Lights, camera, action for Imperial

IMPERIAL’S Tanaka business school and the Faculty Building are all set to feature alongside major Hollywood stars in Basic Instinct 2: Risk Addiction.

The crew spent two days filming on site at the end of last month with Imperial’s buildings masquerading as the workplace of Dr Michael Glass (David Morrissey), the psychotherapist who is called in to assess seductive crime novelist Catherine Tramell, portrayed by Hollywood superstar Sharon Stone.

Well-known actress Charlotte Rampling appeared alongside David Morrissey in scenes around the buildings.

Julia Jones, publicist for the film said: “This is a contemporary film which we want to reflect by using a range of slick, contemporary London locations. We wanted to steer away from the usual sites of Big Ben and the Houses of Parliament, aiming to create something more Sir Norman Foster than Sir Christopher Wren. Sharon Stone’s character in the film is a smart, stylish, modern woman, and by using locations, such as Imperial’s Faculty and Tanaka buildings, we think we can replicate that in the London we show in the film.”

Keith Hatcher, location manager for the film, explained further: “We are trying to reflect the changes that London has undergone over the past decade. We’ve been looking for suitable locations since Christmas. We chose to use Imperial for this scene as it sits well with the plot, which called for a medical institution.”

The film will be in cinemas in March 2006.

Imperial in Good University Guide’s top three

IMPERIAL has been ranked third best UK university according to The Times Good University Guide 2006 published at the end of last month.

The guide assessed performance in teaching, research, entry standards, student-staff ratio, library and computer spending, facilities spending, attainment of firsts and upper second Honours, graduate employment prospects and completion of degrees.

Imperial topped individual league tables for research income and facilities spending, and eleven academic departments were rated in the top 10 in the UK.

Imperial was also rated highly for entry standards (third) and for its low student-to-staff ratio (second).

Imperial’s mechanical engineering degree was rated best in the country.

Since 1995, Imperial has ranked third or higher in The Times’ rankings, leading the London universities and, together with Cambridge and Oxford, well ahead of other rivals in the overall ranking.

Imperial was recently judged the fifth best higher education institution in Europe and 14th in the world by The Times Higher Education Supplement.

For further information, see Imperial’s league table webpage at www.imperial.ac.uk/league and The Times league tables at www.timeshighereducation.co.uk section/c/116.00.htm.

Knighthoods for two Imperial scientists

PETER Knight, head of physics, received a knighthood in recognition of his role in establishing the UK as a world centre for research into quantum optics. Also honoured was Gordon Conway, professor of the Order of St Michael and St George for services to international development, science and agriculture.

Commenting on the honours, the rector said: “We’re absolutely delighted that the excellent work of our colleagues has been recognised in this magnificent way.

“Both Peter and Gordon have shown outstanding leadership in their own ways and we’re immensely proud to be able to share in their achievements at Imperial.”

Sir Peter said he was “flabbergasted and very pleased” to be recognised and was quick to pay tribute to the quality of the team at the College. “At Imperial, our aim is always to take the cleverest young people and give them an environment in which they can flourish.

The fact that the UK continues to lead the world in quantum optics is down to their talent and enthusiasm.”

Sir Peter’s work focuses in particular on quantum optics and strong field physics. He was the first to predict that atoms driven...
Building for a better future

EIGHTY third-year civil engineering undergraduates donned their hard hats last month for this year’s Constructionarium, an award-winning learning experience where students are plunged into running their own construction projects, in real-time, with real materials, equipment and risks.

This is the third Constructionarium but the first time that students have scaled up from model making. Teams built a lifesize swing bridge, a real dam and a mini-stadium: the first two projects within the realm of construction companies’ actual commissions. This year’s scale meant that students were using a full range of equipment, as many of the materials in use were too heavy to lift.

This differs hugely from work experience during which students can only act as student engineers. This is real work where students must take on all roles from chartered engineer to general labourer.

The students have also had to come to terms with the fact that they can fail, if they don’t manage to make a profit.

Alison Ahearn, senior teaching fellow in the department and an organiser of the project, said: “This is an extremely innovative form of education in which Imperial has led the way. In fact, Constructionarium is to feature on the work-based learning stand at this year’s TUC conference. The project was also awarded the CONSTRUCT award, the first time that this industry award has gone to a project in academia. The experience is an eye-opener for our students, giving them a taste of what awaits them after their studies, showing just how theory, practice and management come together.

