



## Looking back at a ground breaking year for Imperial

... **CENTRE PAGES**



### ON THE DOT

A fond farewell to Professor Dorothy Griffiths who retires this month

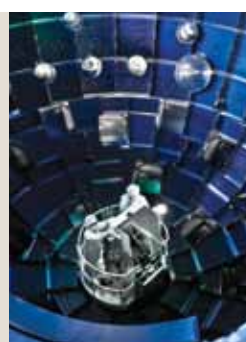
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### NUMBERS GAME

New Data Science Institute set to tackle the big global issues

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### NEW FUSION

The technology that could solve our energy woes

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EDITOR'S CORNER

## To boldly go

I'm still relatively new to the College, 2013 being my first full year at the helm of *Reporter*. Clearly every year is an 'eventful' one – if it wasn't we wouldn't be able to maintain our position as a top global university. But certainly there must be case for [2013 being pivotal](#), both in terms of the College's direction and its scientific work (centre pages). Students started at our first joint medical school overseas while closer to home the vision for the Imperial West Campus came into focus. With the Higgs boson discovery we inched a step closer to a more complete [understanding of the universe](#). However, our place in that order is far from assured. While climate scientists are always cautious talking about tipping points, atmospheric CO<sub>2</sub> reached an historic high this year at 400ppm. On page 11 we take a brief look at a technology that could help reverse this trend. Watch out next year for a more in depth look at how our own researchers and alumni are contributing to this [ambitious undertaking](#).

ANDREW CZYZEWSKI, ACTING EDITOR

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## Imperial joins elite Singaporean scholarship scheme

Imperial has joined a prestigious engineering programme designed for some of Singapore's very best students.

The Nanyang Technological University's Renaissance Engineering Programme (REP) selects the university's 50 top engineering students to be trained as the 'Engineering Leaders of Tomorrow'.

The REP scholars spend four and a half years on an integrated programme that combines the study of engineering, science, technology, business, economics and entrepreneurship, graduating with both a Bachelor of Engineering and a Master of Science in Technology Management.

The scholars spend a year abroad, with Imperial set to welcome 20 REP scholars in 2014 across eight engineering departments: Aeronautics, Computing, Chemical, Electrical & Electronic, Materials, Civil & Environmental, Mechanical, and Bioengineering.

Only one other institution, the University of California at Berkeley – like Imperial, in the world top ten – is a member of the elite programme.

Professor Debra Humphris, Imperial's Vice-Provost (Education) signed the agreement with NTU's Associate Provost (Undergraduate Education) Professor Kam Chan Hin on 13 November.

Professor Humphris commented: "Imperial and NTU are natural partners. NTU already hosts Imperial's most important international collaboration, LKCMedicine, and the potential for further connections in engineering education is really exciting."

—ANDREW SCHEUBER AND JOHN-PAUL JONES, COMMUNICATIONS AND PUBLIC AFFAIRS



Dr Oscar Ces with students in the Institute of Chemical Biology

## Seven new centres to train postgraduate engineers and scientists

Imperial will be home to seven new centres training the engineers and scientists of tomorrow and is partner in a further five.

Over the next five years, over 400 postgraduates will join the Imperial centres to carry out research and develop skills in a range of areas, from chemical biology to neurotechnology to fluid dynamics (see the full list of centres, right). The College's partner centres will train around 250 further postgraduates.

In total, there will be over 70 Centres for Doctoral Training (CDTs) across 24 UK universities. The Engineering and Physical Sciences Research Council (EPSRC) is providing £350 million for the CDTs, with partners from industry and

elsewhere contributing a further £250 million. Imperial is one of only three institutions to be awarded seven CDTs.

Announcing the new centres, the Minister for Universities and Science David Willetts said: "This type of collaboration is a key element of our industrial strategy and will continue to keep us at the forefront of the global science race."

Provost James Stirling added: "Imperial will use its highest ever number of CDTs to train the next generation of leaders in science and engineering while undertaking research that makes a real, long-lasting contribution."

The first Imperial CDT – the Institute of Chemical Biology Centre for Doctoral Training – was set up in 2003. Hundreds of postgraduates have since been trained in CDTs across Imperial and three of the College's existing CDTs have had their funding renewed.

