between Hammersmith Bridge and Putney Bridge. As far as I recall the RSM Lowry boat came third. It wasn’t so terrible to be beaten by Guilds, but to come in behind “RCS!” (as we of the RSM used to call out in high falsetto), now there was humiliation!”

1968

As the Vietnam War continued and Martin Luther King Jr was assassinated in Memphis, the prototype of the world’s first Soviet-designed supersonic airliner made its first flight, and James Lovell and William Anders became the first humans to orbit the moon.

At Imperial, Linstead Halls of Residence, funded by an anonymous benefactor in 1963, were opened in Prince’s Gardens. They were named after former Rector Sir Patrick Linstead, who died in 1966, in honour of his vision that every student should have a year in halls.

Dennys Watson (Operational Research and Management Studies 1968) was halfway through a newly-formulated Master’s course. He recalls: “The course had been recently developed by Professor Sam Eilon, a by-product of his well-established Production Engineering courses. It seems that, in the 1960s, ‘management’ was not considered to be sufficiently academic to merit its own postgraduate degree (despite, or perhaps because of, the concurrent establishment of the MBA-awarding London Business School).

“By 1967, computing power had

become more widely available, and we all had to become proficient programmers in Fortran (using stacks of punched cards to feed lines of instructions slowly into a computer with limited storage). Although our time coincided with ‘les evenements’ in Paris, and general student unrest, I don’t remember any of us becoming politically involved – Imperial left that kind of thing to LSE!”

1978

A year that saw the deaths of two popes (Paul VI and John Paul I), the introduction of the Sony Walkman, and the birth of Louise Brown, the world’s first test tube baby, 1978 was also a time of educational reform in the UK and at Imperial. The four-year engineering course was introduced to the curricula of many departments following a recommendation in the Dainton report that adding a year of study would serve to expand opportunities for graduates to obtain managerial posts in industry.

David Huddie had come to similar conclusions about the need for expansion studies from his own in-depth investigation of Imperial, commissioned by the Rector, the Rt Hon. Lord Brian Flowers. The Department of Social and Economic Studies was founded as a result, with Dorothy Wedderburn, Professor of Industrial Sociology, becoming its first Head.

1988

As Benazir Bhutto became the first Islamic woman prime minister in Pakistan and a Pan Am 747 exploded over Lockerbie, Scotland, 1988 was also the year in which NASA scientist James Hansen first warned the US congress of the dangers of global warming and the greenhouse effect.

At Imperial, 1988 saw the merger of the College with St Mary’s Hospital Medical School and the formation of Imperial College of Science, Technology and Medicine. An excerpt from the joint

message issued by Rector Sir Eric Ash and Dean of St Mary’s Professor Peter Richards states:

“The merger of our institutions was inspired by a vision of the great advances in science and medicine we could make together ... bringing together multidisciplinary teams with established records of achievements.”

1998

In the year that US President Bill Clinton was impeached, and the male impotence drug Viagra approved by the US Food and Drug Administration, 1998 saw the opening of the Sir Alexander Fleming Building, a purpose-built headquarters for medical and biomedical research; the foundation of the Department of Bioengineering under Professor Colin Caro; and the introduction of tuition fees throughout UK universities.

In 1998, the Business School was quite a different place, as **William Wong (MBA 1998)** recalls: “It was ‘The Management School across the road’, and fleeting images include David Norburn’s dickie bow collection, Gail and Paolo in the cafeteria and the friendly security chap who knew just about everyone.

“Giving presentations was part and parcel of studying there, and, on behalf of our syndicate group, I co-presented to the entire cohort comparing and contrasting the UK and German economic and political suits. On the day itself, I wore my best suit to look the part and, after a gratifying applause from the audience, the lecturer asked if there were any questions, sending shockwaves through everyone as this was not in the brief! I dealt with all the unprepared questions and my peers declared me a natural, a seasoned politician. That must have given me the bug for public speaking and taking centre stage years on.” 

➤ The Alumni Reunion 2008 takes place on Saturday 20 September at the South Kensington, St Mary’s and Charing Cross Campuses. For further information, please visit www.imperial.ac.uk/alumni or contact the Alumni Relations team at reunions@imperial.ac.uk.



Welcome to the Alumni section within your new look *Imperial Matters*

This section is designed to bring you up to date with the activities of our alumni around the world; events that have taken place or that are coming up, individual alumni achievements and successes, and information about alumni services and benefits.



SOPHIE CORCORAN

Your Alumni Relations team. Left to right: Liz Gregson, Emma Jones, Edward Charnley, Zoë Perkins and Louise Birrell.

We have changed the way that we report news from alumni networks and groups around the world, focusing on the most interesting UK and international activities, including those organised by Imperial's Alumni Relations team. The split reflects the fact that, although many alumni activities and events happen on and around Imperial's London and south east England campuses, more and more alumni events are taking place around the world. We also feature forthcoming alumni event calendars within this section, so take a look to see what is coming up in your area over the coming months.

You will also find a new section called *Catch up*, which features updates from alumni of the College. In this issue you can read the catch up notes of alumni from many disciplines and eras, as well as stories about some of the remarkable achievements of our alumni, including Kate Mandeville, who

has set up a medical charity to tackle HIV and AIDS in Malawi, and P.J. Toh, who recently took part in the gruelling Atacama Crossing.

This section's new editorial gives us the opportunity to introduce the Alumni Relations team to you. We are here to develop and carry out alumni activities at the College, and are responsible for:

- managing College-run events for alumni;
- making sure that alumni are kept up to date and informed about other appropriate College and alumni-led activities and events
- liaising with the many alumni groups in the UK and around the world to help them promote and carry out their activities;
- delivering online, and on and off-campus alumni services and benefits.

It would be great to hear from you if you have any questions or suggestions about alumni relations activities. You can get in touch with us by email at alumni@imperial.ac.uk or by calling +44 (0)20 7594 6138.

Alumni Relations team

Higher education

Add new skills to your repertoire long after you've graduated

If you are interested in learning a new language or skill in your spare time, take a look at the range of evening classes run by the Department of Humanities. There is plenty of choice on offer from Mandarin Chinese to Arabic, as well as many European languages and others besides. The Department has recently introduced courses in creative writing, the pleasures of music, music technology, and film appreciation as well.

Evening classes take place once a week, beginning the week of 20 October 2008 and finishing by 19 March 2009,



with 20 classes in total.

As an alumnus you can benefit from an impressive £80 discount off the course of your choice. To take advantage of your special discount, the Department of Humanities will require proof of your alumnus status, which you can obtain from the Alumni Relations team. Contact them at

alumni@imperial.ac.uk to request your confirmation message.

If you are interested in learning more about the courses on offer, visit www.imperial.ac.uk/humanities/eveningclasses or contact the Department on +44 (0)20 7594 8756 or at eveningclasses@imperial.ac.uk.

At the heart of the capital and the countryside

Exclusive discounts for alumni on conference bookings

If you have ever thought about holding an event or meeting at one of Imperial's campuses, now is a great time to make your booking. The Conference Office is currently offering an exclusive 20 per cent discount on its published room hire rates and 15 per cent off its published catering rates to all Imperial alumni making new bookings before 31 August 2008, and whatever your event and needs, there are some magnificent venues on offer.

In central London, the South Kensington and Hammersmith Campuses host conference facilities which will suit a wide variety of business needs, from one-to-one interviews to formal presentations for up to 750 people. Alternatively, if you're looking to leave the hustle and bustle of London behind, Silwood Park, just outside Ascot; and Wye, in the heart

of the Kent countryside, each offer residential conference facilities in stunning rural settings.

Conference Office representatives would be delighted to give you a personal tour of any of the College's conference facilities. Please contact Charles Gallagher, Head of Hospitality and Events in the Conference Office, to make an appointment on +44 (0)20 7594 9518 or c.gallagher@imperial.ac.uk.



Silwood Park

Awards and Honours

New Medical Sciences Fellows

Professor John Loughhead (Mechanical Engineering 1970, MSc 1971, PhD 1975), leader of the UK Energy Research Centre, was among eight alumni elected to the Royal Academy of Engineering in July 2008. Also elected were Professor Nigel Brandon (PhD Earth Science and Engineering 1985), Dr Charles Davies (Physics 1975, PhD 1978), Dr Franz Durst (MSc Mechanical Engineering 1968, PhD 1972), Professor Jeffrey Kramer (MSc Computing 1972, PhD 1976), Professor David Owens (Physics 1969, PhD 1973), Stephen Payne (Chemistry 1979), and Ian Shott (Chemical Engineering 1978).

