Imperial College London

reporter

Issue 258 ▸ 21 March 2013

Sharing stories of Imperial's community

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EDITOR'S CORNER

A broad church

The Imperial name will probably always be synonymous with science, engineering, medicine and enterprise. But that's far from the full scope of activity that goes on here. **Sport, music and art have long flourished at the College.** In this issue we take a trip to the Imperial boathouse in Putney to get a sense of the dedication required to achieve excellence in rowing (page 8). It is astonishing how these students manage to cope with such a demanding sporting and academic schedule. Part of the answer no doubt lies with the **camaraderie and family spirit** that exists in the club. On matters musical meanwhile, the College's Symphony Orchestra produced a barnstorming performance earlier this month at a packed-out Cadogan Hall (page 12). But it's not just students that are gifted all-rounders; **many staff through the years have also shown diverse talents**. This issue we pay tribute to Malcolm Haines, leading physicist, enthusiastic rower and passionate musician, who passed away in January (page 14).

ANDREW CZYZEWSKI, ACTING EDITOR

Reporter *is published every three weeks during term time in print and online. The next publication day is 25 April. Contact Andrew Czyzewski:* ✉ **reporter@imperial.ac.uk**

Imperial researchers echo superbug warnings

Medical experts at the College have echoed the call from England's Chief Medical Officer (CMO) for urgent action to address the "catastrophic threat" posed by antibiotic-resistant infections.

In her first annual report, CMO Dame Sally Davies warned that unless we restrict the use of antibiotics and develop new ones, routine infections could become untreatable within 20 years.

Welcoming the report, Professor Alison Holmes (Medicine) Co-Director of the Centre for Infection Prevention and Management at the College said: "Antibiotic resistance is a matter of national and international biosecurity. At Imperial, we've been committed to tackling this problem through a variety of innovative approaches for several years, from basic science to behavioural change and using data to support surveillance."

Professor David Holden (Medicine), Director of the MRC Centre for Molecular Bacteriology and Infection at Imperial, said there was reason to be optimistic yet.

"There are undoubtedly many

different natural antibiotics still waiting to be discovered, but many pharmaceutical companies seem to have given up. We need to come up with new ways to find these compounds. At the same time, as a result of recent advances in genetics, biochemistry and cell biology, we are gaining remarkable insights into how bugs cause disease."

—SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS

Union plaque for Queen's first gig

Members of one of the world's most celebrated rock bands, Queen, made a special appearance at Imperial College Union on 5 March to accept a music heritage award from the Performing Right Society for Music (PRS).

Dr Brian May, an Imperial alumnus (PhD Astronomy 2007), and Roger Taylor returned to the College to receive the award, which recognises Queen's unique contribution to the UK music industry. To mark the honour, PRS presented a plaque commemorating the venue of Queen's first concert in London on 18 July 1970.

After unveiling the plaque, which will be placed permanently on Prince Consort Road, Brian reflected on that moment in 1970. "The first proper gig we did was at Imperial in the Union Hall. I remember it very distinctly because I'd seen all sorts of people playing in there. People like Spooky Tooth and Steamhammer. We booked Jimi Hendrix too. So for us it was a dream come true to actually play on that stage," he said.

After completing a degree in physics, Brian went on to study for a PhD. But when the launch of the *Queen II* album in 1974 led to international recognition, he left the College only to return 36 years later to finish his doctorate in astronomy in 2007.

Union President Paul Beaumont said: "We're very proud of the Union's musical past; including the small role we played in the Queen story."

PRS represents the rights of over 95,000 songwriters, composers and music publishers in the UK. The thirteenth music heritage award recognises Queen's outstanding achievements with 16 number one albums, 18 number one singles, and over 300 million record sales.

—LUCY HANDFORD, COMMUNICATIONS AND PUBLIC AFFAIRS

Imperial West: open for business

The vision for the College's new campus, Imperial West, was officially launched at an evening event on 6 March attended by 700 guests.

President & Rector Sir Keith O'Nions showcased plans for the centrepiece of the new campus, a £150 million Research and Translation Hub which will house 1,000 researchers, and invited potential partners from business, charities, governments, academia and healthcare to form long-term relationships with the College at Imperial West.

The project was hailed by Mayor of London Boris Johnson and Universities and Science Minister David Willetts, who both spoke at the launch, held at South Kensington Campus.

Mr Johnson said: "Here at Imperial you've got the right answer, which is to capture the flash of inspiration, harness the bang and convert it into wallop for the London and the UK economy – and that is what you're doing at Imperial West.

"You'll be following in the footsteps of all the innovators at Imperial that have made it the greatest scientific institution in the world."

Willetts added: "Imperial is one of our country's great universities and the new Imperial West campus is a really exciting development. The government strongly supports the vision and plans for the new campus and we look forward to seeing it grow and prosper in the future."

Professor Stephen Richardson, Deputy Rector, cutting an Imperial West-shaped cake in the Senior Common Room.

The launch follows the award from HEFCE in November 2012 of £35 million towards the development of the Research and Translation Hub. Design work on the Hub, which is also funded by investor Voreda and from the College's own resources, is underway. The College plans to complete the construction in 2015.

The new campus also represents investment in the White City regeneration area, providing homes, publicly accessible green space, pedestrian subways and leisure and retail facilities. On completion, the campus will generate an estimated 3,200 permanent jobs.

To watch a video about Imperial West visit:
youtu.be/iKwN1R3bXvQ

Imperial seeks founding director of major new finance centre

The College is searching worldwide for an exceptional individual to become the founding director of the Brevan Howard Centre for Finance in the Business School.

The new centre, which will spearhead cutting-edge research in financial market behaviour, will be funded by a transformational gift of £20.1 million from Brevan Howard, Europe's most successful hedge fund, which was established by Imperial alumnus Alan Howard (MEng Chemical Engineering and Chemical Technology 1986).

The Brevan Howard Centre for Finance will dramatically enhance the Business School's expertise in financial economics and strengthen ties with other disciplines including engineering and computational finance. A key objective of the new initiative will be to disseminate rigorous, world class research to reach and engage business practitioners, policy-makers, legislators and the wider public, as well as other academic experts.

The new Centre will serve as a bridge between the Business School and the commercial world, aiming to develop a greater understanding and more efficient management of risk, and to promote investment and productivity.

Sir Keith O'Nions, President & Rector, said: "Our ambition is for the Brevan Howard Centre for Finance to build a reputation on a par with Imperial's world class work in science, medicine and engineering. We are searching for an outstanding individual to drive the Centre's pioneering mission, drawing on the spirit and strengths of inquiry already found at Imperial.

"Brevan Howard's extraordinary generosity and vision will help transform the Business School into a global leader in financial economics."

–ANDREW SCHEUBER, COMMUNICATIONS AND PUBLIC AFFAIRS

in brief

Medics act out emergencies at Big Bang Fair

Professor Roger Kneebone (Surgery and Cancer) and his team presented realistic simulations of what happens during different emergency medical scenarios at the Big Bang Fair which ran from 14–17 March at London's ExCel Centre. Visitors met and spoke with practising surgeons, cardiologists, doctors and paramedics to find out more about these careers, and how simulation can make a difference to their training. Throughout the weekend visitors also had the chance to see simulated heart attacks and brain surgery in a 'pop up' operating theatre.

College rugby team retains varsity title

The College rugby team got the better of their Medical opposition in the Varsity rugby match held on 13 March at Twickenham Stoop. After a thrilling day in which 56 teams battled it out across 10 different sports, the tournament climaxed with a win for Imperial College 1st XV against Imperial Medicals 1st XV, the final score 19-5, as they held the J.P.R. Williams Cup for the second year in a row.

Imperial in climate week pledge

As part of Climate Week, the Grantham Institute for Climate Change signed a declaration urging action on energy efficiency and carbon emissions for the UK. The third Climate Week ran from 4–10 March and saw 26 members of parliament and over 200 social organisations sign a declaration calling for national commitment to carbon neutral energy.