—LAURA GALLAGHER COMMUNICATIONS AND PUBLIC AFFAIRS



### Centres for Doctoral Training and their Directors

Physical Sciences Innovation in Chemical Biology for Bioindustry and Healthcare  
**Dr Oscar Ces** (Chemistry)

Controlled Quantum Dynamics  
**Professor Myungshik Kim** (Physics)

Fluid Dynamics across Scales  
**Professor Christos Vassilicos** (Aeronautics)

Mathematics of Planet Earth (with the University of Reading)  
**Professor Dan Crisan** (Mathematics)

Neurotechnology for Life and Health  
**Dr Simon Schultz** (Bioengineering)

Theory and Simulation of Materials (with King's College London and University College London)  
**Professor Peter Haynes**, Departments of Physics and Materials

High Performance Embedded & Distributed Systems  
**Professor Wayne Luk** (Computing)

## New hub for expertise in data-driven research

A Data Science Institute aimed at tackling some of the world's toughest challenges has been announced this month.



Set to open in 2014, the Institute will cultivate multidisciplinary collaborations between the College's academic experts and research partners to create big data technologies. It will also foster the next generation of data researchers and engineers by developing

a range of postgraduate and executive courses.

Professor Yike Guo (Computing), Director of the Data Science Institute, said: "Data is the new natural resource of the twenty first century. If we harness it effectively, it could drive innovation and improve our daily lives in many significant ways."

Data science deals with collecting, processing, managing, analysing, interpreting and visualising the large and complex datasets that are becoming commonplace in modern research.

For example, researchers at the MRC-NIHR Phenome Centre are examining around 100,000 patient samples per year to learn more about phenomes – the biological results of people's genes and environment – to help them to determine the causes of disease.

In other areas, academics in the Space and Atmospheric Physics Group are processing large amounts of satellite data aimed at better understanding the Earth's climate system.

The Institute forms an integral part of the College's £3 billion vision for Imperial West, the 25 acre research and innovation campus that will stimulate new investment in research, yield economic growth and boost London's thriving start-up scene.

Professor David Gann, Vice President (Development and Innovation), said: "The potential for data science at Imperial is phenomenal.

"We are experiencing a perfect storm of technological innovation. Mobile internet, cloud computing and the Internet of Things are creating data at an astonishing rate, which our Data Science Institute is extremely well placed to harness."

—COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS

## Imperial wins world-leading healthcare and research designation

Imperial College Academic Health Science Centre's excellence in healthcare, research and education has been recognised through the confirmation of its AHSC status for a further five years from 1 April 2014.

Imperial College AHSC is one of only six centres nationwide to receive the prestigious designation from the Department of Health following a rigorous application process. Imperial College AHSC was originally awarded its status in October 2007 when it became the UK's first ever AHSC.

The centre brings together Imperial College Healthcare NHS Trust (ICHT), one of the country's safest, largest and most successful acute hospital trusts, and the College.

Since 2007, Imperial College AHSC's achievements include research-led improvements in clinical practice such as the prevention of bowel cancer, reducing the impact of birth asphyxia, better survival rates for chronic myeloid leukaemia, and the safer removal of liver tumours.

Over the next five years, Imperial College AHSC plans to build on this pursuit of world-class education, innovation and patient care by tackling common causes of morbidity and



Cardiology Consultant Dr Iqbal Malik talks with his patient who has recently undergone heart surgery in the Cardiac unit

mortality, including obesity, diabetes, neurodegeneration, strokes, infection and antibiotic resistance, as well as rarer diseases.

Professor Dermot Kelleher, Vice President (Health) of Imperial and Chairman of the Joint Executive Group of Imperial College AHSC, said: "Our extraordinary cluster of discovery, innovation and enterprise brings together some of the world's finest researchers, educators and clinicians. Patients are reaping the benefits, in London and throughout the world."

Professor David Taube, Director of Imperial College AHSC, added: "Imperial College AHSC is rightly regarded as a model for others to follow. Our centre is also embedded within the local Academic Health Science Network, Imperial College Health Partners, which is helping to deliver innovations in medicine to several million people in northwest London."

—SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS

### in brief

#### Jolly good fellows

The College's scheme to support outstanding early career researchers celebrates its fifth birthday with the arrival of 23 new Fellows. The Fellowship scheme was set up in 2009 to help promising researchers make the transition from postdoc to independent investigator. The new Fellows bring the total number who have benefitted from the scheme to 95. Among the new intake, researchers will investigate themes as varied as better diagnosis and treatment for cancer, the effects of blast injuries, how the continents have moved over the last 100 million years and the results of EU emissions trading.

Meet three of the new fellows: [bit.ly/18bbGF6](http://bit.ly/18bbGF6)

#### Potential HIV cure on test

Scientists and clinicians from five leading UK universities including Imperial will begin a groundbreaking trial next year to test a possible cure for HIV infection. Efforts to cure HIV in the past have been thwarted by the virus's ability to lie dormant inside blood cells without being detected. The new therapy combines standard antiretroviral drugs with two new weapons: a drug that reactivates dormant HIV, and a vaccine that induces the immune system to destroy the infected cells.

#### Student science in space

Two student physics experiments blasted off into space last month from Yasny in Russia onboard a Dnepr rocket. The 'cubesat' projects CINEMA-2 and 3 are collaborations between the University of California Berkeley; the School of Space Research at Kyung Hee University (KHU); and Imperial's Space and Atmospheric Physics Group. They are designed to study space weather by making measurements of the magnetic field and energetic ions and electrons in near-Earth space.

“I think it's a wonderful experience for undergraduates to be able to get our sensor onto a crocodile, which isn't going to be easy.”

DR RAVI VAIDYANATHAN (MECHANICAL ENGINEERING) TALKING ABOUT A PROJECT TO HELP SAFEGUARD THE SIAMESE CROCODILE POPULATION USING MONITORING TECHNOLOGY.

# Celebrating success at Gala Dinner 2013



Sir Keith O’Nions, President & Rector, toasted the outstanding achievements of the College community at the annual Imperial Gala Dinner on 12 November.

The 150 guests included staff and alumni who have been awarded national honours or been elected to prestigious scientific bodies, students who have won prizes for enterprising initiatives and people from across the College nominated for their exceptional contributions in a wide range of functions.

Sir Keith said, “Tonight is about you – we want to celebrate your success and recognise how you have gone the extra mile to build Imperial’s reputation for excellence.”

Griffin Ryder, Curriculum Assistant in the Faculty of Medicine, recently received a President & Rector’s Award for his work to improve the experience of students on the Biomedical Sciences BSc programme. Describing the Gala Dinner, Griffin said, “We don’t do our jobs to win awards, but it’s great that the College recognises how small contributions can make a huge difference.”

David Ebert, Programme Manager for ICT, was among staff from across the College recognised for their support of Imperial’s submission to the 2014 Research Excellence Framework. He said, “It was an honour and a privilege to be invited to the Gala Dinner. The evening was good fun, with great food and an excellent opportunity to catch up with some already familiar faces but also meet some new people from all areas of Imperial.”

Jonathan Jeffers (Mechanical Engineering), who was recently awarded a prestigious EPSRC Research Fellowship, said: “Talking to the people around me at dinner made me realise that there is basically no ceiling for achievement at Imperial. It was an honour to dine in such company.”

—CAROLINE DAVIS, COMMUNICATIONS AND PUBLIC AFFAIRS

## Imperial thanks record number of donors

Imperial celebrated a peak in philanthropic giving on 18 November as President & Rector Sir Keith O’Nions hosted the largest ever gathering of donors.

Staff and students from across the College thanked over 260 alumni and supporters at the annual Donor Thank You Event.

The event marked a significant fundraising milestone as 2012–13 saw the highest number of individuals donating to Imperial compared to any previous year. More than 4,500 individuals donated to Imperial, equating to a 25% increase on 2011–12.

Opening proceedings Sir Keith said: “There are hundreds of you here who have made donations to the College, and those who have benefitted from your generosity say thank you.” Students thanking the donors included



some of the 85 Rector’s Scholars who joined the College last month – the largest cohort since the Fund was created. Over 50% of Imperial’s donors in 2012–13 supported the Rector’s Scholarship Fund.

Another major beneficiary during 2012–13 was the Schistosomiasis Control Initiative, receiving donations from nearly 1,000 individuals.