New Fellows of the Royal Society

Among the 44 new Fellows elected to the Royal Society in May 2008 were four alumni: Professor Alan Ashworth (Chemistry 1981), Professor Derek Fray (Materials 1961, PhD 1964), Professor Stephen Jackson (PhD Biochemistry 1985) and Professor John Marshall (Physics 1976, PhD 1979).

Royal recognition

The honour of Knight Bachelor was bestowed upon Professor Sir Andrew McMichael (St Mary's Hospital Medical School 1968) in the Queen's 2008 Birthday Honours; he was one of six alumni recognised. Dr Michael Marks (St Mary's Hospital Medical School 1969) and John Metcalfe (DIC Biology 1956) received MBEs, Dr Paul Leinster (Chemistry 1974, PhD 1977) a CBE, and Dr Gordon Masterton (MSc Civil Engineering 1982) an OBE. The late Professor Dennis Anderson (Mechanical Engineering 1960) received a posthumous OBE.

New Medical Sciences Fellows

Professor Michael Frenneaux (Westminster Medical School 1980), Professor John Hardy (PhD Biochemistry 1979) and Professor Victor Tybulewicz (Chemistry 1981) were elected to the Academy of Medical Sciences in April 2008.

Accelerator physics contribution

In recognition of his contributions to accelerator physics, Dr Robert Palmer (Physics 1956, PhD 1960) was elected a member of the National Academy of Sciences in April 2008.

Dancing the night away



HAN GILLET

Sixty alumni joined over 2,400 students for the most lavish event on the College's calendar – the Imperial College London Summer Ball 2008.

The evening kicked off with a formal four-course dinner, which the Ball's organiser, Chris Larvin, rated as the highlight of the evening. He said: "It was made extra special by having Richard Sykes there at his last Summer Ball. At the end of the dinner, the Union President Stephen Brown (MSci Mathematics 2007) presented him with Honorary Life Membership of the Union."

The after dinner speech was one of Sir Richard's final opportunities to bid farewell to the College community, he said: "This evening has become a highlight of the College year for both staff and students. Thank you to the organisers of the Ball for making it such a successful and high quality event and to



HAN GILLET

all the staff and students of Imperial for giving me a great seven years."

Revellers enjoyed great music acts, a funfair and a fireworks display, launched from the top of the Electrical and Electronic Engineering building. Alumni were even able to escape the hustle and bustle of the Ball into the VIP lounge and cocktail bar with musical entertainment from a pianist, a violinist, a harpist, and the Jazz Big Band.

Those who made it through to the small hours of the morning joined over 1,000 students for the traditional 4am survivors photograph.



HAN GILLET

Presidential plea

How the Royal School of Mines Association (RSMA) channels its resources to best serve Royal School of Mines alumni and its members is the subject of a questionnaire which will be reaching you soon.

Paul Holmes (MEng Earth Science and Engineering 1994), President of the Royal School of Mines Association, said: "Many alumni may have lost touch with the RSM in the years before common usage of the internet and email, and we need you to get back in touch. Others may want to break the connection with the RSM. We need to know who you are as well!"

He added: "These days questionnaires come from all directions, but we really do need you to engage in this one, if we are to be a proactive and meaningful association committee."

Keep an eye out for the survey, which will be dropping through your letterbox soon.

Fresh faces

Over the past six months, the City and Guilds College Association (CGCA) and the St Mary's Hospital Association have both welcomed new members to their committees.

Dame Julia Higgins took on the presidency of the CGCA at the association's AGM and President's Evening in May, taking over from Peter Garratt (Civil Engineering 1968). Dame Julia has a long association with the College, going back to 1976, and during this time she has held various positions including Principal of



TOM WHIPPS

Julia Higgins

the Faculty of Engineering.

After many years of valued service to the St Mary's Hospital Association, Patricia Dymond has stepped down from the post of Honorary Secretary, although she will continue to manage the membership and subscription database. Kevin Brown, Imperial College Healthcare NHS Trust Archivist and Curator of the

Alexander Fleming Laboratory Museum, has been elected to the post in her place, and will be assisted by Cynthia Horan. Kevin can be contacted on +44 (0)20 7886 6528 or by email at kevin.brown@imperial.nhs.uk.

Student liaison



Keen to strengthen its links with current students and recent graduates, the City and Guilds College Association has

established the post of Student Liaison Officer within the City and Guilds College Union to achieve this. Sponsored by the Old Centralians' Trust, Ashley Brown, a PhD student in the Department of Computing, is already initiating relationships between the association and the student departmental societies. The initiative aims to identify a small team of recent alumni from each department to assist current students in such areas as project work, work experience and career advice. Recent alumni interested in participating in this scheme should contact the association at cgca@imperial.ac.uk.

Portrait of Pinker



A portrait of the late Sir George Pinker, Chairman of the St Mary's Hospital Association from 1986 to 1994, is to be unveiled in the boardroom at St Mary's Hospital. Sir George, who died in May 2007, qualified from St Mary's in 1947 and remained closely attached to the hospital for the rest of his career, much of which was spent as surgeon-gynaecologist to the Queen.

The portrait, donated by the association, is a copy of a portrait at the Royal College of Obstetricians and Gynaecologists, where Sir George was President from 1987 to 1990.



Enriching student lives

Set up to enrich the lives of medical students who have talents in areas of drama and football, two newly instituted St Mary's Hospital Association Scholarships have been conferred on a handful of the Faculty of Medicine's students. Adam Hughes has been awarded the Football Scholarship, and Ricky Stanton and Eleni Josephides received Drama Scholarships.

In addition, the St Mary's Association Elective Awards have been awarded to Michelle Camarata, Olivia Kenyon, Liam Poynter and Shumonta Quaderi. ➤

Collaboration without Borders

Becoming 'the most dynamic and competitive knowledge-based economy in the world' is no small challenge, but it's a challenge that Europe's leaders agreed for the European Union back in March 2000.

One of a series of goals to achieve this objective, the European Research Area was created to inspire the best talent to enter research careers in Europe, incite industry to invest more in European research, and strongly contribute to the creation of sustainable growth and jobs. In his lecture, *Collaboration without Borders*, in April 2008 Professor John Wood explained a variety of European collaborative initiatives such as the Large Hadron Collider at CERN, the first example of cross-European collaboration which will be celebrating 50 years in 2008; the European Space Agency; and the European Synchrotron Radiation Facility in Geneva.



Former Rector and alumnus Sir Eric Ash (Electrical Engineering 1948, PhD 1952) was among the audience of 60 alumni, staff and friends of the College who heard about the European, and indeed global, collaboration in various research areas at Imperial.

Professor Wood's enthusiasm for his subject, coupled with his personal involvement with the projects he talked about, shone through, making for a thoroughly enjoyable lecture.

Canapés, wine and beer from around the continent were served to alumni in the European-themed drinks reception that followed the lecture. The reception gave all alumni plenty of opportunity to meet up former classmates and to continue their avid conversations about the lecture.

Scientists to celebrate science fiction

Commemorating its centenary this year, the Royal College of Science Association is planning an event to celebrate the milestone and the association's first President, *War of the Worlds* author, H.G. Wells. The proposed date is 9 December 2008, with the association's annual dinner proposed for 7 November 2008; the association would welcome expressions of interest by email to rcsa@btinternet.com.



Cool Britannia?

Lord Tristan Garel-Jones who, as Foreign Secretary in Margaret Thatcher's government, was responsible for guiding the Maastricht Bill through parliament, was the guest speaker at the 95th City and Guilds College Association Annual Dinner. His address was both thought provoking and amusing; unsurprisingly themed *Whither Europe?* he discussed whether 'Rule Britannia' and 'Cool Britannia' might be followed by 'Fool Britannia' if we in the UK did not embrace Europe with greater enthusiasm.

Held at the Ironmongers' Hall in March 2008, over 150 people filled the hall to capacity for the association's annual flagship event. The association's President, Peter Garratt, was joined by Lord Garel-Jones in the City and Guilds College mascot, Boanerges, for the journey to the hall. The old car ran faultlessly, thanks to the skilled ministrations of the car's student custodians.