> "From my point of view it could just have easily been called the Kibble particle. But the name has stuck; Higgs has only one syllable."

PROFESSOR STEPHEN WEINBERG, TALKING ABOUT THE ORIGINAL POSTULATION OF THE NOW CONFIRMED HIGGS BOSON PARTICLE IN A LECTURE TO MARK PROFESSOR TOM KIBBLE'S (PHYSICS) 80TH BIRTHDAY CELEBRATIONS.

Engineering scholarship aims to boost UK industry

More Imperial engineering students will benefit from industry experience thanks to the expansion of the Kingsbury Scholarship programme.

The Kingsbury Scholarships, established through the generous support of alumnus Derek Kingsbury CBE (Electrical Engineering 1947), aim to support gifted students in financial need who have a firm offer from the College to study engineering. Eligible students are required to spend a year working in UK industry before they start studying at Imperial.

Derek Kingsbury enjoyed a notable career in UK industry with Associated Electrical Industries, Thorn Electrical Industries, Dowty Group, Pearson and Fairey Group.

"I want to encourage more students to consider industrial and technical careers in the UK," Mr Kingsbury said. "I believe that investing in academic success and encouraging ambition and excellence in engineering students is vital to UK industry."

The first Kingsbury Scholar, Catherine Stevenson (pictured left), started her MEng course in Aeronautics in October last year after spending a year at ScottishPower.

"My placement was invaluable in helping me to understand how engineering and technology are practically applied to industrial solutions. I'm sure this will help give me a headstart on my course at Imperial," said Catherine.

Mr Kingsbury has recently expanded the scholarship programme, enabling the College to offer a scholarship to one outstanding student each year. Successful students receive a full scholarship for the duration of their course, which includes a tuition fee waiver and a grant towards living costs.

—LUCY HANDFORD, COMMUNICATIONS AND PUBLIC AFFAIRS

Imperial women win London's premier rowing race

Image: Nick Ablitt

Imperial College Boat Club stormed home to secure overall victory in the women's eights Head of the River Race on Saturday 9 March.

Beating over 300 other boats, Imperial's women's A crew covered the 6.8 km course on the River Thames in 18 minutes 16.57 seconds – 16 seconds faster than the crew in second place.

Coach Stuart Whitelaw said: "I'm over the moon about the result. It's an incredible race to take part in, and to come home with a win is just fantastic. It's the culmination of more than six months' preparation, so all credit to the girls' fantastic effort."

The Imperial women's A crew that took part in the race was a combined student and open crew. Imperial competitors were PhD student Michelle Vezie (Physics) and undergraduates Myriam Goudet (Life Sciences) and London 2012 Olympian Mel Wilson (Medicine).

They were joined by Sophie Hoskings who won a gold medal in the 2012 Olympics in the lightweight double sculls category.

It was a great experience for our crew to race with world class athletes," Coach Whitelaw said, adding: "I'm also delighted with the second crew's effort in getting tenth place. This was a student crew that demonstrated an excellent standard of rowing – truly outstanding."

Medics placement errors rectified

Imperial final year medical students have now been given details of their two-year clinical foundation programme placements after concerns over the allocation process left more than 7,000 medics across the country in limbo.

Students received confirmation of their placements on 8 March from the UK Foundation Programme Office after a cross check of the results of the Situational Judgement Test (SJT), which is one part of the process used to place medics onto the foundation programme immediately after graduation.

Allocations were originally announced on 25 February, but the possibility of errors in the scanningof the SJT answer sheets was raised by the Faculty of Medicine along with other medical schools. As issues emerged, Professor Jenny Higham, Deputy Dean of the Faculty of Medicine, commented on her disappointment at the situation and said, "Imperial College School of Medicine is determined to support each and every one of its students."

> "The marking blunder has rightfully caused a national outcry from final year medical students and medical schools alike"

Following a national request to all UK medical schools, the Faculty of Medicine assisted with the checking process, which confirmed that across the UK the recorded answers of 353 individual applicants (4.3 per cent) were affected by errors in the scanning of the multiple choice test sheets.

The revised results reveal that 86.7 per cent of Imperial medical students have been allocated one of their top five choices of foundation school.

President of the Imperial College School of Medicine Students' Union, Shiv Vohra, said: "The SJT marking blunder has rightfully caused a national outcry from final year medical students and medical schools alike. It's particularly upsetting for our final year students, given the proximity of their final examinations."

media mentions

—SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS

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HIV cure? *NEWSNIGHT* ▸ 04.03.2013

Hopes were raised among HIV patients by reports of a child in the US who had HIV at birth and is now apparently rid of the virus, even after five months without treatment. Professor Jonathan Weber (Medicine) told *Newsnight* that the case could, however, prove to be a one-off: there are unusual people whose bodies seem naturally able to keep HIV infection under control. "In adults, about one per cent of the clinic population are so-called elite controllers who manage quite spontaneously, without the need for antiretroviral drugs, to stay well and suppress the virus," he said. "It is possible then that this case that's been described represents a rare example of this as mother-to-child transmission in an infant."

In the pits *BBC RADIO 4* ▸ 28.02.2013

After 106 miners were evacuated from a fire in Warwickshire's last remaining pit, Radio 4's *Material World* asked if mining is still inherently dangerous. Over 10,000 people are killed in mining accidents each year, with over 3,000 deaths in China alone. Dr Guillermo Rein (Mechanical Engineering) told the programme that safety standards in Britain and the US have improved enormously in the last 30-40 years, showing that the know-how to prevent accidents is available, but still needs to be put into practice in certain developing countries. "The engineering and the technology is absolutely ready," he said. "It's just a case of the will to use it."

Mission to Mars *THE DAILY TELEGRAPH* ▸ 27.02.2013

Millionaire space tourist Dennis Tito announced plans to send two astronauts around Mars and back to Earth by 2018. The crew has not yet been recruited, but its members will have to be prepared for serious mental and physical challenges on the 17-month mission. "If you are in space, gravity isn't acting on your body," Dr Simon Foster (Physics) told *The Daily Telegraph*. "That means your heart doesn't have to work as hard. Like any muscle it will start to shrink. Arm muscles, everything else will start to shrink. Your bones will start to lose some of the density because they don't have to be physically strong."

Life savings

NEW SCIENTIST ▸ 09.02.2013

New Scientist visited the UK Multiple Sclerosis and Parkinson's Tissue Bank at Imperial to see how brains donated to science are studied to yield insights about neurological diseases. Around 900 brains are stored in the bank, and samples are sent to researchers around the world for analysis. Neuropathologist Professor Steve Gentleman (Medicine) described the care with which he treats the specimens as he dissected the brain of a 79-year-old man with Parkinson's. "These were individuals," he said. "I still see it as a privilege to dissect them. But I have to have a practical disconnect, and I still have no idea how a pile of fat – a lot of lipid membranes – can represent a person."

awards and honours

NATURAL SCIENCES AND MEDICINE

Wellcome boost for health research

Academics at the College have won three prestigious Wellcome Trust Investigator Awards to support their research into health and disease. Professors Steve Matthews (Life Sciences) and Charles Bangham (Medicine) won Senior Investigator awards, aimed at rewarding established academics who are world-leaders in their field. Dr Angelika Gründling (Medicine) received a New Investigator Award, which recognises outstanding researchers in earlier stages of their independent research careers.

INSTITUTE OF GLOBAL HEALTH INNOVATION

Philanthropy 'Oscars' win

Sir Thomas Hughes-Hallett, Executive Chair of the Institute of Global Health Innovation at the College, has been recognised at the Beacon Awards – the 'Oscars' of the philanthropy world. His years of hard work to help influence government policy on charitable giving were recognised with a Beacon Fellowship for advocacy. He joins 32 other Beacon Fellow philanthropists in the UK who have raised over £21 million across a mix of large institutions and grassroots charities.