The event also saw the launch of the Imperial 1851 Circle, which recognises donors who invest in the future of Imperial through annual gifts of between £1,000 and £4,999.

—JESSICA ADAMS, COMMUNICATIONS AND PUBLIC AFFAIRS



## Staff design healthcare apps for competition

The winners of a competition for academic and NHS staff will receive help to develop their ideas for smartphone apps to improve healthcare.

Clinicians and researchers were invited to submit a 250-word design brief for an app that would transform how health services are delivered and how medical staff communicate with patients.

The competition was organised in partnership between Imperial College Healthcare NHS Trust, Imperial College London and DigitalStitch, a spin-out company from Imperial College London

specialising in developing mobile technologies for healthcare.

One winning app, designed by surgeon and Clinical Research Fellow Mr Muzzafer Chaudery (Surgery and Cancer), aims to strengthen patients’ lungs pre-and post-surgery. The idea came to Mr Chaudery while working in the US, where he noticed that many patients having major abdominal and cardiothoracic surgery had a spirometer device, which tests lung function, next to their bed.

“I wanted to create a lightweight, portable equivalent that patients could use in the weeks running up to surgery to strengthen their lungs and reduce the incidents of complications like chest infections,” he said. His innovation will be piloted in a study with patients at Imperial College Healthcare.

The second winning app came from a trio of inventors: Dr Tim Knowles, an A&E Senior House Officer; Dr Greg Scott (Medicine), an academic neurology registrar; and Dr Ed Presswood (Medicine), an academic clinical fellow. They created an app to help health professionals share clinical images.

—SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS

## media mentions

—BY COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS



### Avoiding that Kodak moment

NEW YORK TIMES ▶ 20.11.2013

The car industry is taking matters into its own hands according to *The New York Times*. Instead of letting the popularity of car-sharing and car pools disrupt their business, they are joining in. Some are even taking the lead with their own new ventures in the hopes of holding onto existing customers and connecting with future ones. “They don’t want to be Kodak,” which fell into bankruptcy when photography went digital, said Dr Scott Le Vine (Civil and Environmental Engineering). He added that it was “more lucrative to sell everyone cars, but they don’t want to be left behind when the market shifts.”

### Anti-fungal drug may make flu worse

BBC NEWS ONLINE ▶ 18.11.2013

A drug commonly used to beat severe fungal infections may make flu far worse, animal studies suggest. The medicine in question, Amphotericin B, is given to people needing chemotherapy or a bone marrow transplant. The effects in people are still uncertain, but doctors have called for it to be assessed. “This is a quite worrying and unexpected finding, but we need clinical information about whether this is relevant to patients or not,” Professor Peter Openshaw (NHLI) told *The BBC*.

### BIS black hole threatens students and scientists

GUARDIAN ▶ 25.11.2013

A leaked memo highlights budget disarray at the Department of Business, Innovation and Skills, which threatens student support and a reversal of the commitment to ring-fence the science budget, commented an Imperial academic. Professor Stephen Curry (Life Sciences) told *The Guardian* that if the Government reverses its funding commitments to higher education,

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it could affect their credibility and undermine social mobility. “If the threatened cuts are enacted, there will be a lot less to applaud in the government’s approach to science — and to higher education — when the next election comes around,” he added.

### Lifelong learning

FINANCIAL TIMES ▶ 22.11.2013

“Philanthropy hasn’t quite caught up in the UK,” commented Professor G. ‘Anand’ Anandalingam, Dean of the Business School in his first major interview with the *Financial Times*. “There are a lot of wealthy, well-meaning people here but there is a view that education is still in the hands of government.” One of the biggest issues is building loyalty, says Professor Anandalingam, which US universities achieve through treating students well when they are at the university and keeping in touch once they have left. “[In the UK] When the students are here we treat them well. We don’t do such a good job in keeping in touch.” Professor Anandalingam says a major initiative is to get the Business School involved in life-long education. “We’re going to try and bring them [alumni] back into executive education.”

## awards and honours

### MEDICINE

#### Warner at Windsor



Professor John Warner (Medicine) shows off his OBE award for services to food allergy research at Windsor Castle last month.