Nurturing a young association

With only four years of alumni, Imperial College School of Medicine Alumni is one of the College's newest alumni groups but there's plenty of activity taking place to build it into a thriving association. The association has set up an alumni committee comprising an impressive collection of past Imperial College Union presidents, and this year's Imperial College School of Medicine Student Union officers, among others. A website to keep members up to date with news about social, sporting and academic events, and much more, will go live soon. Among the association's other plans is a database of consultant mentors to give advice about careers, and plans to establish strong links with the well-established St Mary's and Charing Cross and Westminster groups.

Calling alumni in Aberdeen

With over 200 Imperial College alumni living in and around Aberdeen, the recently formed Imperial College Alumni Network of Aberdeen has a great chance of becoming a thriving alumni group. Members of Imperial's first UK regional group have plenty to look forward to, including a trip to the Shetland Islands over the coming months. Victor Lamy (MSc Petroleum Geoscience 2007), the group's representative, would like to hear from alumni who would like to join. You can contact him through the Alumni Relations team at alumni@imperial.ac.uk or by calling +44 (0)20 7594 6130.



Pure GOLD

Seventy of Imperial's 'Graduates Of the Last Decade', affectionately referred to as GOLD alumni, joined old friends to enjoy a free drink on the College at London's Motion Bar in April 2008. The bi-annual event is always a great opportunity to network with other Imperial College alumni. Congratulations go to Winston Chan who won an iPod shuffle in the evening's business card draw.

If you're a GOLD alumnus, why not join us for the next drinks evening at Motion Bar on Thursday 16 October. Visit www.imperial.ac.uk/alumni/GOLDdrinks for more information.

Wye not go to the ball?

All Wye College alumni, Agricola Club members or not, will be invited to an 'End of an Era' ball to be held on 27 June 2009. The association would like to gauge interest, so if you are interested please email John Walters (Wye College 1970) at akermans38@yahoo.co.uk or contact him by post at 38 High Street, Wye, Kent, TN25 5AL, United Kingdom.



➤ If you would like more information about joining one of Imperial's UK alumni groups, please visit www.imperial.ac.uk/alumni/groups, email alumni@imperial.ac.uk or call +44 (0)20 7594 6130.

UK Event Calendar August 2008 – January 2009

Imperial College School of Medicine: Alumni Association AGM

For all alumni of the School of Medicine
Thursday 18 September 2008; Sir
Alexander Fleming Building, South
Kensington Campus, SW7 2AZ
Email najette.ayadi-o-donnello4@imperial.ac.uk for more information

Alumni Reunion 2008

For all alumni, particularly those
celebrating a decade anniversary
Saturday 20 September 2008; South
Kensington Campus, SW7 2AZ
Visit www.imperial.ac.uk/alumni/reunion2008 or call +44 (0)20 7594 6130

Agricola Club Annual Dinner and AGM

Members of the Agricola Club are invited
to the annual dinner
Saturday 20 September 2008; Dining
Hall, Wye Campus, TN25 5AH
Contact the Agricola Club at
wye.agricola@imperial.ac.uk

West London Chaplaincy: 50th anniversary reunion

At the Chaplaincy's 1962–70 home for
Sunday worship
Saturday 20 September 2008;
St Augustine's Church, 117 Queen's Gate,
London, SW7 5LP
Contact Reverend Andrew Willson at
chaplaincy@imperial.ac.uk
or +44 (0)20 7594 9600

Behind the scenes at the UK's first Academic Health Science Centre

A Friends of Imperial College event
with Professor Stephen Smith
Monday 22 September 2008; St Mary's
Hospital, Praed Street, London, W2 1NY
Visit www.friendsofimperial.org
or +44 (0)5601 308693

Chemical Engineering 1968–71 Reunion

Marking 40 years since the class of
1971 began at Imperial

Saturday 27 September 2008; South
Kensington Campus, SW7 2AZ
Contact Rob Holton at
rob.holton@btinternet.com

Is Human Evolution Over?

A Friends of Imperial College lecture
with Professor Steve Jones
Wednesday 15 October 2008; Sir
Alexander Fleming Building, South
Kensington Campus, SW7 2AZ
Visit www.friendsofimperial.org
or +44 (0)5601 308693

GOLD alumni drinks

Informal drinks evening for graduates
of the last decade
Thursday 16 October 2008; Motion Bar,
Victoria Embankment, London, WC2N 6PA
Visit www.imperial.ac.uk/alumni/GOLDdrinks or call +44 (0)20 7594 6130

Faculty of Engineering Networking Reception

For alumni and students of the Faculty
of Engineering, RSMA and CGCA
Thursday 23 October 2008; Mechanical
Engineering Building, South Kensington
Campus, SW7 2AZ
Visit www.cgca.org.uk
or call +44 (0)20 7594 1184

The eco-cities of China: Can they teach us a lesson?

A Friends of Imperial College lecture
with alumnus Peter Head
Wednesday 19 November 2008;
Skempton Building, South Kensington
Campus, SW7 2AZ
Visit www.friendsofimperial.org
or +44 (0)5601 308693

Royal School of Mines Association Annual Dinner

For Royal School of Mines alumni
and students
Friday 21 November 2008; Polish Club,
55 Exhibition Road, London, SW7 2PN
Email t.sergot@imperial.ac.uk or
r.tipples@imperial.ac.uk

City and Guilds College Association Reunion Lunch

For members of the CGCA
Saturday 22 November 2008;
Polish Club, 55 Exhibition Road,
London, SW7 2PN
Visit www.cgca.org.uk
or call +44 (0)20 7594 1184

Imperial College Symphony Orchestra Concert

Imperial's award winning symphony
orchestra will be joined by international
cellist Raphael Wallfisch
Saturday 6 December 2008; Cadogan Hall,
5 Sloane Terrace, London, SW1X 9DQ
Visit www.cadoganhall.com
or call +44 (0)20 7730 4500

Winter Wonderland

Festive celebrations for alumni with
mince pies and mulled wine
Thursday 11 December 2008; South
Kensington Campus, SW7 2AZ
Visit www.imperial.ac.uk/alumni/winterwonderland
or call +44 (0)20 7594 6130

City and Guilds College Association Christmas Lunchtime Seminar

For members of the CGCA
Thursday 11 December 2008; 170 Queen's
Gate, London, SW7 5HF
Visit www.cgca.org.uk
or call +44 (0)20 7594 1184

Eleven dimensions of the unifying theory

A Friends of Imperial College lecture
with Professor Michael Duff
Wednesday 14 January 2009; Sir
Alexander Fleming Building, South
Kensington Campus, SW7 2AZ
Visit www.friendsofimperial.org
or +44 (0)5601 308693

> For a full events listing, visit www.imperial.ac.uk/alumni/events

Building new connections

Four new alumni groups have recently launched in far flung corners of the globe.

In the Middle East, Ghanem Nuseibeh (Civil Engineering 2000) has agreed to be the main contact for the Imperial College Alumni Network of Dubai, open to all alumni in the UAE, and Inbarajan Rajavel (MSc Civil Engineering 1997) will do the same for the Imperial College Alumni Association of Qatar.

Chih-Lan Chan (MSc International Health Management 2006) has volunteered to set up a group in Taiwan, encouraging alumni to be in touch: "With this organisation we can share our career experiences



and reminisce about the good times in London."

Back in Europe, Michael Byrne (Chemistry 1994), became the representative for the new Imperial College Alumni Association of Ireland and in early July he hosted an evening in Dublin for alumni interested in learning more.

For information about any of the new groups, please contact alumni@imperial.ac.uk with your name, date of birth, and degree and contact details, specifying which group you are interested in learning more about.

Ambassadors on the up and up

The Office of Alumni and Development started the year with a reception to thank Imperial's International Ambassadors and their support staff for their participation in the International Ambassador scheme during 2007, during which they attended a total of 25 events around the world. The evening included a light-hearted awards ceremony in which Fiona Kirk, Director of Development, thanked the Ambassadors for their enthusiasm, energy and help in maintaining a vibrant international alumni community.

Since then, four new Ambassadors have been welcomed to the scheme: Sir Roy Anderson, Rector; Professor Julia

Buckingham, Pro Rector for Education; Ebrahim Mohamed, Director of the Executive MBA Programme; and Lord Robert Winston, Professor of Science and Society. Sir Roy and Ebrahim have already made their first ambassadorial visits.

In May, the College was delighted to learn that the scheme had been awarded a silver medal in the 2008 Council for the Advancement and Support of Education (CASE) Circle of Excellence Awards, coming second out of 21 entries in the category Alumni Relations Programming for Special Constituencies.