ENGINEERING

Top government role for Grimes

The Foreign and Commonwealth Office (FCO) has appointed Professor Robin Grimes (Materials) as its next chief scientific adviser. He will be working part time at the FCO alongside his academic work. Professor Grimes was, until his recent appointment, director of the Rolls-Royce University Technology Centre for Nuclear Engineering and the Imperial College Centre for Nuclear Engineering. To see a video interview with Professor Grimes explaining his new role, visit: **bit.ly/ZDe8x9**

NATURAL SCIENCES

Physical equality

Efforts made by the Department of Physics to overcome barriers faced by women working in the field have been recognised by the Institute of Physics (IOP). The department is one of six in the country to be awarded 'Juno Champion' status. The College first gained the accolade in 2009. Professor Joanna Haigh said: "I am proud that Imperial is working hard to ensure a level playing field. To be recognised in this way is very heartening." Watch a video made by the Juno Champions: **bit.ly/WOIMBU**

Heart scars reveal sudden death risk

A special type of heart scan that shows up fibrous scars could provide early warning of sudden death in patients with a common heart condition, researchers confirm.

The finding, made by scientists at Royal Brompton Hospital and Imperial, will help doctors decide which patients should be fitted with an implanted device that can restore the heart's rhythm when it beats abnormally.

In patients with dilated cardiomyopathy, the heart is enlarged, its walls become thinner and weaker and it fails to pump properly. Affecting more than 35,000 people, it is a leading cause of heart failure in the UK. Some patients can benefit from an implanted cardioverter defibrillator device (ICD) but this is an expensive form of treatment, with unpredictable results.

> "Now we know that a CMR scan for each patient can provide essential information for determining effective treatment"

The researchers, who studied more than 470 patients over eight years, found that scarring, which can be detected through a cardiovascular magnetic resonance (CMR) scan, predicts the risk of sudden death more reliably than ejection fraction – the volume of blood expelled by the heart at each beat.

The study's lead author, Dr Sanjay Prasad (NHLI) added: "Now we know that a CMR scan for each patient to look for the presence of fibrosis can provide essential information for determining effective treatment."

Professor Dudley Pennell (NHLI), a Royal Brompton cardiologist, said: "Our findings mean we can improve the selection of patients to have a defibrillator device fitted – saving lives and potentially, 30 per cent in costs to the NHS for these patients."

–SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS

Imperial tech bound for Jupiter

A sophisticated instrument designed and built by scientists and engineers from Imperial will fly to Jupiter in 2022, when Europe launches its first major mission to the giant planet.

The European Space Agency (ESA) expects JUpiter ICy moons Explorer (JUICE) to reach Jupiter in 2030. It will send information back to Earth so scientists can study the internal structure of Ganymede, Callisto and Europa – three particularly interesting 'Galilean' moons thought to have water oceans beneath a solid ice surface.

JUICE will be equipped with a range of sensors including cameras and spectrometers, a laser altitude meter, ice-penetrating radar and plasma and particle monitors.

In addition it will carry a magnetometer developed as part of a project led by Professor Michele Dougherty (Physics). This instrument will measure magnetic fields in the vicinity of Jupiter. Ganymede, the largest moon in the solar system, is also the only one known to generate its own magnetic field, and JUICE will observe in detail how this interacts with Jupiter's own magnetosphere.

The mission plan is for the JUICE spacecraft to fly 12 times past Callisto, the most heavily cratered object in the solar system, and past Europa twice in order to measure the thickness of its icy crust.

JUICE will end up in orbit around Ganymede, where it will study the moon's icy surface and internal structure, including its subsurface salty ocean.

Commenting on the overall mission Professor Dougherty said: "By studying the icy moons of Jupiter and their subsurface oceans we will be able to better understand the potential habitability of moons around the outer planets."

—SIMON LEVEY, COMMUNICATIONS AND PUBLIC AFFAIRS

Jovian milestones

1610 – Galileo Galilei discovers the four largest ('Galilean') moons of Jupiter: Io, Europa, Ganymede and Callisto

1668 – Giovanni Cassini observes the great red spot of Jupiter and makes careful tables of the motions of the Jovian moons

1932 – Rupert Wildt finds ammonia and methane in the atmosphere of Jupiter by examining the way the planet reflects light from the Sun

1974 – Pioneer 10 and 11 become the first robotic spacecraft to reach Jupiter and photograph it close-up after negotiating the asteroid belt

1979 – Voyager 1 and 2 discover Jupiter's rings and find active volcanoes on the surface of its moon Io – some in the process of erupting (see image above)

1995 – Galileo orbiter by chance witnesses the impact of Comet Shoemaker-Levy 9 with Jupiter while on a mission to the planet and then sends a probe 150 km into its atmosphere

2006 – The New Horizons probe, measures output from volcanoes on Io and studies all four Galilean moons en route to Pluto

2011 – NASA launches Juno spacecraft to study Jupiter from a polar orbit, due to arrive in 2016

2012 – ESA approves the £1 billion JUICE mission to study the Galilean moons of Jupiter, due to launch in 2022

Three-pronged attack to corner industrial carbon

The financial costs involved in cutting greenhouse gas emissions from power plants could be slashed if new projects developing advanced Carbon Capture and Storage (CCS) technologies at the College are successful.

Three teams have received £10 million public funding to work with commercial partners demonstrating how CCS could be an economically viable way to reduce carbon emissions from electricity generation on a large scale in the UK.

Dr Paul Fennell (Chemical Engineering) is working with chemical technology company Calix and energy engineers at HEL-East to develop a three megawatt CCS power plant in Doncaster, South Yorkshire. Labelled the Millennium Generation project, it should capture 90 per cent of the carbon waste while achieving a 20 per cent reduction in the costs normally associated with incorporating CCS technology. The plant will also produce agricultural lime for farmers as a by-product.

Dr Daryl Williams (Chemical Engineering) is working with Imperial spinout Process Systems Enterprise Limited and the technology company Clean Carbon Solutions to reduce the amount of energy required to carry out carbon capture. His team hopes to improve the efficiency of the fluids, called amines, that are used to capture carbon dioxide. They are designing equipment that can be retrofitted to existing power plant designs.

A third project led by Professor Charlotte Williams (Chemistry) and her start-up Econic Technologies will make commercially valuable organic plastics from the waste carbon dioxide emitted by power stations and industrial plants. They hope to make CCS pay for itself by creating substitutes for expensive oil-based materials such as hard plastics used to make protective mobile phone casings, foam for furniture stuffing or insulation and flexible plastic coating such as electric cables.

–SIMON LEVEY, COMMUNICATIONS AND PUBLIC AFFAIRS

CCS in action

Carbon Capture and Storage (CCS) technologies prevent greenhouse gasses from entering the atmosphere. Options include storing the gases underground, 'locking' them up in solids such as ash, or converting them into commercially useful products. If implemented on a large scale, CCS could reduce the contribution that coal and gas power plants make to national carbon emissions, which are limited by international agreements.

The UK government's Department of Energy and Climate Change is attempting to kickstart a viable CCS industry in the 2020s by funding a £1 billion competition to support the design, construction and operation of commercial-scale schemes and a £125 million, four-year research, development and innovation programme, which encompasses Imperial projects, such as those mentioned here.

Imperial also has its own four-storey CCS pilot plant supported by ABB International, JMS UK, TPI Italy and Charter-tech UK.

Oestrogen patches could help treat prostate cancer

Men with prostate cancer could benefit from treatment with skin patches that deliver oestrogen to curb testosterone levels and potentially slow the growth of their tumours, the results of a clinical trial suggest.

It could prove to be a safer and more convenient alternative to hormone injections that are currently used to treat the disease, according to the researchers involved at Imperial, the Medical Research Council Clinical Trials Unit and Imperial College Healthcare NHS Trust.

Many prostate cancers need the male hormone testosterone to grow and so using drugs to reduce testosterone in the advanced stages of the disease is one treatment option.