### ENGINEERING

#### Waste not, want not

A student team has won an award for a project that harnesses engineered bacteria to turn landfill waste into a biodegradable plastic or bio-plastic. The students from the departments of Life Sciences and Bioengineering took part in the International Genetically Engineered Machine (iGEM) competition, coming first in the manufacturing section and third overall out of total of 200 teams worldwide. The team say the bio-plastic could be used in healthcare to make syringes and other disposable devices used in hospitals. They have also developed a method for breaking down the bio-plastic so that it can be easily disposed of when it is no longer needed.

### MEDICINE

#### Research council role for Darzi

Professor Lord Ara Darzi (Surgery and Cancer) has been appointed to the Council of the Engineering and Physical Sciences Research Council (EPSRC), the senior decision making body responsible for determining its policy, priorities and strategy. EPSRC Chair, Dr Paul Golby, said: “I am delighted to welcome the new members of Council who bring a wealth of expertise, experience and knowledge. Our new members strengthen a Council that is ensuring EPSRC remains at the heart of UK innovation.”

### BUSINESS SCHOOL

#### Healthy and appy

An Imperial alumnus who has designed a mobile app that could improve the lives of people with Parkinson’s has won a prestigious competition. Bruce Hellman (MBA 2011) secured first prize at the Cisco British Innovation Gateway (BIG) awards for uMotif. The app reminds patients to take their medication and also has games to test brain function to determine if there is any deterioration in their condition. Mr Hellman has received \$200,000 in prize money and assistance at the BIG Awards to further develop his application.

## Synthetic alcohol substitute could eliminate health risks – and hangovers

A drug that mimics some effects of alcohol but lacks its harmful properties would have real benefit for public health, an Imperial scientist has argued.

David Nutt (Medicine), Edmond Safra Professor of Neuropsychopharmacology, has identified candidate molecules that reproduce the pleasurable effects of alcohol but are much less toxic. He is looking for investors to help develop the product and bring it to the market.

Alcohol mimics a chemical called GABA which is produced in the brain, but it also acts on receptors for other brain chemicals. The alcohol substitute would be designed to target GABA receptors very selectively, avoiding undesirable side effects such as hangovers and loss of coordination. An antidote could also be made to block the receptor, allowing drinkers to sober up quickly.

“There’s no question that you can produce a whole range of effects like alcohol by manipulating this system in the brain,” said Professor Nutt. “In some experiments, the effect is indistinguishable from alcohol.”



“What we want to do is get rid of the unwanted effects of inebriation, like aggression and memory impairment, and we just want to keep the pleasure and the sense of relaxation. We think by clever molecular modelling we can get rid of the risk of addiction as well.”

Professor Nutt hopes to make a range of cocktails containing his synthetic alcohol substitute. He has spoken to investors about taking the product to market, but many are wary that the drug might be controlled by legislation.

Alcohol is responsible for 2.5 million deaths worldwide each year. Making safer alternatives available could reduce the harms significantly, Professor Nutt argued.

“I think this would be a serious revolution in health benefits, just as the e-cigarette is going to revolutionise the smoking of tobacco.”

—SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS



### Alcohol effects

In this festive period many of us will no doubt experience first-hand the effects of alcohol on the body and brain. But how well do we really know this familiar friend? Alcohol affects the levels of chemical messengers called neurotransmitters that carry the signals throughout the brain and body. It impacts both excitatory and inhibitory neurotransmitters. For example alcohol increases the effects of the inhibitory neurotransmitter GABA in the brain while at the same time inhibiting the excitatory neurotransmitter glutamate. This results in a two-fold depressant effect responsible for the sluggish movements and slurred speech often seen in those who’ve had a tipples. In addition alcohol increases the amount of the chemical dopamine in the brain’s reward centre, which creates the feeling of pleasure that occurs when someone takes a drink – which is central to the addictive properties of the drug which manifest in some people.

## Being unemployed for a long time may accelerate ageing in men

Men who are unemployed for more than two years show signs of faster ageing in their DNA, a new study has found.

Researchers at Imperial and the University of Oulu, Finland studied DNA samples from 5,620 men and women born in Finland in 1966.

They measured structures called telomeres, which lie at the ends of chromosomes and protect the genetic code from being degraded.