The project takes place at an old airforce base in Norfolk, now run as a construction college. The sponsors of the event create artificial landscapes on site, which this year include a river, which runs through a mountain that was left over from the construction of a lake last year.

Imperial professors recognised by the Royal Society

By Abigail Smith

AN Imperial biochemist and computer scientist were among the 44 new Fellows of the Royal Society announced last month.

Jim Barber, Ernst Chain professor of biochemistry and head of the photosynthesis research group in the department of biological sciences, was elected to the UK’s national academy of science and can now place the letters FRS after his name.

Also elected was Luca Cardelli, visiting professor in the department of computing, bringing the total number of fellows at Imperial to 59.

Professor Jim Barber, 65, is a leading expert on photosynthesis research, noted in particular for revealing at extremely high resolution the structure of photosystem II, the molecular reaction centre that plants use to split water into hydrogen and oxygen atoms.

He said: “I feel very honoured to be elected to fellowship of the Royal Society. It is a recognition of the many excellent colleagues and students who have worked with me during my 37 years at Imperial and to whom I am deeply indebted.”

Professor Luca Cardelli, 44, is recognised for his innovative work on the theory and implementation of programming languages which extends to mathematical modelling of interactive and mobile systems.

He is currently assistant director of Microsoft Research Cambridge, working within the programming principles and tools groups in the areas of programming languages and security.

Also admitted to the fellowship was Dr Julian Dowward, principal scientist at Cancer Research UK London Research Institute, an alumnus of Imperial who completed his biochemistry PhD at the College in 1986.

Fellowships are given to distinguished scientists by the Royal Society in recognition of ‘contributions to science, both in fundamental research resulting in greater understanding, and also in leading and directing scientific and technological progress in industry and research establishments.”

Visit www.royalsoc.ac.uk for a full list of new fellows and foreign members for 2005.

Imperial spin-out company’s SwirlGrafts a success

AN Imperial spin-out company has devised a novel solution to help bypass grafts and dialysis shunts last longer.

Surgeons often use synthetic tubes to make a graft to bypass a blocked artery or deliver dialysis to patients with renal disease. Unfortunately, many of these synthetic grafts fail; in fact, more than 300,000 people have renal shunts fitted per year, of which about two thirds have to be replaced within the first twelve months, and of the more than half a million bypasses fitted annually about half fail in the first year.

Based on long-standing research, Imperial spin-out company Veryan Medical, founded by Emeritus Professor Colin Caro, bioengineering, may have found the solution. To make blood flow in grafts and shunts as it does in natural arteries, the company has developed synthetic tubes with helical twists known as SwirlGrafts.

These mimic the natural twist of arteries, generating a swirling blood flow that promotes mixing and eliminates stagnant regions where disease preferentially develops.

Professor Caro explained: “Flow stagnation is bad for blood vessels. It increases cell death in the vessel wall, and promotes thrombosis and the occurrence of a disease called intimal hyperplasia, a thickening of the blood vessel wall, which is the most common cause of obstruction and failure of dialysis shunts and bypass grafts.”

Veryan Medical has received European regulatory approvals for the SwirlGraft, and hopes that these will soon be followed by Federal Drug Administration approvals in the USA. European clinical trials have begun, with highly encouraging early results. Nick Cheshier, professor of vascular surgery at St Mary’s and a director of Veryan Medical, said: “If SwirlGrafts live up to their promise, the improvement in patients’ welfare, not to mention the healthcare savings, could be dramatic.”

Get ready for Full Economic Costing (FEC)

FEC is nearly here and it’s time to get prepared.

From 1 September, research grant proposals must include full economic costs (FEC) to comply with government requirements. To facilitate the preparation of research grant proposals with FEC, Imperial is replacing the infoEd proposal development system. The easy to use infoEd system will directly connect to the required FEC information and provide many other time-saving features, such as an automated approvals process, which have been developed to make the FEC proposal development process more efficient.

Members of staff involved in writing or producing research grant proposals should be prepared for FEC and infoEd now. To help you, the Research Services website www.imperial.ac.uk/reschange is being updated weekly with new FAQs, training sessions, roadshow presentations and other news about the FEC development process at infoEd and FEC. For further information, questions or concerns email fec@imperial.ac.uk or infoed@imperial.ac.uk
New principal for faculty of physical sciences

PROFESSOR Michael Duff is the new principal of the faculty of physical sciences. Alex Platt went to meet him.