In the 1960s this was done by using oestrogen tablets; however, these caused heart and blood clotting side effects for some men. Now, LHRHa hormone injections are the main treatment for reducing testosterone but carry their own problematic side effects, including hot flushes, osteoporosis, bone fractures and diabetes.

"We think the reason oral oestrogen causes these side effects is because the oestrogen reaches the liver in high concentrations straight from the stomach, whereas if the oestrogen can be absorbed through the skin, the effect on the liver is avoided," said lead author Dr Ruth Langley, from the MRC.

In the latest study, researchers found that oestrogen patches, usually used to treat menopause symptoms in women, reduced levels of testosterone in men to a similar extent as the current hormone treatment, LHRHa injections.

Study co-author Professor Paul Abel (Surgery and Cancer) said: "The next step is to test if the oestrogen patches are as effective at stopping the growth of prostate cancer as the current hormone treatments. We're now testing this in over 600 patients."

–SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS

Head first

***Reporter* heads down to the Thames at Putney to witness an early morning practice at the Imperial College Boat Club, where rowers are preparing for the upcoming Head of the River race.**

It's 05.45 on a particularly cold morning in late February and the sky shows no sign of dawn as my taxi pulls up to the Imperial Boathouse. Bleary-eyed, I enter to find about 30 Imperial students sitting on the floor of the gym, already alert and formed in teams of eight. In 10 minutes they would be out on the water for their regular Tuesday practice.

Head of Rowing Don McLachlan, dressed in a warm jacket and gloves, leads the first and second men's eight down to the waterfront to put them through their paces. Crews lift the boats into the water and paddle upstream towards Chiswick hugging the bank as they row against the ebbing tide – lit only by small lights on the bow.

The air is heavy with mist and a light, freezing rain. "The weather's been worse than this," says Don, "but when you're on the water, the temperature drops by two or three degrees, and then you really feel it".

At this time of year, the teams are focusing on developing their endurance by training in intensive 20-minute sections. Many of the upcoming tournaments are time-trial processional races up to seven kilometres; much longer courses than the regattas of the summer. The largest competition of its kind is the Head of the River race on 23 March, which is contested over 6.8 km between Chiswick Bridge and Putney.

Five hundred teams from across Europe compete in the men's Head, which aside from Henley Regatta, is the most important men's race in the British rowing calendar. In the Head race, teams start in single file, the order determined by finish places the previous year.

Races like the Head require the strength endurance to last the course at maximum effort. Don says: "A few minutes into a long piece your body is in searing pain. You need to find the strength and the discipline to push through that. You need a lot of determination to push your body and find its limit."

Clockwise from top right:The men's first eight muscle it out in practice; the men's second team recovering from a tough 20-minute set; Cat Buizza working out in the Club gym; Head of Rowing Don McLachlan; and Coach Stuart Whitelaw.

The competitive edge

Back on the Thames, halfway through the 20-minute set piece, the boats cross the river and push on into a side-by-side race. The second team, taking the inside, has the advantage of a faster section of water, and both teams fight hard for pole position in order to make the tightest turn at the next buoy.

The first team, edging forward, takes a sharp line across the second team's bow, and with oar-tips only centimetres apart, pulls hard towards the buoy. Their tactics pay off and they are through the buoy in the lead.

As the crews enter the final minutes of the set, the first eight ups its game, quickly opening up a sizeable lead, to the approval of Don.

"They [the first eight] aren't going to outmuscle every crew, but they can outrow them. They just have to hang tough mentally," he says.

The mental challenge of the sport was echoed by fellow coach Stuart Whitelaw. "In rowing you're facing away from the direction of travel, unlike say running, so it becomes a psychological game. It only takes one rower to lose their nerve. It's like a dance – if one person steps out, or gets too excited, then you completely lose momentum."

Success against the odds

Rowing is without question one of the jewels in Imperial's sporting crown. The Club's heyday in the 1990s reached its peak at the Sydney Olympics in 2000 when an incredible three of the gold medal winning eight hailed from the Imperial Boathouse. Since then the Club has grown to its current size of 100 members, including a handful of elite level athletes among their number.

> "In rowing you're facing away from the direction of travel, unlike say running, so it becomes a psychological game"

The Club has reason to be proud of its recent efforts in university and mainstream competition. Last year saw Melanie Wilson (Medicine) row for Team GB in the Olympics, and this year the men's first eight have maintained a perfect record of wins across UK and international events. And earlier this month the women's first eight secured victory in their Head of the River Race, coming home over half a minute ahead of the second place finishers (see page 4).

Attaining this level of sporting achievement is all the more admirable as rowing must fit around the demands of an Imperial degree. The rowers must become excellent multi-taskers in order to manage the hours of study and lab time, the intensive examination periods and the training regime.

Coach Stuart says: "Looking back over the years, many Imperial rowers have gone on to particularly successful careers and I think that's because our members are generally very well-rounded individuals. Some come in a bit rough around the edges but we soon smooth them out!"

Imperial students don't always have the advantage of a typical rowing physique either, according to Paddy Hudson, who rows in the men's first eight and also does some coaching. He explained, "We are quite different from other universities that are entirely sports-focused. They generally draw upon a pool of very tall, elite athletes, whereas at Imperial there are people like me – 5ft 10in computer scientists. Yet we are right up there with the best, thanks to the dedication, team spirit and the facilities and coaching."

It's not just the students that have a tough schedule. Don and Stuart's regime of training and fixtures often commits them to 80-hour weeks, and every bit of spare time at the weekend. Rowing isn't a job; for Don, Stuart and the rest of Imperial Boat Club it's a way of life. And Don's schedule is unlikely to become less demanding, as he will soon be leaving Imperial to take up a new post, coaching Team Ireland in preparation for Rio 2016.

Full commitment

As students inevitably graduate and move on, the Club has a natural three to six-year turnover of members, so the coaches have to move fast to spot talented students and develop their strength and stamina ready for competition.

The training programme includes gym sessions morning and night, weights twice a week, and long rows on Tuesday, Thursday, Saturday and Sunday, interspersed with evening work on the rowing machines.

Tom Jones started rowing in October, and has already competed in two races. Describing the training regime, he says: "If last year you'd have told me I'd have been up at 05.00 to do a double training session before uni, I'd have laughed at you, but now that's just what I do. I love the training. Everyone is constantly seeing how far they can go beyond the limit and everyone is fully committed to rowing – it's infectious."

–CAROLINE PREW, COMMUNICATIONS AND PUBLIC AFFAIRS

Support the Boat Club on 23 March

The team is looking forward to the men's Head of the River race on Saturday 23 March, which marks the finale of the winter calendar.

Sophie Clarke-Hackston, Boathouse Manager, encourages staff, students and alumni to come down and support the Imperial crews: "The best place to stand is right outside the Club on Putney Embankment. It's not far from the finish line, so it will make for exciting viewing on the day."

For more details visit: **www.horr.co.uk**

Exhibition Road to Hollywood Boulevard

Last month some of biggest megastars on the planet picked up their iconic statuettes at the annual pinnacle of the film industry. But in the mix with Oscar winners Daniel Day-Lewis, Ben Affleck and Anne Hathaway were some rather less well-known names and faces.

Two Imperial alumni, Allan Jaenicke and John-Paul Smith (Information Systems Engineering, 2000 and 2001), received Oscars in the Scientific and Technical Awards category for their work with visual effects software company Imagineer, which they both helped to established soon after they graduated from the College.

"Although what we do at Imagineer is within the film industry, we're really quite removed from the glamorous end of it – we're making tools that get used by visual effects artists who work directly on films, and even they don't get much exposure," says CEO John-Paul (pictured second from left), with typical modesty.

The truth is that key scenes in films like *Harry Potter*, *Black Swan* and *The Bourne Legacy* would not have been possible without techniques originally developed at Imagineer.