The researchers looked at telomere length in blood cells from samples collected in 1997, when the participants were all 31 years old. They found that men who had been unemployed for more than two of the preceding three years were more than twice as likely to have short telomeres compared to men who were continuously employed.

The analysis accounted for other social, biological and behavioural factors that could have affected the result, helping to rule out the possibility that short telomeres were linked to medical conditions that prevented participants from working.

This trend was not seen in women, which may be because fewer women than men in the study were unemployed for long periods in their 30s.

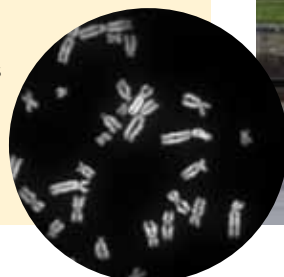
Study co-author Dr Jessica Buxton (Medicine), said: “Stressful life experiences in childhood and adulthood have previously been linked to accelerated telomere shortening. We have now shown that long-term unemployment may cause premature ageing too”.

—SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS



### Telomeres

Telomeres become shorter over a person’s lifetime, and their length is considered a marker for biological ageing. Many studies have shown that short telomeres are linked to higher risk of age-related diseases such as type 2 diabetes and heart disease. To learn more about telomeres and ageing watch this video of Nobel laureate Dr Elizabeth Blackburn giving the 2013 Schrodinger lecture at Imperial: [bit.ly/17yhqZn](http://bit.ly/17yhqZn)



## Examining the effect that music has on the brain...



Musicians who improvise tend to engage their audiences more. To see them play visit: [bit.ly/1cAzHHn](http://bit.ly/1cAzHHn)

**A brain study has shown that concert-goers engage more with classical music when musicians improvise their scores.**

A team of researchers from Imperial and the Guildhall School of Music and Drama set up a live concert, with a chamber music trio playing the same piece of music twice, once in an improvised fashion and once without improvising.

The three musicians, along with two audience members, were wired up to a machine known as an electroencephalograph (EEG). This measures and records the tiny electrical signals sent between brain cells.

By comparing the brain signals produced during both the improvised and non-improvised versions of the performance, the researchers were able to show a clear difference in brain activity during each piece.

An area of the brain known to be involved in sustained attention, working memory and the inhibition of responses, known as the Brodmann 9 area, was much more active in both musicians and listeners during the improvised performances. This indicates that the audience were much more engaged when listening to classical music containing improvised elements – a finding which tallied with interviews with audience members after the performance.

“Because the study was multidisciplinary, we were able to attack the problem from three different angles,” said study co-author Professor John Sloboda, an expert in the psychology of music at Guildhall. “My colleague David Dolan looked at this musically; Henrik Jensen from Imperial was able to measure what was going on in their brains, while my role was to find out what they thought and felt about these performances.”

The team hopes that this work will go some way to helping classical music fight against declining audiences. They suggest that by incorporating improvisation into classical musical concerts, musicians will create a unique event that will be both engaging and captivating.

“Beside the excitement of analysing music and the effect that might have on teaching, one other potential spin-off from the project is how you actually get meaningful information out of these EEG outputs,” said Professor Jensen (Mathematics). “Currently there is no routine mathematical toolbox that you can apply to such problems, so we hope what we have learned might have uses far beyond music, which could even help people in neuroclinics.”

—JENNY MITCHELL FOR COMMUNICATIONS AND PUBLIC AFFAIRS

“Currently there is no routine mathematical toolbox that you can apply to such problems.”

## ...and on solar cells

Playing music to certain types of solar cells increases the amount of power that they produce by up to 40 per cent, new research shows.

Scientists from Imperial’s Department of Chemistry and Queen Mary University of London manufactured solar panels with a special material that responds to the sound vibrations that make up music.

The discovery means that solar power could be used in a much wider range of devices and environments than at present, by utilising ambient, or background, noise to increase overall efficiency. This might include solar powered air conditioning units, laptop computers or electronic components on buses, trains and other vehicles.

For their latest work the researchers took advantage of a phenomenon known as the piezoelectric effect, where applying pressure or strain to some materials creates a voltage in the material. In this instance the researchers used the piezoelectric material zinc oxide nanorods in their solar cells.