What is your professional background?
This is a welcome return to Imperial for me. I gained my PhD in theoretical physics here in 1972 under Nobel laureate Abdus Salam. I returned to Imperial as a member of the academic staff in 1979, taking leave of absence to visit the theory division at CERN, first in 1982 and then again from 1984 to 1987, when I became Senior Physicist. I took up a professorship at Texas A&M University in 1988 and was appointed Distinguished Professor in 1992. In 1999 I became Oskar Klein Professor of Physics at the University of Michigan and was elected to serve as first director of the Michigan Center for Theoretical Physics 2000-05.

What are some of the things you’d like to achieve now you are settled in?
The faculty is made up of the departments of chemistry, maths, physics and the centre for the history of science, technology and medicine, each recognised worldwide for its excellence. In this respect I join the faculty in a great position. With no radical changes needed, my main task is to maintain our high standards and to ensure the provision of the finances to do this. When you are performing at a level so close to the pinnacle of excellence, it’s much easier to go down than that little way further up. Our challenge is to maintain what we’re doing and to do it in the most efficient way possible.

What inspires you about Imperial?
Quite simply, it is the fact that the College is one of the best in its field. I join in exciting times, many things are happening and I’m happy to be a part of it. For example, we have just launched the new interdisciplinary institute for mathematical sciences.

What do you consider to be the biggest challenge facing you at Imperial?
Well, as you’ll see from my background, I have a history here and very fond memories from my time as a PhD student. I left the UK in a time when funding, salaries and morale were all very low in the higher education sector, but I always had a pipe dream to return and am delighted when I was offered the post here. My background is primarily based in academia so the challenge for me is making a success of this type of administrative role. I welcome the new challenges and direction at this time in my career. I do have the chance to research here with my physics professor hat on, but have yet to find the time to fit it all in! Another challenge for the College, unusual in British university life for its provision of mainly science courses, is that we need to maintain diversity in the students and faculty.

What challenges do you feel face higher education as a whole?
Despite Imperial being one of the best colleges of its type in the world, we still face serious competition with those in the USA. I believe, as unpoppular as this may be with some people, that we need to consider American funding methods to compete. With scholarships and bursary schemes, those with the talent can get to study whatever their backgrounds.

How do you envisage maintaining a relationship with our graduates?
Strong relationships with our graduates are of utmost importance. It’s fantastic to keep those who invested some of their lives into the College informed but also, from a pragmatic point of view, we welcome the support that alumni donations bring. It’s important to communicate the many positive things coming from Imperial.

What was the last book you read?
I’m currently reading Ian McEwan’s latest novel called Saturday. It chronicles a day in the life of a successful neurosurgeon when everything he takes for granted is suddenly called into question. I’m only half way through so I can’t tell you how it ends…

APPLYING science to end the UK’s ‘one bin’ culture and turn our waste into a valuable source of raw materials is the goal of a new professor at Imperial, writes Laura Gallagher.

Professor Sue Grimes, holder of the College’s first chair in waste management, will develop technologies for reusing and recycling anything from household rubbish to large tonnage waste from the construction industry. She hopes her research will put an end to the culture that lumps all waste together, from food to computer components and carpets, allowing potentially valuable resources to go unrecovered.

Professor Grimes said: “The general public in the UK has grown up with a ‘one bin’ culture for the disposal of household wastes. Although attitudes are changing, industry and commerce also tend to regard the waste they dispose of as being low in value or worthless. As consumers, we need to start thinking about using the materials in waste, rather than disposing of them in landfill sites and in other less than environmentally friendly ways. The key is to explore using waste as a resource through the fundamentals of engineering, science and management, so that our waste only consists of materials destined for final disposal.”

With the creation of the post, Imperial aims to become a centre for excellence in waste management and research. “I intend that our centre will become a natural point of contact for the waste industry and other stakeholders in the UK and throughout the world,” she added.

Professor Grimes became the first woman in a chair sponsored by the Royal Academy of Engineering when she took up the appointment as the SITA/Royal Academy of Engineering chair in waste management on 1 June. Her research interests include the fundamentals of waste and wastewater treatment, clean process technology, recycle from waste, and environmental management. In 2000, Professor Grimes led a team that won the Institute of Wastes Management Millennium Prize for a study on London’s biodegradable waste.

The post has been funded by SITA Environmental Trust, through the landfill tax credit scheme, with additional funding from the Royal Academy of Engineering.

Stop wasting our waste!