View the International Ambassadors Annual Report 2007 at www.imperial.ac.uk/alumni/ambassadors.

Reliving the 'good old days' in Kolkata



Sir Eric Ash

Around 60 alumni and guests gathered in Kolkata for a dinner on 23 February 2008, hosted by the President of the Imperial College Alumni Association of India, Rajive Kaul (Materials 1971), in honour of Sir Eric Ash (Electrical Engineering 1948, PhD 1952; Rector 1985-1993) and his wife, Lady Ash.

Mr Kaul made a presentation on the College's Centenary activities including the December 2007 launches of the Imperial College India Foundation and Rajiv Gandhi Centre for Innovation and Entrepreneurship.

Sir Eric also entertained attendees with a few words about the 'good old days', the Queen's Centenary address and Imperial's ascent to fifth in the world in the *Times Higher Education Supplement's* university rankings, before a vote of thanks was given by Paramesh Dhar (Civil Engineering 1960).



EDWARD CHARNLEY

Presidential updates

The Imperial College Alumni Association of Switzerland has warmly welcomed Pantha Roy (Electrical and Electronic Engineering 2005) as its new President, following in the footsteps of Paul Dyson (Mathematics 1989). Pantha plans to organise regular alumni gatherings for alumni in Switzerland. If you are interested in learning more, please contact him at pantha.roy@ubs.com.

Elsewhere, the Imperial College Alumni Association Hong Kong has also elected a new executive committee, including Chairman, Professor Paul Cheung (Electrical Engineering 1973, PhD 1976), and Vice Chairman, Simon Lam (Mechanical Engineering 1993, MBA 2001).

Miners meet up

Australia-resident Royal School of Mines alumni met up for a casual midday lunch on 28 March 2008 at the Phillips Foote restaurant in the Rocks area of Sydney. The event, which was organised by RSMA Australia representative Ron Butler (Materials 1952), incorporated catching up with old friends and discussing the still booming mining industry in Australia. If you would like to get in touch with Ron, contact him at rbutler@acenet.com.au.



Tea in the Golden Gate City

Over 30 alumni and friends gathered in San Mateo, California, on 7 June 2008 to meet an International Ambassador and indulge in a traditional English afternoon tea.

Professor Christopher Kennard, Deputy Principal of the Faculty of Medicine, delivered a talk on his research into cognitive neuroscience and visual sciences. A lively question and answer session followed, before guests were treated to a traditional English afternoon tea complete with scones, cucumber

sandwiches, jam tarts and, of course, a cup or two of tea.

Arjuna Jayasinha (Civil Engineering 1980, MSc Management Science 1981), committee member of the Bay Area alumni group, said: "It is always interesting to hear about pioneering research and Professor Kennard's talk was fascinating. We also enjoyed the opportunity to learn more about alumni relations initiatives at the College and look forward to working with the alumni relations team on further developing activities in the area."

Singapore events

Members of the Imperial College Alumni Association of Singapore have been treated to a number of events over recent months, starting with a talk by Professor Richard Parker (Physics 1975), Director of Research and Technology, Rolls-Royce Group, at the Jurong Regional Library in April 2008. *Blue Skies to Green Skies* focused on reducing the impact of aviation on the environment, holding the audience rapt for over an hour.

The following month, Dr Martin Walker (DIC Physics 1967, PhD Mathematics 1969), Hewlett-Packard, EMEA, entertained alumni at the



Association members with Sir Roy Anderson (fifth from left)

National Library Building with his thoughts on the *Future of Grid Computing – In the Cloud?*

In June, only weeks before becoming

Rector, Sir Roy Anderson made his first International Ambassador visit, meeting alumni for dinner at the Tanglin Club. Sir Roy spent time talking with alumni about diverse topics, including the Atacama Desert Crossing recently

completed by alumnus Poh Joo Toh (see page 41), the coexistence of polytechnics and universities, and the economic growth of China. ➤

Following in Nobel footsteps

Since 1999, the Imperial College Alumni Association of Singapore has presented the annual Most Outstanding Junior College Science Student Award to a student who has demonstrated exceptional academic achievement in science. In 2007, the award was given to Raffles Junior College student Amelia Chang, who went on to represent Singapore at the annual Stockholm International Youth Science Seminar (SIYSS), held in Stockholm, Sweden, to coincide with the Nobel Prize presentation ceremony and its associated celebrations.

As an attendee of the SIYSS, Amelia was given exclusive access to Swedish science institutes, the Nobel lectures and



festivities, and the prize winners themselves. Along with other talented young scientists from around the world, Amelia had the opportunity to present her own research project, take part in an ethics seminar and build a miniature maglev train. The trip concluded with the Nobel Prize presentation ceremony and subsequent banquet, which

Amelia enjoyed with her new-found friends.

Amelia said: “The experience and memories gained are priceless. SIYSS was an eye-opening experience, culminating in one of the most memorable weeks of my life.”

To read a full account of Amelia’s trip to Stockholm, visit www.icaas.org.

Honouring an alumnus

The Geophysical Society of Houston and the Society of Exploration Geophysicists sponsored a Spring Symposium in May 2008 in Houston, Texas, honouring the work of alumnus John Sherwood

(Physics 1953, PhD 1956).

Notable geophysicists gathered to review Dr Sherwood’s contributions to geophysics, and attendees were offered an excellent technical programme. At a banquet during the symposium, Dr Sherwood was toasted by his friends, family and colleagues. Dave Agarwal (MSc Geology 1959), the Symposium’s Chairman, read and presented congratulatory letters from former Rector, Sir Richard Sykes; Director of Development, Fiona Kirk; and Head of the Department of Earth Science and Engineering, Professor Martin Blunt, together with Dr Hannah Gay’s book *The History of Imperial College, 1907–2007* and a beautiful agate specimen.

The meeting allowed colleagues to recognise past collaborations and renew friendships; those who did not know John were able to meet the man whose contributions advanced the science and those still in school to witness the achievements of a consummate mentor.



John Sherwood (front) and Dave Agarwal

Tales of the tower

In January, the Imperial College Alumni Association of Hong Kong welcomed visiting International Ambassador Professor John Burland, Senior Research Investigator from the Department of Civil and Environmental Engineering. Professor Burland, who was a member of the Italian Prime Minister’s Commission for stabilising the Leaning Tower of Pisa, began the evening with a College update, following with a talk, Rescuing the Leaning Tower of Pisa – the inside story.

Professor Burland said: “It was a great evening, meeting up with old friends and making new ones. The Association did a great job. Many thanks for the highlight of my visit!”





Innovation in the land of the rising sun

The South Kensington Kai (SKK) hosted International Ambassador, Professor Nelson Phillips, when he visited Tokyo in May 2008. Professor Phillips, Head of the Organisation and Management Group at Tanaka Business School, delivered a talk on *Leading Innovation: Understanding the Leadership Behaviours that Create Highly Innovative Work Groups* to around 50 guests at the British Council Japan, including alumni from Imperial and the University of London, and a number of MBA students who travelled to Tokyo with Professor Phillips.

The event concluded with a dinner party at a Japanese-style pub restaurant, where everybody enjoyed great food, interesting conversations and learning about different cultures; a late but fun night for all concerned!

Exciting times for Bahrain network

Following the appointment of Christos Poullaides (Civil Engineering 1979) as the international representative for the Imperial College Alumni Network in Bahrain, the group's first meeting was held at the Monsoon restaurant in Adliya on 25 June 2008. "The Imperial alumni in Bahrain are very excited about forming their own association and the response so far is overwhelming," said Christos at the event.

In an early boost to the group's activities, the Kingdom of Bahrain's Minister of Commerce and Industry, H.E. Dr Hassan Fakhro (DIC Earth Science and Engineering 1964), has agreed to place the association under his patronage.

» If you would like more information about joining one of Imperial's overseas alumni groups, please visit www.imperial.ac.uk/alumni/groups, email alumni@imperial.ac.uk or call +44 (0)20 7594 6126.