“We thought the soundwaves, which produce random fluctuations, would cancel each other out.”

“We thought the soundwaves, which produce random fluctuations, would cancel each other out and so didn’t expect to see any significant overall effect on the power output,” said study co-author Professor James Durrant (Chemistry).

“The key for us was not only that the random fluctuations from the sound didn’t cancel each other out, but also that some frequencies of sound seemed really to amplify the solar cell output – so that the increase in power was a remarkably big effect considering how little sound energy we put in.”

The team even showed that high-pitched sounds like those common in pop and rock music caused the greatest improvement in the solar cells’ power output, increasing it by up to 40 per cent. Classical music, with typically lower pitched sounds, still increased the cells’ output, but not as much.

Study co-author Dr Steve Dunn, from Queen Mary added: “The work highlights the benefits of collaboration to develop new and interesting systems and scientific understanding.”

—SIMON LEVEY, COMMUNICATIONS AND PUBLIC AFFAIRS



Imperial 2013

# A year to remember

## College



### 25 acres

Size of the new Imperial West campus.

“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.”

Boris Johnson, Mayor of London at the ‘Launching the Vision’ event for Imperial’s new campus at White City.

### First class

54 first year medical students donned their white coats and stethoscopes in August to start their journey at LKCMedicine in Singapore, a joint medical school between Imperial and Nanyang Technology University.

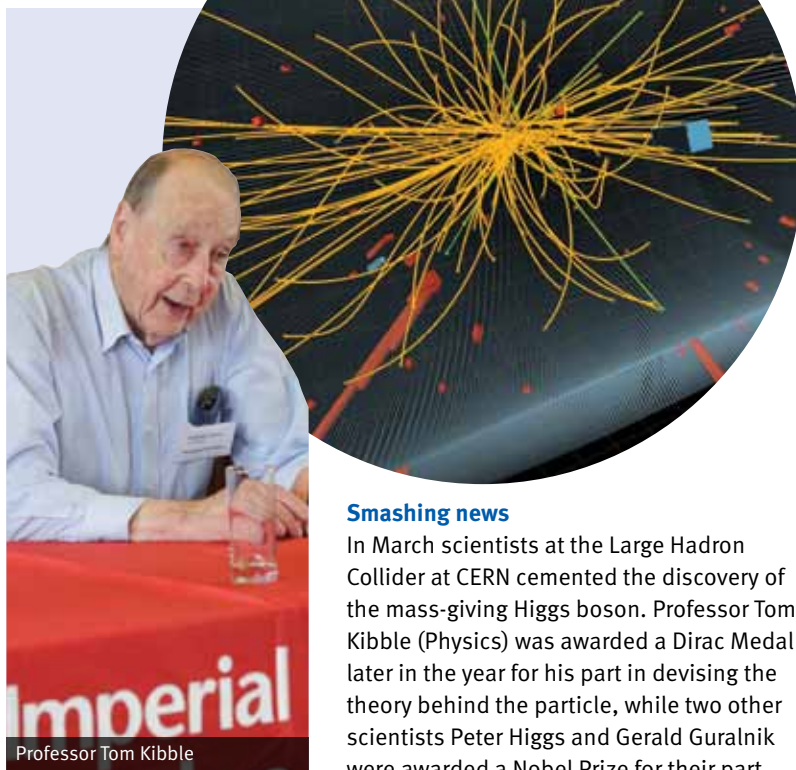


## Discovery



### Free flowing

NASA’s Mars Curiosity Rover provided the most definitive proof yet of ancient water flow on the red planet. Professor Sanjeev Gupta (Earth Science and Engineering) and colleagues from NASA’s Mars Science Laboratory mission found tell-tale sedimentary deposits suggesting a dried up riverbed.



Professor Tom Kibble

### Smashing news

In March scientists at the Large Hadron Collider at CERN cemented the discovery of the mass-giving Higgs boson. Professor Tom Kibble (Physics) was awarded a Dirac Medal later in the year for his part in devising the theory behind the particle, while two other scientists Peter Higgs and Gerald Guralnik were awarded a Nobel Prize for their part.

## \$2 trillion

What it will cost per year to have CO<sub>2</sub> emissions by 2050 (less than 1% of global GDP) according to Imperial report.