The myth of good football
Despite appearances, the likes of Wayne Rooney may not just be kicking a ball around. Rather, says Yannis Gabriel of the Tanaka Laboratory, the new satellite, which is more accurate than anything currently in space, will set benchmarks in for the amount of light reflected off certain parts of the planet. Commenting in The Guardian on Liverpool’s victory in the European cup final, Professor Gabriel writes: “At half-time, in their epic confrontation with AC Milan, Liverpool’s players were confronted not just with defeat but with the abyss of total humiliation, surely every sportsperson’s nightmare.” He concludes: “Neither psychology nor economics can help us make sense of what happens on the field. Story and myth can.”

Climate change sceptics run out of wriggle room
A new instrument that improves the accuracy of earth observation data could help settle the argument over how climate change will affect the earth, reports The Guardian (02.06.05). Created by scientists at the National Physical Laboratory, the new satellite, which is more accurate than anything currently in space, will set benchmarks in for the amount of light reflected off certain parts of the planet. “Two current instruments give measurements that are adrift by about a third of a per cent—and that allows for a substantial amount of doubt,” comments Professor Joanna团, physics. “Without some sort of reference point we can’t really tell if a data shift is due to faulty instruments or a trend in the sun, so NPL’s proposed orbiting calibration is to be welcomed.”

Is grandma making you ill?
News from Washington State University that some inherited diseases may be caused by poisons that polluted the womb several generations back has been received with a degree of caution by Alan Boobis, medicine.

Researchers found that rats exposed to toxic chemicals could display altered genetic activity, giving rise to diseases that pass down at least four generations. However, Professor Boobis tells BBC News Online (03.06.05): “This effect is likely to be concentration dependent and these animals were exposed to very high levels of chemicals. We need to find out whether this trans-generation effect is translated to much lower doses.”

‘No brainer’ in war on AIDS
The South African government came under renewed pressure last week over its reluctance to supply anti-retroviral drugs (ARVs) to its citizens suffering from AIDS. Speaking to BBC News Online (09.06.05) Mark Nelson, investigative sciences, described using ARVs to tackle the disease as a ‘no brainer’, and added: “You have to give people the belief that these drugs work because they do work.”

Professor Sue Grimes gets to grips with her new job

The next generation of creative engineers to attract from a tap, let alone travel to work or school in the morning.” He adds: “We need to attract the next generation of creative engineers to meet the challenges that climate change and urbanisation pose to our environment.”
Imperial alumni choir success

IMPERIAL alumnus Peter Oakes has maintained strong links with Imperial since his graduation in 1983 and, in particular, with Richard Dickens of the Imperial College Symphony Orchestra (ICSO) reports Natasha Easton.

Now a maths teacher at the Thomas Hardy School, Dorchester, Peter and his school choir have been hosts to the ICSO on a number of occasions where they have played together. These events proved to be so popular that the ICSO now plays with a number of choirs around Dorchester.

Being able to collaborate with the distinguished ICSO has been a dream come true for Peter. He said: “For our school choir to be invited in such great music making provides the sort of experience that our students will remember for the rest of their lives.”

Peter’s choir were invited to sing at an Imperial concert held on Friday 7 June which was Imperial’s centenary, Theres Tack Hillbard’s last Imperial concert. “Although we had a very short time to work with Theres it was clear why the Imperial choir love her as they do, and how much they’ll miss her,” Peter said. “As well as being a charismatic choir trainer, she also excelled in conducting the Bruckner Te Deum. Our students were hugely privileged to be able to join the Imperial College Chorus for this concert.”

Continued from page one

Knighthoods for Imperial scientists

by intense laser fields would radiate high harmonics and he developed a model successfully explaining the behaviour of multi- electron atoms.

Professor Michael Duff, principal of the faculty of physical sciences, was one of five to congratulate Sir Peter on his knighthood.

He said: “Peter is one of those rare individuals who can combine deep scientific insight with extraordinary managerial skills, all with a boundless enthusiasm. He has left an indelible mark on the field of optics.”

Ed Hinds, director of the department of physics’ centre for cold matter, said: “I know this was a surprise to Peter but to the rest of us it seems a most natural and appropriate recognition.”

Sir Peter first came to Imperial in 1979, after working in the US at Stanford and Rochester universities and in the UK at Sussex and Royal Holloway University of London. He became head of physics in 2001 and acted as principal of the faculty of physical sciences from 2004 to 2006.

The news of Gordon Conway’s honour was welcomed as highly deserved by his colleague Jeff Waage, professor of applied ecology, who added: “Gordon has had a distinguished career in the fields of development and academia, spearheading many projects that have had a real difference to the lives of some of the world’s poorest people.”