International Event Calendar

August 2008 – January 2009

Cambridge Society of Ottawa Informal Drinks

For London and Oxbridge alumni

Thursday 28 August 2008; Earl of Sussex Pub, Ottawa, Canada

Email christina.beharry@international.gc.ca for more information

Imperial College Club of Germany Reunion Weekend

Beautiful Heidelberg is the setting for this year's meeting

Friday 12 to Sunday 14 September 2008; Heidelberg, Germany

Email board@iccg.net for more information

Ambassador Event in Beijing

Join International Ambassadors Professor Dot Griffiths and Mr Ebrahim Mohamed

Monday 15 September 2008; Beijing, China

Email rsvp@imperial.ac.uk or call +44 (0)20 7594 6126

Ambassador Event in Shanghai

Join International Ambassadors Professor Dot Griffiths and Mr Ebrahim Mohamed

Thursday 18 September 2008; Shanghai, China

Email rsvp@imperial.ac.uk or call +44 (0)20 7594 6126

Imperial College Exiles North America East Reunion Weekend

Join fellow alumni in the resort destination of Lake Placid

Friday 26 to Saturday 27 September 2008;

Lake Placid, New York, United States

Email michael.barron@piller.com for further information

IC in VIC Annual Dinner

Join alumni in Victoria for their annual dinner event

Monday 13 October 2008; Brighton, Melbourne, Australia

Email David Bishop at db@numerousbenefits.com

Ambassador Event with Professor Sir Peter Knight

For all alumni in Australia

Sunday 16 November 2008; Pennant Hills Golf Club, Sydney, Australia

Contact Bill Macmillan at macmillanw@bigpond.com or on +61 (2) 99484928

Alumni Asia Forum

Join several International Ambassadors including Sir Roy Anderson

Friday 5 to Sunday 7 December 2008; Bangkok, Thailand

Visit www.imperial.ac.uk/alumni/events/asiaforum2008 for more details

» For a full events listing, visit www.imperial.ac.uk/alumni/events

catch up

Make sure you keep us updated with your life post-Imperial; we would love to hear from you. Visit www.imperial.ac.uk/alumni/catchup to view updates from other alumni or to submit your own update, alternatively see the inside front cover for other ways to get in touch with us.

1950s

Michael New

Botany 1954

I've worked for many public and private entities, including the Food and Agriculture Organisation (FAO), United Nations Development Programme, European Commission (EC), Syntex Inc, and Rank Hovis McDougall. Now retired, but still consulting for FAO and EC. I was President of the World Aquaculture Society (1997–98), now an Honorary Life Member; and President of the European Aquaculture Society (2002–04). I founded Aquaculture without Frontiers in 2004, a charity devoted to the alleviation of poverty in developing countries through small-scale aquaculture. In 1999, I was awarded an OBE for services to aquaculture in developing countries. www.aquaculturewithoutfrontiers.org



Aquaculture without Frontiers volunteer identifying fish

1960s

Robert Bacon

Chemical Engineering 1968

For 25 years I worked for ICI at Nylon Works, Wilton, mainly in technical roles but with spells in production management and projects. Sold with business to DuPont, but I retired eight years later in 2001. My time with DuPont

was spent as Wilton Site Senior Process Engineer working with global teams on adipic acid expansion, modernisation, and technology interchange. Retirement is being spent helping my daughters' families, and enjoying the countryside and coast of north east England with my wife of 40 years and her dog.

Nigel Fitzpatrick

Materials 1965, PhD 1968



Nigel, right, at Fort Dufile in 2006

In Vancouver, consulting, after being the founding CEO of Azure Dynamics, a hybrid vehicle company now working with Ford. This followed relatively calm years at Alcan where, with due attention to both chemistry and metallurgy, beer can recycling technology was patented and launched in the US. My involvement in Imperial's 1965 Uganda Expedition led to my being coordinator of the Fort Dufile archaeological project on the Uganda/Sudan border in the 2006–07 dry season. Skiing and running (just). Four children, three grandchildren, cats, etc. Chair, Legends Strata Corporation. www.legendswhistler.com

Robin Williams

Electrical Engineering 1962

After Imperial, I joined Mullard, met my wife while on assignment in Eindhoven, moved to New York and worked for Philips. I earned a PhD at New York

University, joined IBM, and worked on computer graphics, image handling and data management. I was President of the ACM's SIGGRAPH. I'm a Fellow of the ACM and IEEE, and on advisory boards for US Santa Cruz and UC Merced. I became the Associate Director of the IBM Almaden Research Centre, helping to run the lab and to set research directions. I now offer consulting in R&D management. www.robinwilliams-randd.com

1970s

Chris Avison

Aeronautics 1974

Graduate apprentice at BAC 1970–75; moved from BAC Warton (flight test engineer) to Douglas Aircraft Company Flight Test in 1979; merged with Boeing in 1999; currently Boeing Material Management Manager at Palmdale/Edwards Air Force Base.

Martin Braithwaite

Chemical Engineering 1971

I'm now a consultant with visiting academic posts at Imperial and the University of Queensland (Brisbane, Australia). I am helping organise a reunion of my year (Chemical Engineering 1968–71) on Saturday 27 September 2008; we are expecting about two-thirds of the year back for a champagne reception and dinner. Email me for further information. dbraithwaitem@aol.com

Brian Davies

MSc Biochemistry 1972

Following Imperial, I settled in the newly formed Pharmacokinetics Section at Beecham Pharmaceuticals in 1975. In 1990 I relocated from the UK to

the US following the merger of Beecham with SmithKline and joined the Clinical Pharmacokinetics Group based in the Philadelphia suburbs. In 1995 I started an independent consultancy specialising in the pharmaceutical industry. Even though this was successful, I decided to re-join industry and six years ago moved to New Jersey to work for Hoffmann-La Roche as a clinical pharmacologist. I live in East Hanover with my wife and dog.

Maynard Davies

Aeronautics 1976

After spending 11 years with Alcoa in Swansea, I joined the National Health Service in 1988. In the last 19 years I have spent time seconded to the Welsh Assembly Government and the Centre for Health Leadership in Wales. I'm currently Associate Director of Information Management and Technology. More importantly, I have been married to Paula for over 25 years and have two great sons, Rhys and Gareth. I'm also team leader for youth and children's work at Parklands Evangelical Church, Swansea.

Robert Fisher

Physics 1971, Mechanical Engineering 1974

After years, pond and career hopping, I find myself a Bechtel IT project manager in Houston. I arrived here via Foster Wheeler in Reading, UK, then Intergraph in Houston, in Montreal (building the Hibernia offshore platform), in Huntsville, Alabama (marketing), in Swindon, UK (data warehouses) then Houston again (Intergraph then ChevronTexaco). My Mexico City wife of 18 years is Trade Commissioner for Energy at the Canadian Consulate.

We have two trilingual, tri-national children. Bird brain that I am (thank you, IC Gliding Club), I still regularly fly my hang glider but am working towards my private pilot's licence for old age.



Paul Jorden

Physics 1972, PhD 1975

I worked at the Royal Greenwich Observatory from 1978–98, including its move from Sussex to Cambridge. In this time I got married and had three sons;

none are physicists unfortunately! Since 1998 I have worked in Essex at ezv, a high-tech company that has changed its name several times.

Raymond Kwok

Mathematics 1974

My working career had been in the life insurance industry with only two companies, namely Prudential and UOB Life in Singapore. I've been retired since July 2008, I now have two fine dining Chinese restaurants. Bon appétit! www.huang.com.sg

Snimer Sahni

MSc Management Science 1973

In the more than 30 years since I left Imperial, I have worked in different fields, converging on economic development in the past 15 years. I worked in the IT industry, in the Indian Government, as a management consultant, and in a multilateral development bank. In 2007, I completed an MSc in Agricultural Economics at Imperial's Wye Campus and I'm proud to have a second degree from Imperial, 34 years after I earned the first. I am currently on sabbatical, based in New Delhi.

Spotlight on Clare Duggan

Executive Producer of Stone City Films, Clare Duggan (Microbiology 1981) faced the challenge of recreating the Royal London Hospital as it was 100 years ago for the BBC drama *Casualty* 1907, which was screened in March 2008.

Set 20 years before the discovery of penicillin, *Casualty* 1907 was based on ward reports, autopsy records and

diaries, and featured real-life doctors, nurses and patients. It was so successful that it's led to the BBC commissioning a follow up series of six programmes. Clare and her team are on the lookout for historical medical equipment and information regarding scientific developments from the period (1908–10) for the next series, so if you have a collection that they might be interested in please get in touch.