The company was founded in 2000 by Allan (pictured far right) and his friend Dr Philip McLauchlan of the University of Surrey, and based on algorithms they developed to create mosaic panoramas from multiple still images. But the real breakthrough came when they tried to stitch together frames of a video clip from a tennis match following player Stefan Edberg moving around the court.

"After we processed the clips we were rather surprised to find that Stefan had completely disappeared from the video and we were left with footage with a clean background of the tennis court," said Allan.

Allan mentioned the result to someone he knew in the visual effects industry who suggested that it could be used for quickly removing wires and rigs used to support actors and objects in films. At the time that task was largely done by 'painting' them out manually by hand.

"If you consider that it takes quite some time to fix a single photograph in Photoshop. Now imagine you have a film sequence of several seconds with 24 frames a second – it's a very laborious task and you risk introducing artifacts."

Allan and Philip evolved the original algorithms into Imagineer's proprietary software known as 'mocha', which allows visual effects artists to quickly and seamlessly remove objects from clips and add new elements.

A key business decision says John-Paul, who joined in 2001, was to licence their software as an add-on to Adobe After Effects – a desktop post-production software.

"That's really our business model: people get introduced to us through the bundled version of mocha but we then sell upgrades to a more sophisticated package," says John-Paul.

Two films where mocha proved indispensable were *Black Swan* (2010) and *Harry Potter and the Prisoner of Azkaban* (2004).

In Harry Potter, mocha software was used to digitally remove the nose of Lord Voldemort and create some evocative effects inside Hogwarts School.

"They have a large central area with stairs going up and lots of paintings on the wall that move around and talk. Those paintings needed to be inserted into the scene, because when they shot it on set it was just empty picture frames with green in them," says John-Paul.

These high profile cases and the accessibility of their software package led to Imagineer being invited to apply for an award by the Scientific and Technical Committee of the Academy.

The night itself was particularly memorable and Allan went to great lengths to mark the occasion.

"My wife's favourite classic car is the Porsche 356, from *Beverly Hills 90210*, so I secretly found a place where I could rent one then picked her up from the hair salon and headed for the red carpet!"

During a scene in *Black Swan*, the actress Natalie Portman's character undergoes a surreal metamorphosis, sprouting quills and feathers from her skin while she dances. It was a particular challenge to integrate real footage with these subtle special effects, in a very dynamic scene. Image: Look FX.

Both Allan and John-Paul remember their Imperial days well and say they have applied the majority of the skills they picked up.

"Certainly there are things that I learned on entrepreneurship in the fourth year of my course which I've found useful in the business side of things," says John-Paul.

Allan, who has now left Imagineer to be a management consultant, looks back fondly at his Bachelor's project with Professor Wayne Luke (Computing) on a type of microchip that can be programmed after manufacture.

While an Oscar remains a long shot, the film industry is increasingly relying on technical innovations to remain relevant and this will undoubtedly require top-notch science, engineering and business skills.

No harm in dreaming.

—ANDREW CZYZEWSKI, COMMUNICATIONS AND PUBLIC AFFAIRS

inside* story

mini profile

James Moore

Professor James E. Moore Jr holds the Bagrit Chair in Medical Device Design in the Department of Bioengineering and is one of the College's newest members of staff. He received a chilly welcome to the UK, arriving in London from Texas A&M University on New Year's Eve.

What are your research interests?

My training is as a mechanical engineer, but I've been doing nothing but biomechanics research since I was a student. Most of that time has been spent looking at blood flow patterns and how they relate to disease formation and treatment, which is actually a research subject that goes back pretty far here at Imperial. Some of my heroes have been working here since the 1960s on arterial fluid mechanics so in that sense I'm very proud to be part of this place now.

> "Some of my heroes have been working here since the 1960s"

What sort of work do you expect to be doing at Imperial?

We're looking to set up a new Master's degree in biomedical device design and entrepreneurship. I've been giving seminars in this area for a long time, so to have a whole degree programme here at Imperial is very exciting. It's a great place for something like this. If you look at the environment, there's a fantastic engineering school, a world class medical school and the hospitals attached to it, all in close geographical proximity to entrepreneurs. It's a great city for this kind of thing.

On a lighthearted note, I noticed that your page at Texas A&M University is a Simpsons homage. Is there a particular reason for that?

I always put my students in charge of the website, and that was one they came up with several years ago. So it's a little dated, but it's cute and on the front page you have Marge and Homer with their lymphatic system explained. I like the Simpsons and I was pleased my students did that – you don't often get the lymphatic system explained in cartoons. We'll see what happens with my website here!

–GILEAD AMIT, COMMUNICATIONS AND PUBLIC AFFAIRS

Arts meet science

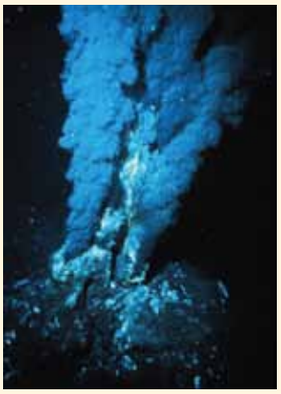
Guests at an Imperial Fringe event gather around the 'Reactable' – an interactive sound generator controlled by placing and moving blocks on a touchscreen.

As part of The Arts Experiment, the fourth event in the Imperial Fringe series, several student clubs and societies teamed up with researchers to find hidden links between arts and science. Among the highlights, the Juggling Society kept an unfeasible number of balls, hoops and clubs in the air throughout the evening, while neuroscientist Dr Ed Roberts (Medicine) explained what features of their brains might enable them to perform such feats.

SCIENCE FROM SCRATCH

As explained by Stephanie McClellan, MSc Science Communication

Who or what is LUCA?



Over billions of years life has diversified and adapted to Earth's changing environment. From the earliest microbes to the complex life we see today, the hand of evolution has shaped the trajectory of life. But what would happen if we ran the tape backwards? If we descend down the evolutionary tree, what organism would we find at its roots? Charles Darwin proposed the existence of an evolutionary starting point and a primordial organism from which all modern life descended. This started the search for a last universal common ancestor or 'LUCA'. In the 20th century the theory gained weight after the genetic code was deciphered and found to be universal across all life on Earth.

So what sort of beast was LUCA? Several scenarios have been proposed by molecular evolutionists. LUCA was most likely a single-celled organism that lived between three and four billion years ago. It may have used RNA both to store genetic information like DNA, and to catalyse chemical reactions like an enzyme protein. Similar to some species of archaea – ancient and very tough microbes – LUCA would have been highly resistant to extreme environments. Some scientists have even suggested that LUCA emerged close to deep sea hydrothermal vents (see image, right).

Still, there may not be one LUCA as such, but an indefinable evolutionary starting point for contemporary life. One person who believed this was legendary late microbiologist Carl Woese. He suggested that all life evolved through horizontal gene transfer between ancient organisms as opposed to solely vertical evolution. And so the question of where we ultimately came from may never be answered exactly, but the glimpses that science gives us will no doubt continue to inspire – as with any good family story.

IMPERIAL STUDENTS SHARE THEIR EXPERIENCES OF LIFE AT THE COLLEGE ON THE STUDENT BLOGGERS WEBSITE.

blog SPOT

Student blogger Bernadeta on

Robogals:

This weekend I escaped from London to go to a Robogals meeting in Manchester. It's basically an organisation that tries to introduce the discipline of engineering to young girls. Robogals invites schoolgirls to workshops where they can build and program LEGO mindstorms robots and in this way encourages and develops their interest in engineering. So, I would like to invite any volunteers to come and help to run the workshop. You don't have to be an engineer, a girl or have ever programmed before: yuen@robogals.org.uk

www.imperial.ac.uk/campus_life/studentblogs

Rebuilding lives through enterprise

Empowering formerly trafficked women so that they have the skills and confidence to set up their own businesses or move back into professional roles will be the main objective of a five year extended partnership between the Business School and Her Equality, Rights and Autonomy (HERA) organisation.

HERA works to support entrepreneurship and professional mentoring to help these women start a new life. In London alone, 40 women have received entrepreneurship training and paired up with mentors.