Sir Gordon is chief scientific adviser to the Department for International Development. He worked at Imperial from 1970 to 1988, laterly as professor of environmental technology, and returned last year as part-time professor of international development. He was vice-chancellor of the University of Sussex from 1992-1998 and president of the Rockefeller Foundation from 1998-2004.

Apikaj Srivannavat

IMPERIAL student, Apikaj Srivannavat, was tragically killed in a road traffic accident whilst cycling in the South Kensington area at the end of last month.

Apikaj, 26, gained his first degree in electrical engineering from Thammasat University, Bangkok, before coming to London in October last year to join the Imperial’s MSc in Environmental Engineering and Sustainable Development.

During his short time at Imperial, Apikaj had become very well regarded both by his fellow students and by academic staff involved with his course. He was a highly motivated, competent and popular student. Apikaj had recently completed his written exams and was about to commence his long-term project on household hazardous wastes. He always appeared to be very happy, with a wide circle of friends and was particularly active in the College’s Thai Society. He will be much missed by all who knew him.

Contributions to education recognised

AN international award for contributions to education has been won by Professor Chris Toumazou, director of the institute of biomedical engineering, reports Laura Gallagher. Praised for his contributions to education, including the founding of the institute, as well as the quality and originality of his tutorials, textbooks, continuing professional development courses and workshops, Professor Toumazou will receive his 2005 IEEE Circuits and Systems Society Education Award in California later this year.

“I am delighted to be the recipient of this award. It brings international recognition of the circuits and systems teaching and research we have been doing over the past 15 years in the department of electrical engineering,” said Professor Toumazou.

Dr Julia King, principal of the faculty of engineering said: “We are very pleased that Chris's outstanding contributions to education have been recognised with this award. It is great that we have people like Chris, who are inspiring teachers as well as brilliant researchers, in College. Inspiring teaching is essential if we are to motivate the next generation of scientists and engineers, and enhance still further the College’s reputation for excellence in research.”

An awards panel of four leading educators and well-known researchers chose Professor Toumazou to receive this award, which sets out to honour people who have made outstanding contributions to education in a field covered by the IEEE Circuits and Systems Society. IEEE CAS is the largest international electrical engineering institution with over 70,000 members worldwide.

What's on... What's on... What's on...

Monday 20 June
19.00
The Royal Institution.
One Day Universe
Professor John D. Barrow,
University of Cambridge.

Tuesday 21 June
Exhibition Road
Music Day
Local institutions come together for a day and night filled with special music performances. All performances will be live and free. For more information visit www.musicday.org

Wednesday 22 June
12.30
3rd floor, Reynolda Building,
Charing Cross campus.
The right of refugees and asylum seekers to healthcare under the NHS
Dr Philip Cole,
Middlesex University.
Contact 020 7942 4040 or email event@medicalcentre.org.uk to attend.

Thursday 23 June
19.00
Dana Centre
165 Queen's Gate
Neuroethics: the ethics of brain research
Public discussion hosted by William Safier, Chairman,
Dana Foundation USA, with speakers including Imperial’s Professor Chris Kennard.
Free—to book a place call 020 7942 4040 or email event@medicalcentre.org.uk

Tuesday July 5, 19.00
The Royal Institution
Happiness: the science behind your smile
Professor Angela Cow,
University of Westminster,
Dr Daniel Nettle,
University Newcastle
and Professor Andrew Ousland,
University of Warwick.
Visual arts programme
29 June–11 July
Blyth Gallery, South Ken-
nington campus
Looking Ahead
Art exhibition by medi-
cultural humanities students.
Contact: Moody Lo at art@medicalcentre.org.uk

Creative meditation
Tuesdays 13.15-13.45
Chaplaincy Centre prayer room, main building, first floor, South Quad, South Kensington campus.
An informal, luncheon drop in session, open to all, with commentary and background music designed for beginners and those with experience.
Contact: 020 7942 4040 or email information@medicalcentre.org.uk

Noticeboard
This week sees the International Alexander Technique Awareness week. The technique, which is used worldwide, can positively help to prevent or alleviate conditions associated with undue tension or poor posture. To mark this occasion and to make the technique more accessible for all, teachers nationwide will be offering introductory discounted lessons if they are booked this month.

To sign up, contact Pauline Wetherell, 020 7594 9394.

Reporters is published every three weeks during term time. The copy deadline for issue 155 is Friday 24 June. Publication date is July. Contributions are welcome (no more than 300 words). Please note the editor reserves the right to cut or amend the articles as necessary. Information correct at time of going to press.

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