Clare trained as a Television Producer in the BBC Science Department, before taking up the post of Science Producer for Channel Four News, which took her around the world covering the latest events in science and the environment. This included access to film inside the secret city in Siberia where the Soviets developed their first nuclear bomb. info@stonecity.co.uk



The cast of *Casualty* 1907

1980s

Edmund McGuire

Civil Engineering 1982

I went straight from Imperial into the City where I have worked as a corporate banker arranging debt finance in the fields of project finance, acquisition finance and loan syndications. I have worked in London and Singapore for Guinness Mahon merchant bank, British and Commonwealth Merchant Bank, Hill Samuel, Sanwa Bank, Commerzbank AG (advising on infrastructure debt funding in the TMT, Oil and Gas, Energy and Transport sectors) and most recently at Standard Chartered Bank (arranging loan syndications in Europe, Africa and South Asia). I am married with one child.

Jan E. Stenis

Business School 1984

Following some time within the construction and real estate businesses, I took up an Industrial Environmental >

Economics PhD in 2005. Currently, I study how to utilise the natural resources of the globe, as well as its interstellar surroundings, in a more cost-effective and environmentally-friendly way, based on my innovation: the model for Efficient Use of Resources for Optimal Production Economy – EUROPE. The EUROPE model is the mathematical expression $[a/(b+c)]$ of the Equality Principle, implying total equality in a financial sense between residuals and regular products.

1990s

Antonis Agiovlissitis

Civil and Environmental Engineering 1999

After Imperial, I went back to Greece for my national service. I have been working in various construction firms since, both in the public and private sector, and in fields spanning from port construction and road building to dams and housing. I currently divide my time between Athens and Antiparos.

Zia Akbar

Mathematics 1992

I'm currently working as a software engineer in Lyon, France, and training to use my IT skills in the actuarial field. I keep in touch with a few fellow Imperial graduates, and I'd be happy to hear from any others. I've been married to Huma since August 2006.

Keith Allenby

Civil Engineering 1991

Graduated so long ago now! I spent another five years in and around London before flying east to work in Singapore. I've been here for nearly 12 years now, previously building metros but I'm now building theatres in the Marina Bay Integrated Resort Project. I've two little girls, aged five and three, am still loving the sun and enjoying the Asian way of life.

Merlin Fox

Applied Environmental Science 1998

After Imperial I went to Bristol for a PhD (agricultural sciences) and then a postdoc (soil chemistry) at Rothamsted Research. Since 2004, I have been developing a career in publishing, working for the Royal

Society of Chemistry in Cambridge, first as a Journals Assistant Editor and now a Books Commissioning Editor.

Richard Jones

MSc Management Science 1990

I spent five years at Cable and Wireless plc in global product management. I then joined Equant, a global telecommunications and IT services provider and held a range of European and global marketing roles. Latterly I was responsible for the leadership and management of Equant's global marketing function. Since leaving Equant in July 2005, I've had a change of career to teaching science at secondary school level, currently at the Heathland School in Hounslow, Middlesex.

Gordon Lau

Aeronautics 1999

Since graduating, I've been working in the greater China region. I laboured for Standard Chartered Bank for over seven years but in June 2007 I moved to Natixis Asia. I would love to hear anyone from Aero 99!

Terry Murphy

MSc Electrical and Electronic Engineering 1993

After graduation, I spent three years in the UK with Predictive Control, working on multivariable control and optimisation projects for clients such as ICI, Unilever and National Power. I returned to Ireland with Kathryn in 1996 and joined a control systems integrator. I worked mainly in GSK Cork until summer 2005, and then joined Centocor (part of Johnson and Johnson). We're now living in Cobh, County Cork, and have been married since 2001. We have two lovely boys Jack (five) and Harry (three); both are future Munster and Ireland rugby players!

Stephen Njoka

MSc Applied Entomology 1990

In 2004, at Moi University in Kenya, I earned a PhD in environmental science with a thesis titled *The biology and impact of Neochetina weevils on Water Hyacinth, Eichhornia Crassipes in Lake Victoria Basin, Kenya*. Due to my efforts on the successful biological control of water hyacinth in Lake Victoria, I was honoured with the award of the Order of the Grand

Warrior of Kenya in 2005. Currently I am working as Centre Director for the Kenya Agricultural Research Institute in Eastern Kenya. swnjoka@yahoo.com

Markus Peter

Biotechnology 1992

After completing a PhD (clinical pharmacology) in Cambridge, I ended up joining a biotechnology company in Canada. About 10 days before the company closed its doors for good, I joined Merck and Co in New Jersey as a project manager. Most recently it's involved leading the team for Merck's new diabetes drug Janumet. I look forward to catching up with anybody from Biotechnology/Biochemistry 1992 especially if you are close to New York. I'm trying to get back into a rowing boat but my seven-year-old son and my exec-MBA classes prevent me from doing so...

Jens Petersen

Physics 1990

After spending 12 years in Japan, I relocated to Brisbane, Australia, in 2006 where I continue working as a senior software engineer for Red Hat leading the Internationalisation Engineering team.

Suffian Sahadan

Mechanical Engineering 1998

After graduating, I joined Sony Design Centre designing Discman for the world market. I had a wonderful four years there, prior to landing a job with PETRONAS specialising in engine design. I'm still in the design business, but there are way more challenges which my brain craves.

Georgia Sigala

Chemistry and Biochemistry 1992

After spending 17 years in the UK and having the privilege of working in the British civil service, I have now relocated to Athens living the good life ... Friends are always welcome to visit!

2000s

Sybil Derrible

MEng Mechanical Engineering 2006

I am about to start my third year of a PhD at the University of Toronto and feeling great; my field of work is sustainable urban transportation. I have great hope and a great future in front of me.

Anthony Hsiao

MEng Electrical and Electronic Engineering 2007

Just before graduation, Nicholas Adams (also Electrical and Electronic Engineering 2007) and I decided start up a company in the internet domain. As we didn't have a concrete business idea at the time, we temporarily relocated to India to develop our ideas, experience an exciting country and save on living costs. We soon converged on developing a next-generation travel application – EnTrip. Using the intuitive graphical user interface, users

can plan, book and share their trip, and EnTrip automatically customises external services such as flight booking and local travel information. No more trawling through countless travel sites, just EnTrip – the Swiss army knife for trips! We're loving India and trying to find a way to continue to work here. www.entrip.com



Anthony taking in the view across India

NICHOLAS ADAMS

Teng Jiang

MSc Finance 2004
MPhil, University of Cambridge, Cambridge, UK; Intern, United Nations Headquarters, New York, USA; Consultant, The World Bank Group, Washington DC, USA.

Munem Rashed

MSci Physics 2005
After being clueless in my final year, I now find myself working in structured finance for a bank in London. Missing student life!
ataul.rashedo1@alumni.imperial.ac.uk

Yulia Steseva

MSc Finance 2003
Portfolio Manager, UFG Asset Management, Moscow.

Spotlight on Poh Joo Toh

The Atacama Desert is noted as the driest place on earth; it stretches 600 miles between the Andes Mountains and the Pacific Ocean, and the dry river beds that have not seen water in 120,000 years.

Yet Poh Joo Toh (Mechanical Engineering 2000) was among 80 individuals who braved the desert's extreme climate to take part in the Atacama Crossing, a six-day, 250-

kilometre footrace through Chile, one mile above sea level.

The thought of giving up did briefly cross PJ's mind on day four of the gruelling seven-day race, he said: "Walking on the salt plains was like stepping on million pieces of broken glass, uneven pebbles and hard rocks at the same time. Parts were so soft that I could hardly find balance and sank my feet into it; otherwise they were so hard to make walking miserable."

Yet he pressed on, crossing the finish line in 32nd place. Later PJ said: "Such a triumphant feeling – it was like nothing I had ever experienced before. It was then I knew that this was not going to be my only race!"

No stranger to outdoor challenges, PJ is Director of MXP Adventure, which specialises in trips to Outer Mongolia. He is also a lecturer in Singapore, teaching mechanical engineering and business enterprise.



PJ during the final stretch of the Atacama crossing

WOUTER KINGMA, RACINGTHEPLANET LIMITED

Spotlight on Kate Mandeville



Kate visiting the medical school in Malawi

The World Health Organisation highlights two main challenges that need to be addressed in Malawi, where half of the population lives below the poverty line: tackling the risk of HIV infection and the burden of AIDS, and reversing the weakening of the national health system.

Kate Mandeville (Medicine 2006) has taken some initial steps to help make that happen by setting up the Medic-to-Medic Programme, a charity through which British doctors and medical students sponsor named medical students in developing countries. Only in its first year, the programme is already sponsoring 15 promising medical students at the Blantyre College of Medicine in Malawi.