Anna, whose name has been changed, recently graduated from the entrepreneurship training programme at the Business School. After completing a degree in Maths in her native Albania, Anna came to London to work in a travel agency but was duped and forced into prostitution. Rescued in a police raid after several months, she was referred to a social service agency. Once she felt safe and ready to pursue her career again, the charity invited her to a presentation given by some HERA graduates. Since Anna had business ideas of her own, she signed up for the entrepreneurship training at the Business School.

Although initially wary, by the end of the ten-day training, Anna was confidently asking questions, joining in with her team to build and fire off a rocket, and analysing stalls and pricing in Borough Market. With a mentor she is now working to establish a pastry catering venture and has found customers in her immediate neighbourhood.

—MAXINE MYERS, COMMUNICATIONS AND PUBLIC AFFAIRS

Imperial's bells ring out

Imperial's thriving musical life is well known to most people at the College; but what many may not be aware of is just how high the standard is among some of our students and a few members of staff.

The pinnacle of this is perhaps the Imperial College Symphony Orchestra (ICSO) – which on the evening of Saturday 2 March played a concert at the prestigious Cadogan Hall, home of the Royal Philharmonic Orchestra, with soloist Laura van der Heijden, winner of the 2012 BBC Young Musician of the Year.

Clearly word had got out about the ICSO's reputation – helped by Cadogan Hall website referring to it as "one of the finest university orchestras in the UK" – and the event was sold out, with a queue for returns.

The concert opened with Smetana's *Vltava*, followed by Dvořák's *Cello Concerto*, concluding with Rachmaninov's *The Bells*.

"ICSO has given some great concerts in recent times and this must surely go down as one of them," said Dr Trevor Bacon (Physics) in attendance. Picking out the *Cello Concerto* with van der Heijden he added: "It is very moving to hear a masterwork, composed by a man in his prime, being interpreted with both power and sensitivity by a young soloist and accompanied by a very talented orchestra."

"ICSO has given some great concerts in recent times and this must surely go down as one of them"

Also in attendance was College Secretary and Registrar John Neilson who commented: "The programme included music with which I was unfamiliar – Rachmaninov's *The Bells* – as well as the more well-known, and that gave it opportunities for so many to be involved. The quality of what we heard was outstanding; a real tribute to the College's young musicians and to the leadership of Richard Dickins. I am already looking forward to the orchestra's next performance."

For a full review of the concert by Dr Bacon visit: **http://bit.ly/15MqNSq**
and for upcoming ICSO concerts see: **http://bit.ly/13Vrqe7**

INVENTOR'S CORNER

Cerebral circuitry

Dr Themistoklis Prodromakis (Electrical and Electronic Engineering) is a research fellow at the Centre for Bio-inspired Technology. He is currently leading on an Engineering and Physical Sciences Research Council-funded Early Career Fellowship that looks at exploiting memory resistors – or 'memristors' – to facilitate the development of brain-inspired electronics.

What are memristors?

Memristors are relatively simple electronic components – often just a thin film made of titanium dioxide between two metal electrodes – but with some very interesting properties and functions. They can store data at a higher density, while drawing far less power than the existing 'flash' memory found in USB devices and memory cards in mobile phones and cameras. As well as data storage though, memristors could also be used to process information and it is this potential that has experts across different disciplines excited.

How can this be used to create brain-inspired electronics?

Instead of just switching between on and off states, like most central processing units (CPUs), memristors can be engineered to deliver a continuous change in resistance – so the more current flows through the lower the resistance becomes. This is very similar to the way biological neurons function in our brains. Interestingly, these characteristics mean that memristors can be programmed to emulate the formation of long-term, and short-term memory events. By exploiting the combined action of many memristor devices in series, we might be able to create electronic systems that mimic the functioning of biological neural networks.

What are the benefits?

By gaining a better understanding of neural networks we can boost research and development in cross-disciplinary areas such as neurobiology and develop improved diagnostic tools and treatments for patients suffering from neurological disorders. This research also takes us a step closer to the creation of 'autonomous intelligent systems' for robotics applications and neuroprosthetics that respond to nerve impulses like real limbs. If realised, these breakthroughs would have a tremendous societal impact.

–KAILEY NOLAN, IMPERIAL INNOVATIONS.

Postdoc reps away day

Each academic department and division at the College has one or two postdoctoral representatives who speak on behalf of their immediate peers. Every year they gather for an away day to discuss issues that affect postdocs across the College. Dr Rahil Sanatinia (Medicine) a rep for the Division of Brain Sciences, reports back.

"The postdoc reps' main role is to act as a bridge between the postdoc development centre and the postdocs in each department. This unique position provides us with the opportunity to reflect the views and needs of our peers more accurately. The away days allow the reps to get together to share achievements and good practices and also identify and attempt to address difficulties or barriers faced across the different departments and divisions. The informal nature of this year's away day and the fact that it was themed (networking) made it both fun and informative.

Exchanging experiences with your peers in other departments is very useful and it is also very interesting to see how your peers think about and resolve some frequently occurring problems. This year's take home message for me was how to better communicate in professional settings and that 'networking' is not about forcing professional relationships."

For more information and a list of current reps visit: **www.imperial.ac.uk/staffdevelopment/postdocs1/contacts**

Student-led teaching awards launched

Nominations are currently open for the first ever student-led teaching awards at the College. Imperial College Union's Student Academic Choice Awards (SACAs) have received over 400 submissions already – including over 100 from research postgraduates.

The goal of the SACAs is to give students the chance to recognise and reward excellence from staff in teaching, supervising students or in the broader support they provide within departments. Becky Lane, Union Deputy President (Welfare), hopes that the SACAs will give staff an extra reason to develop their teaching skills or supervision abilities, and will provide an opportunity to "put excellent teachers up on a platform, trophy in hand, in front of their peers".

> "The awards will provide an opportunity to put excellent teachers up on a platform, trophy in hand, in front of their peers"

"Some of the submissions we've read have been unbelievable," she says. "We've seen supervisors go out of their way again and again to solve problems – teaching methods we'd never thought of and that we look forward to publicising around College. And we've seen the great things that happen when staff really care about the people they work with."

The first SACA Awards Ceremony will be held on 21 May in the Queen's Tower Rooms, and a shortlist of award winners will be announced in late April.

To find out more, visit: **imperialcollegeunion.org/academicchoice**

obituaries

MALCOLM HAINES

Emeritus Professor Malcolm Golby Haines (Physics) died on 13 January 2013, aged 76. Professor Tom Kibble (Physics) pays tribute to his friend and colleague.

Growing up in Rhiwbina, South Wales, Malcolm considered following in the footsteps of his father, a senior BBC engineer – but was persuaded to read physics by his headmaster at Whitchurch Grammar School.

He came to the College in 1953 where he was an enthusiastic rower and member of the Boat Club – a passion that remained strong throughout his time here. He achieved his PhD in 1960 and became a Professor and Head of the Plasma Physics Group in 1975.

Malcolm was a key figure in developing theoretical and experimental approaches to the magnetic confinement of plasma – a crucial step in achieving nuclear fusion power. Indeed, his work provided an important foundation for the experimental fusion reactors 'JET', at Culham in Oxfordshire and 'ITER', now under construction in Cadarache, France. Similar reactors could one day help alleviate the planet's energy and climate concerns.

In addition to his physics, Malcolm was an accomplished musician. He began organ lessons at an early age, displaying remarkable talent and eventually becoming a Fellow of the Royal College of Organists. He also played the piano and the harpsichord.

Malcolm was always charming and good-humored, hosting wonderful parties for his research group and other friends. He is survived by his wife Polly, two children and two grandchildren.

long service

Staff featured in this column have given many years of service to the College. Staff listed below celebrate anniversaries during the period 1 February–1 April. The data is supplied by HR and is correct at the time of going to press.