The lack of trained doctors in Malawi impedes the delivery of basic healthcare to the country's population, but by providing students' medical fees for a full year the programme is supporting the next generation of Malawi's doctors.

Speaking about the programme, Kate said: "It enables talented but poor trainee doctors to focus on their studies by guaranteeing their tuition fees, getting them nearer graduation and working in their home country."

books

Recently published Imperial College alumni and their books are also listed on the alumni website at www.imperial.ac.uk/alumni/books. If you would like to submit details of a book for a future issue of *Imperial Matters*, please email matters@imperial.ac.uk, alternatively see the inside front cover for other ways to get in touch with us.

Microwave System Design Tools and EW Applications

Peter East (Electrical Engineering 1962)
Artech House



In this expanded second edition, comprising a book and CD-ROM package, engineers find a wealth of practical tools and guidance that helps speed up design, evaluation, and

specification of microwave components and EW (electronic warfare) systems. The book covers a broad range of essential topics in the microwave design field, from RF analysis, microwave component evaluation, and antennas to amplifiers, signal detection, microwave receivers, EW measurement systems, and EW propagation. Professionals gain a solid understanding of the properties and dependencies of microwave component designs and discover how electronic warfare systems perform operationally in the field.

Recession Storming: Thriving in Downturns through Superior Marketing, Pricing and Product Strategies

Rupert Hart (MSc Mechanical Engineering 1986)
CreateSpace



No times are more difficult for the survival of a company than recessions. They are defining moments for managers. Yet there are few books on recession strategy out there.

If you want to thrive you need to storm through recessions and downturns. *Recession Storming* covers five main areas: understanding the business environment, retaining existing customers,

maintaining margins through pricing, moving ahead with new product-offerings, and winning new customers. The book covers over 100 strategies from five economic recessions.

Measuring Employee Satisfaction

Joanne Lawrence née Anderson (Chemistry 1985), Barry Whittaker and Heidi Lampi
Management Books 2000 Ltd

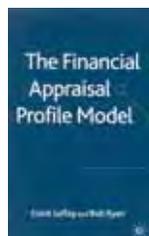


This is a practical tool for any manager wanting to assess the level of employee satisfaction within their organisation. The book explains a proven method of researching and analysing

employee satisfaction within organisations step by step. It is packed with examples of questions and inquiry techniques to establish a true picture of the current position, and shows how to analyse the data collected, including an explanation of the basic statistical principles involved.

The Financial Appraisal Profile Model

Frank Lefley (Tanaka Business School 2000) and Bob Ryan
Palgrave Macmillan



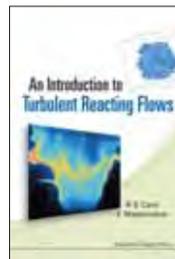
This book describes an integrated capital appraisal procedure that is commanding increasing attention in the academic world, industry, commerce and the professions. The financial appraisal profile (FAP) model has been written about and discussed widely in professional literature. FAP bridges the gap between

the formal rigour of conventional investment appraisal techniques, the management of risk and the strategic posture of the firm.

The book offers the definitive account of the FAP model and discusses many of the practical issues involved in its implementation.

An Introduction to Turbulent Reacting Flows

R.S. Cant and Epaminondas Mastorakos (Mechanical Engineering 1987, PhD 1994)
Imperial College Press



This book provides physical intuition and key entries to the ever-growing body of literature on turbulent reacting flows. A selection of basic and advanced materials is used to build the necessary

background and emphasise some of the main concepts that the student or newcomer to the field of turbulent reacting flows should know, thus facilitating further study of specialised research papers and research monographs.

Street Smart: Competition, Entrepreneurship and the Future of Roads

Gabriel Roth (Civil Engineering 1948)
The Independent Institute



Street Smart explores a variety of roles for the private provision of road services, including testing and licensing vehicles and drivers; concessions to construct or manage government-owned facilities; and outright private ownership.

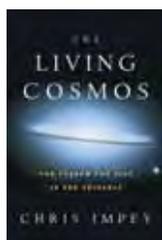
The book also traces the history of privately-provided public roads in Great Britain and the United States and examines contemporary examples of entrepreneurial innovation in road pricing and privatisation.

It won the 2008 Sir Antony Fisher International Memorial Award for its publisher. One of the judges praised the book as “excellent and extremely comprehensive, clearly the best book in its area. Very, very good in every way”.

The Living Cosmos: Our Search for Life in the Universe

Christopher Impey (Physics 1977)

Random House



Astrobiology – the study of life in space – is one of today’s fastest growing and most popular fields of science. In this compelling and elegantly reasoned new book, award-winning

scholar and researcher Chris Impey explores the foundations of this rapidly developing discipline, where it’s going, and what it’s likely to find.

The Living Cosmos is more than just a

riveting work about experiment and discovery. It is also an affecting portrait of the individuals who have devoted their lives to astrobiology. Illustrated throughout, this is a revelatory book about a science that is changing our view of the universe, a mesmerising guide to what life actually means and where it may, or may not, exist, and a stunning work that explains our past as it predicts our future.

Teaching Atlas of Musculoskeletal Imaging

Peter Munk and Anthony Ryan (MSc Biological and Medical Systems 1997)

Thieme Medical Publishers



Teaching Atlas of Musculoskeletal Imaging provides a complete overview of the most common manifestations of musculoskeletal disorders as well as the most important

rare diseases.

Multi-modality imaging approaches for 130 problems are grouped according to broad categories, including internal joint derangement, tumours, infection, avascular bone, trauma, arthritis, and

prostheses. It includes up-to-date information on musculoskeletal pathology and the current management strategies, including the latest interventional radiology techniques.

Trick or Treatment? Alternative Medicine on Trial

Simon Singh (Physics 1987) and Edzard Ernst

Transworld Publishers



Millions of people swear by it; most UK doctors consider alternative medicine to be little more than superstition and a waste of money. But how do you know which treatments really heal and which are

potentially harmful?

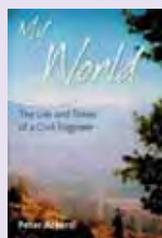
Together, the formidable partnership of Professor Edzard Ernst and Simon Singh have written the definitive book on the subject. It is honest, impartial but hard-hitting, and provides a thorough examination and judgement of more than 30 of the most popular treatments, such as acupuncture, homeopathy, aromatherapy, reflexology, chiropractic and herbal medicine.

Biography

My World: The Life and Times of a Civil Engineer

Peter Ackers (Civil Engineering 1944, MEng 1957)

The Memoir Club



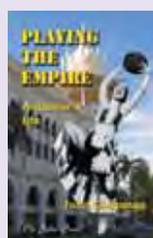
More than just a memoir, *My World: The Life and Times of a Civil Engineer* is also a fascinating and well-crafted social history tracing life from before the Second World War, through the bombing of

Liverpool, to university life and then the opportunities offered to civil engineers throughout the world. Peter Ackers interweaves the personal and the professional to give us a rare insight into the life of a civil engineer.

Playing the Empire: A Dancer's Life

John Chapman (Wye College 1954)

Pedlar Press



Born into the Edwardian theatre, Peggie Sheridan danced her way through India and the British Empire in the 1920s and 1930s. She survived some of the great upheavals of the century; she saw the Empire in its prime,

and she knew it in its last declining years. Married three times, she had her share of triumph and tragedy; and she died in Bournemouth, alone and unknown.

Playing the Empire tells of Peggie’s adventures – appearing in music hall as a child, joining a Russian ballet company in Vladivostok, travelling all over India and the Far East, escaping from the Japanese and settling in post-war Malaya.

Cosmic Anger: Abdus Salam, the First Muslim Nobel Scientist

Gordon Fraser (Physics 1964, PhD 1967)

Oxford University Press



The first Muslim to win a Nobel Prize for science, and also Professor of Theoretical Physics at Imperial College from 1957 to 1993, Abdus Salam was nevertheless excommunicated and branded as a heretic in his

home country of Pakistan.

Realising that the whole world had to be his stage, he pioneered the International Centre for Theoretical Physics in Trieste, Italy. A staunch Muslim, he was ashamed of the decline of science in the heritage of Islam, and struggled doggedly to restore it to its former glory. Undermined by his excommunication, these valiant efforts were doomed.

in memoriam

It is with regret that we announce the death of the following alumni of Imperial College London and the constituent medical schools and Wye College.

Alumni are listed by decade of graduation, and alphabetically within these categories. When an alumnus

has obtained more than one degree from the College they are listed according to the graduation year of their first degree.