20 years

- Dr Nicholas Dibb, Reader in Cell Signalling, Department of Surgery and Cancer
- Anna McDadd, Building Manager, Estates Division

30 years

- Guy Fairhurst, Building Manager, Estates Division

SPOTLIGHT

Anna McDadd, Building Manager, Estates Division
20 years

One of the things that I've enjoyed most about working at Imperial is that no two days are alike and I can never be sure of what challenges I will face during any given day. Like all of us, I need to ensure that every penny we spend achieves best value for money and enhances both the buildings for which I am responsible and the overall student experience. Probably one of the biggest challenges facing us is to reduce the College's energy bill whilst increasing its energy efficiency and maintaining our world class teaching and research facilities. The buildings for which I am responsible use an awful lot of energy! Another rewarding aspect of my role is the daily contact with eminent visitors, world renowned academics, support staff without whom the College could not operate and, of course, our students. The most amazing thing though about my long and varied time at Imperial is the fact that it has been 20 years. It has flown by! It would be equally amazing to be here in another 20.

Redressing the balance

On International Women's Day, 8 March 2013, Professor Dorothy Griffiths, Principal of the Business School, reflected on the work to recruit more women.

"As we mark this day and 50 years since Betty Friedan published *The Feminine Mystique* it is timely to ask if second wave feminism has improved things for women in particular those in STEMM (science, technology, engineering, mathematics and medicine). The short answer is that things are undoubtedly better. There are more women working in STEMM and more at senior levels. Fifty years ago only one woman had ever been made a Professor here at Imperial; now 10 per cent are female and we have two (out of four) female Faculty Deans and a female Pro Rector (Education).

However, a substantial body of research demonstrates that women are still underrepresented at higher levels of business and academia.

A 2010 survey by the Royal Society and Imperial found that many women in university STEMM departments still encounter a rather bumpy playing field. Amongst the key findings were that women still found promotion and career development challenging.

In the domestic sphere women still carry the major load or the 'second shift'. That is why schemes such as the Elsie Widdowson Fellowships at Imperial are so powerful in providing funds to academics returning from maternity leave to release them from all teaching and administrative duties for a year.

Despite initiatives like this the rate of progress for women in STEMM is still too slow. Writing to mark the 350th anniversary of the Royal Society in 2010 a group of senior female academics including Professor Dame Julia Higgins (Chemical Engineering) suggested that 'those in more senior positions should be asking what their departments, universities and professional societies... are doing to ensure that progress through and to the top of science is based on merit'. There could be no better way to celebrate International Women's Day in than by asking this in your department, university or society."