Where indicated by an *, obituaries are available online at www.imperial.ac.uk/alumni/obituaries.

1930s

- Mr Brian J. Hardcastle (Civil Engineering 1938, DIC 1964)
- Mr H.D. Ling (Wye College 1939)
- * Mr Leon Lubett (Mining Geology 1932, Mineral Technology 1933)

1940s

- Mr Ronald E. Boone (Materials 1947)
- Dr Arthur G. Davies (Westminster Medical School 1943)
- Dr Arthur J. Head (Chemistry 1948, PhD 1951)
- Dr David G.G. Jones (Charing Cross Hospital Medical School 1940)
- * Mrs Frances M. Lochhead (Wye College 1947)
- Mr William J. Marshall (Chemistry 1949)
- Dr Alfred L. Minter (Mining Engineering 1943)
- Professor Antoni K. Oppenheim (PhD Mechanical Engineering 1944)
- Dr Stewart J. Peerless (Mechanical Engineering 1944)
- Mr Harry M. Spanton (Mining Engineering 1945)
- Mr Frank E. Thurston (Mining Engineering 1941)
- * Mr Wright Waddington (Chemistry 1942)

1950s

- Mr Peter A. Brooks (Mechanical Engineering 1950)
- Sir Robert Davidson (Civil Engineering 1953)
- Mr Colin R. Edwards (Electrical Engineering 1954)
- * Mr Ivor P. Gillson (DIC Civil Engineering 1957)
- Dr Trevor J. Hall (St Mary's Hospital Medical School 1957)
- Mr John R.K. Hickman (Electrical Engineering 1950)
- Dr P.O. Jones (Westminster Medical School 1953)
- * Dr Gwenda D. Leedham (Charing Cross Hospital Medical School 1959)
- * Dr Michael F. Madelin (Botany 1951)
- Dr Anthony J.F. Manners (PhD Mechanical Engineering 1956)
- * Mr Sydney Marland (Electrical Engineering 1951)
- Mr Ian P.M. McQueen (Wye College 1952)
- Mr Henry M. Milling (DIC Mechanical Engineering 1959)
- Dr Charles J. Moore (St Mary's Hospital Medical School 1955)
- * Mr Donal R. Murray (Civil Engineering 1956)
- Dr Peter A. Rayment (Physics 1959, DIC 1960)
- Dr Warren Redding (Westminster Medical School 1956)

- Dr David A. Senior (PhD Chemical Engineering 1957)
- * Mr William J. Stevens (Mining Engineering 1951)
- Mr Adrien J.G. Sturgeon (Civil Engineering 1956)
- Mr Peter L. Thurman (Mathematics 1954)

1960s

- * Professor John S. Archer (PhD Chemical Engineering 1969)
- * Mrs Dorothy A. Baker (DIC Physics 1962)
- * Mr Ewan C. Christian (Chemistry 1963)
- * Mr Malcolm J. Clare (Civil Engineering 1960)
- Mr R.J.W. Dight (Wye College 1960)
- Dr David J. Emery (Mathematics 1966, MSc 1967, PhD 1972)
- Mr William E. Fairbairn (Mining Engineering 1968)
- * Dr David G. Fearn (Physics 1960, PhD 1963)
- Mr Robert L. Heron (Civil Engineering 1968)
- Mr Shek C. Hung (DIC Civil Engineering 1964)
- Mr Robert Maundrell (Wye College 1962)
- * Mr Bernard C. North (Mechanical Engineering 1960)
- Dr Julian C. Nover (PhD Materials 1968)
- Dr P.J. Pegg (Westminster Medical School 1960)
- * Mr David Pizer (Electrical Engineering 1961)
- Dr James R. Potts (MSc Biochemistry 1969)
- * Mr Brian A. Rowe (Electrical Engineering 1962)
- Mr Peter Shirley (Electrical Engineering 1969)

1970s

- Mr Robert A. Armitage (Physics 1973)
- * Dr Jan A.M. Barynin (PhD Chemical Engineering 1970)
- Mr David R. Easterbrook (Mining Geology 1973)
- * Dr Jonathan Edwards (Mechanical Engineering 1974)
- Mr Michael J. Harden (Physics 1973)
- Mr Richard J. Jedrocha (Chemistry 1977, MSc 1978)
- Dr Peter F. Lewis (Botany 1973, PhD 1976)
- * Mr Iain A. MacLauchlan (Mining Engineering 1976)
- * Dr Jean F. Magni (MSc Computing 1979)
- Mr Steven Marsden (Electrical Engineering 1979)
- Mr Leonard M. Newnham (Aeronautics 1979)
- Mr Alfred W. Nimmo (MSc Mathematics 1973)
- * Dr Stephen C. Norton (Charing Cross Hospital Medical School 1971)

- Mr Ian J. Robinson (Materials 1977)
- Mr Anthony E. Scerri (MSc Civil Engineering 1975)

1980s

- Mr Jonathan Chonoweth (Electrical Engineering 1986)
- Mr Paul J. Denning (Chemical Engineering 1983)

1990s

- Dr Italo A. Dodi (PhD Immunology 1996)
- Mrs Elizabeth L. Holme (MSc Environmental Science and Technology 1996)
- Dr Sai W. Lee (PhD Charing Cross and Westminster Medical School 1997)
- Dr Kjartan Magnusson (Environmental Science and Technology 1997)
- Mr Benjamin A.H. Mee (MSc Science Communication 1993)
- Mr Ian R. Moore (Biology 1990)
- Mr Adrian A. Pagan (Chemistry 1990)
- Dr Debra J. Shepherd (St Mary's Hospital Medical School 1996)
- Dr Ian D.A. Spanton (Charing Cross and Westminster Medical School 1996)

2000s

- * Miss Joanna E. Causer (Mathematics 2003)

Members of Staff

- Emeritus Professor Alfred R. Burkin (Professor of Hydrometallurgy)
- Professor Tom E. Oppe (Head of Paediatrics, St Mary's Hospital Medical School 1960–90)

Friends of Imperial College

- * Mr Philip Temple (Hon. Secretary and committee member)

► Printed copies of obituaries are available on request from matters@imperial.ac.uk or by writing to Imperial Matters, Office of Alumni and Development, Imperial College London, South Kensington Campus, London SW7 2AZ.

The bigger picture

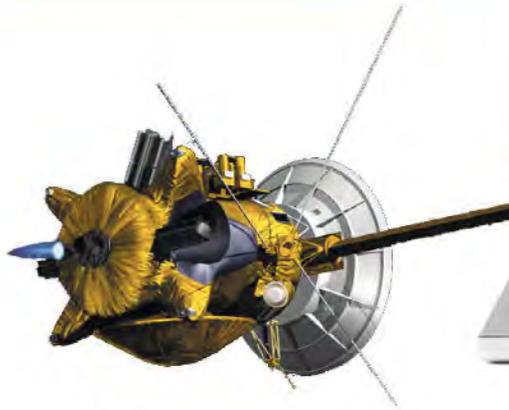


NATHAN GALLAGHER, RED BULL COMMUNICATIONS

Magnificent flying machine

Daredevil pilots from across the UK flew, and crashed, their homemade flying machines into Hyde Park's Serpentine in June 2008; among them were several of Imperial's third year undergraduate Mechanical Engineering students. Named ICarus after the Greek mythological character who flew too close to the sun, melted his wings and plummeted into the ocean, the craft was constructed from a combination of plywood, redwood and aluminium. Dressed in Grecian togas, the team pushed ICarus off a six-metre ramp in front of thousands of onlookers, managing 22nd place in the competition

Imperial College London



Alumni Reunion 2008

20 September 2008

Alumni, particularly those who graduated in a year ending with the figure eight, are invited back to the College for a day of tours, campus activities, social events, and a lecture programme delivered by Imperial's academics, all themed around innovation.

Highlights of the programme include:

- Alumnus Michael Birch, co-founder and Chief Executive Officer of one of the world's most popular social networking websites, Bebo, will deliver the Reunion's keynote speech.
- See how much the College has changed during campus tours of South Kensington, St Mary's and Charing Cross Campuses, and departmental tours at South Kensington.
- Catch up with former classmates and reminisce about days gone by during the Reunion Dinner in the breathtaking Main Entrance, designed by Norman Foster and Partners.

Visit www.imperial.ac.uk/alumni/reunion2008 or contact the Alumni Relations team on +44 (0)20 7594 6130 for more information and to book your place.