To read the full article visit: **bit.ly/10q3ZbI**

Welcome
new starters

Mr Daniel Adams, ICT

Ms Jessica Alchin, Registry

Miss Rebecca Allen, NHLI

Dr Carmelo Andujar Fernandez, Life Sciences

Mr John Ashton, Grantham Institute

Mr Eskindir Asmare, Computing

Ms Maria Barrera-Medrano, Mechanical Engineering

Miss Janine Beale, NHLI

Dr John Blamey, Chemical Engineering

Mr Richard Bradshaw, Chemistry

Mrs Katharine Brayn, Surgery and Cancer

Dr Malgorzata Broncel, Chemistry

Miss Victoria Bullett, Faculty of Medicine

Mr Gary Burton, Imperial College Union

Dr Paola Campagnolo, Materials

Dr Nélson Carreira Lopes, Physics

Dr Maria Carreras Romeo, Chemistry

Dr Romain Caze, Bioengineering

Ms Lucy Chapman, Educational Quality

Dr Zhizhao Che, Chemical Engineering

Dr Simon Cork, Surgery and Cancer

Mr Jeremy Dahan, Aeronautics

Dr Maria Dawson, NHLI

Dr Romain Demangeon, Computing

Dr Lucie Duluc, Medicine

Dr Marina Edelson-Averbukh, Chemistry

Mr Ibrahim Emam, Computing

Mr Uche Ezichi, Business School

Mr James Farley Nicholls, Physics

Dr Marion Ferrat, ESE

Ms Alessandra Foderaro, Estates Division

Dr Luca Fossati, Computing

Dr Alicia Garcia, Clinical Sciences

Miss Denise Gardner, NHLI

Mr Sheldon Hall, Mechanical Engineering

Dr Yang Han, Chemistry

Dr Danika Hayman, Bioengineering

Ms Lena Heinrich, Environmental Policy

Dr Inge Herrmann, Materials

Dr Yeong Hiew, Faculty of Medicine

Miss Nicola Hill, Medicine

Dr Deqing Huang, Aeronautics

Mr Asif Hussain, Bioengineering

Dr Jane Iles, Medicine

Mr Phillip Jackson, Security Services

Mr Damian Johnson, Medicine

Mr Adria Junyent Ferre, EEE

Dr Bernhard Kainz, Computing

Dr Pascale Kropf, Medicine

Ms Kirsten Kruls, Catering

Miss Poppy Lakeman Fraser, Environmental Policy

Dr Katrin Layer-Dobra, Life Sciences

Ms Hannah Leese, Chemistry

Professor Steven Ley, Medicine

Dr Jingxuan Li, Aeronautics

Mr Jose Lima De Aguiar Graca Lourenco, Public Health

Miss Valentina Lorusso, Business School

Dr Aida Martinez Sanchez, Medicine

Mr Bruno Matarese, Chemistry

Miss Marta Mauri, Medicine

Dr Michael McCann, Physics

Miss Swati Midha, Materials

Dr Claire Morgan, NHLI

Dr Georgina Morris, Faculty of Medicine

Ms Imelda Munro, Public Health

Dr Eoin O'Gorman, Life Sciences

Miss Natalia Olejniczak, Medicine

Miss Marinda Oosthuizen, Public Health

Dr Ivan Ovsyannikov, Mathematics

Mrs Mihaela Paraschiv, Catering

Mrs Valeria Perciany David, Mathematics

Dr Daniel Perea Menendez, Clinical Sciences

Miss Dora Perenyi, Surgery and Cancer

Dr Daniel Perkins, Life Sciences

Dr Robert Perneczky, Public Health

Mr Spyridon Psarras, Aeronautics

Ms Monika Rahman, Medicine

Miss Samantha Rainbird, Faculty of Medicine

Ms Dena Rapley, Business School

Mr Borzoo Rassouli, EEE

Dr Simon Read, Bioengineering

Mr Peter Rice, Computing

Miss Katrina Rogers, Public Health

Dr Majid Sadeqzadeh, Chemical Engineering

Ms Lily Safie, ICT

Dr Andre Santos Amaral, NHLI

Mr Wasim Sarwar, Mechanical Engineering

Mr Andrew Scheuber, Communications and Public Affairs

Dr James Seddon, Medicine

Miss Daisy Shinhmar, Surgery and Cancer

Dr Timothy Simpson, Life Sciences

Dr Alona Sosinsky, Clinical Sciences

Miss Sharon Spence, Public Health

Miss Judith Thei, Mechanical Engineering

Dr Neil Treat, Materials

Mr Rahul Velineni, Surgery and Cancer

Dr Shaolin Wang, Business School

Ms Sarah West, Occupational Health Service

Miss Verity Whatmough, Registry

Dr Matthias Willbold, ESE

Dr Jennet Williams, Clinical Sciences

Ms Heather-Rose Williamson, Development

Mr Anthony Willis, Mechanical Engineering

Dr Guy Woodward, Life Sciences

Mrs Rachael Wright, ICT

Dr Junfeng Yang, Chemical Engineering

Mr Shusen Yang, Computing

Mr Hin Yau, Chemistry

Miss Stefania Zona, Surgery and Cancer

Farewell
moving on

Dr Roshan Agarwal (5 years), Surgery and Cancer

Dr Antony Aleksiev (5 years), Faculty of Medicine

Dr Rebecca Baggaley (5 years), Public Health

Dr Beeta Balali-Mood, Chemistry

Dr Elisa Bellomo, Medicine

Dr Moerida Belton, Medicine

Dr Stefan Buhmann (5 years), Physics

Mr Dominic Burris-North, Catering

Miss Sophie Campen, Mechanical Engineering

Miss Azadeh Cheraghchi Bashi Astaneh, Surgery and Cancer

Dr Mark Christian (13 years), Surgery and Cancer

Mr Christopher Cook (10 years), Estates Division

Dr Ruggero Cortini, Chemistry

Miss Helen Coutinho, Medicine

Mr Joao Da Silva Burgal, Chemical Engineering

Dr Lefteris Danos, Materials

Mr Leonardo Dominguez Teixeira (7 years), Finance

Mr Fabiano Dominguez Teixeira (7 years), Catering

Dr Christian Eberhardt, NHLI

Dr David Erritzoe, Medicine

Dr Anna Ettorre (5 years), Medicine

Dr Alison Evans, Public Health

Ms Zohreh Farzad, NHLI

Dr Solveig Felton, Materials

Dr Carmelo Ferrai, Clinical Sciences

Dr Sarah Field, Public Health

Mr Mark Forster (25 years), ICT

Miss Kate Gowers, NHLI

Mrs Catherine Hainsworth (8 years), College Headquarters

Dr Anthony Hunt, Bioengineering

Ms Lina Johansson (5 years), Medicine

Mrs Alison Johnston, Environmental Policy

Dr Jessica Jones Nielsen, Public Health

Dr Rosie Lees, Medicine

Ms Lydia Leon, Surgery and Cancer

Miss Judith Lieber, NHLI

Dr David Low, Medicine

Dr Duo Lu (6 years), Life Sciences

Mr Lee Matthews, Physics

Dr Oscar Mendoza Pomar, Chemistry

Mr John Moola, Commercial Services

Dr Rachel Moores, Medicine

Dr Tendai Mugwagwa, Public Health

Dr Jaya Nautiyal (6 years), Surgery and Cancer

Dr Alistair Nunn, Medicine

Ms Suat Ooi, Medicine

Dr Carlo Palmieri (5 years), Surgery and Cancer

Ms Julie Paranics (12 years), Business School

Ms Rebecca Penny (11 years), Registry

Dr Michael Petersen, Physics

Ms Katherine Phillips, Medicine

Dr Chin Phuah, Materials

Dr Alessandro Pristera, Life Sciences

Professor Donald Quicke (17 years), Life Sciences

Dr Lucio Raimondo, Aeronautics

Miss Laura Robison, NHLI

Dr Nicola Rogers (10 years), Medicine

Mr Artyom Romanov, Mechanical Engineering

Dr Mohammad Rouhani, EEE

Dr Solveig Schjorring (6 years), Life Sciences

Dr Susan Shapiro, Medicine

Ms Melanie Thody (22 years), Registry

Dr Lochran Traill, Life Sciences

Dr Hilda Tsang, Medicine

Dr Mark Tuthill, Medicine

Ms Yesica Vargas Acosta (5 years), Catering

Ms Tara Vernhes, Environmental Policy

Dr Elizabeth Whittaker, Medicine

Dr Florian Widmann, Computing

Miss Louise Wong, Life Sciences

Dr Yannis Xynos, Surgery and Cancer

Dr Jess Zhao, Clinical Sciences

This data is supplied by HR and covers the period 5 February–4 March. This data was correct at the time of going to press.

Please send your images and/or comments about new starters, leavers and retirees to the Editor at **reporter@imperial.ac.uk**

The Editor reserves the right to edit or amend these as necessary.

moving in. moving on.

events highlights

FOR COMPLETE DETAILS:
www.imperial.ac.uk/events

21 March 2013

21 MARCH ▸ PUBLIC LECTURE

Life as we know it

The final Fringe before the 2013 Imperial Festival enters the frontier science of synthetic biology. Fusing engineering, biology, technology and design, synthetic biology touches on every aspect of our lives. From sensors for water-borne parasites to fabric made from spider silk and glowing agar plates, explore the research at the forefront of this new world in a relaxed setting. This event takes places at South Kensington Campus main entrance from 17.30–20.30 and a pay bar will be open throughout.

22 APRIL ▸ SEMINAR

Creative curriculums: crossing boundaries

Education Day takes place on 22 April and this afternoon event looks at creativity within teaching from a range of perspectives. Chaired by Professor Debra Humphris, Pro Rector (Education), internal and external speakers discuss the issue of designing curriculums and spaces which foster and nurture creativity in education. Associate Professor Daniel Tan, Director of the Centre for Excellence in Learning and Teaching at Nanyang Technological University, Singapore, is the keynote speaker.

21 MARCH › PUBLIC LECTURE

The life and works of Nobel laureate Abdus Salam

Various speakers

21 MARCH › PUBLIC LECTURE

From antibodies to bicycles

Professor Sir Gregory Winter, University of Cambridge

22 MARCH › SEMINAR

Detecting the traversal of attackers in computer networks

Dr Joshua Neil, Los Alamos National Laboratory

27 MARCH › SEMINAR

Protein analogous micelles: versatile, modular nanoparticles

Professor Matthew Tirrell, University of Chicago

5 APRIL › EXHIBITION

Strictly Science: keeping one step ahead

Interactive exhibition to celebrate centenary of the Medical Research Council.

15 APRIL › SEMINAR

The power of procrastination

Jorge Cham, creator, PhD comics

17 APRIL › PUBLIC LECTURE

Parkinson's disease: a car crash in the brain

Professor David Dexter (Medicine)

24 APRIL › OPEN DAY

Medicine open day

Two information sessions

2 MAY › MUSIC

Lunchtime concert

Noriko Ogawa (piano)

4 MAY › SOCIAL

Alumni Reunion (part of the Imperial Festival)

Reunite with former classmates and experience the best of the College today

3–4 MAY › FESTIVAL

Imperial Festival

Demonstrations, activities and talks

9 MAY › MUSIC

Lunchtime concert

Cavaleri Quartet (string)

9 MAY › PUBLIC LECTURE

What's wrong with the banking system and what to do about it

Professor Anat Admati, Stanford University

15 MAY › PUBLIC LECTURE

Small, smart turbines – a low carbon need

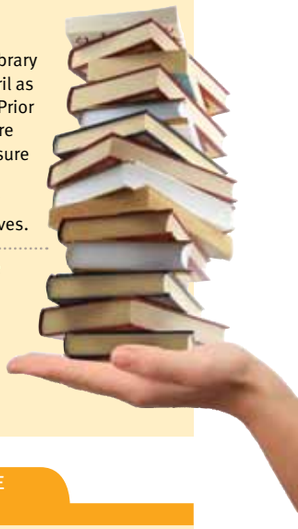
Professor Ricardo Martinez-Botas (Mechanical Engineering)

take note

St Mary's library to reopen

St Mary's Campus Library will reopen on 15 April as the Fleming Library. Prior to the reopening there will be a week of closure between Monday 8 April and Saturday 13 April for stock moves.

To find out about the new features of the library visit:
bit.ly/SOIOGx



MEET THE READER

Daniella McManamon, Administrative Assistant, Estates Division.

What are you doing in the picture?
I've come to check on my bike which I bought at the last bike auction we ran. It's locked up with an arm device we installed recently to make the bike shed more secure. We're also looking at the possibility of having a bike workshop on campus and a shower block for cyclists.

What would you do if you were editor of *Reporter* for a day?
I would take every senior manager on a bike ride around Hyde Park and get them to write about their experience and have it as a centre spread feature.

Who would be your cover star?
Stefan Piatek – he is a bicycle user group representative, head beekeeper and general volunteer for everything sustainability related. He physically carries all of the bikes from the Faculty Building to the Beit Quad for the auction every few months.

Want to be the next reader featured in Reporter*? Send in a picture of yourself with a copy of* Reporter *in your location of choice to:*
✉ **reporter@imperial.ac.uk**

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