“Climate change is happening and we are conducting a dangerous experiment with our planet.”

Professor Sir Brian Hoskins, Director of the Grantham Institute for Climate Change, responds to the Intergovernmental panel on Climate Change (IPCC) presenting the findings of its landmark fifth report in October.



## Community



**10,000 people**

The number who descended on South Kensington for the second Imperial Festival in May.



### Towards equality

2013 could go down as the year Imperial was recognised for its efforts to level the playing for women working in science. The College received an institution-wide Silver Athena SWAN award while the Department of Chemistry received a Gold award. Several other departments also received silver or bronze awards.



**16 seconds**

The winning margin of Imperial College Boat Club in the Women's Eights Head of the River Race in March.

### ...and finally

Some of the more bizarre happenings of the year included staff and students bungee jumping from the Queen's Lawn in the name of charity for RAG week ... and one of our researchers David Legg (Earth Science and Engineering) naming an ancient creature he found in the fossil record after the actor Jonny Depp.



## Faces

In August Professor James Stirling became the College's first Provost – responsible for the core academic mission – education, research and translation.



James Stirling



Debra Humphris

“All of us in the College community play a role in the education and experience of our students.”

Vice-Provost (Education) Professor Debra Humphris on launching the Education and Student Strategy in October.

It's been a glittering year for Professor Joanna Haigh, Head of the Department of Physics, who was appointed Commander of the British Empire (CBE) in the New Year Honours and also elected a Fellow of the Royal Society (FRS).



Joanna Haigh



Anand Anandalingam

**5904 km**

The distance Anand re-located to take up his role as Dean at the Business School.

Professor G. 'Anand' Anandalingam took the helm of the Business School in August as Dean in August, hopping across the pond from the Robert H. Smith School of Business at the University of Maryland.

# On the Dot



“I am naturally very bossy so that probably helps!”

It is hard to imagine that just 50 years ago only one woman had ever been made a Professor at Imperial. While the drive to increase equality is ongoing, important progress has been made, with 86 of Imperial’s professors now women and several female Pro-Rectors and Faculty Deans having served at the College.



A key force behind this turnaround has been Dorothy ‘Dot’ Griffiths, Professor of Human Resource Management at the Business School. Dot has worked alongside others at the College to spearhead initiatives designed to address issues such as access to promotions, working conditions and pay equality among female academics.

After 44 years of service Dot will now be passing on the mantle as she leaves Imperial in January to Chair the Central and North West London NHS Foundation Trust.

Dot joined Imperial in 1969 as a research assistant in the Industrial Sociology Unit, going on to become Dean of the Business School. However, she admits to finding her first few years at the College a challenge.

“Back then there were very few women in academic posts; I think for many of us across the College, it was quite isolating,” she says.

Undeterred, Dot resolved to find ways to give women more of a voice. Inspired by the ‘second-wave feminism’ of the 1970s, which sought to abolish sexism in the workplace, she set up the UK’s first ever Women in Science Group.

“I was a founding member and the only woman from Imperial in the group. I felt very strongly that I needed to bring this into the College if I could,” Dot explains.

In 1998, Imperial established the Academic Opportunities Committee (AOC), which Dot went on to chair. Among the goals of the AOC are to support a level playing field for women academics by removing barriers to appointment or career advancement, and to ensure that the numbers of suitably qualified women in the College are as high as possible.

At the helm of the AOC, Dot helped establish a number of new initiatives such as the Female Faculty Ambassadors scheme, where senior women at the College are enlisted to support fellow female academics in their professional development and recommend tutoring or mentoring opportunities.

Dame Julia Higgins (Chemical Engineering), Emeritus Professor and Senior Research Investigator, has worked closely with Dot in the AOC and believes that these projects wouldn’t have happened without Dot’s sheer determination.

“She became the main driver for getting these initiatives implemented. There were plenty of good people with lots of ideas but you need a real leader to get things done and Dot was just that,” she says.

One example of this leadership was when she was setting up road shows around Imperial’s campuses to provide advice to both women and men about applying and interviewing for promotions.

“A lot of women didn’t know how the College promotions system worked and Dot was instrumental in getting the support from all the Faculty Deans and senior staff to go along and give advice and information,” Julia says.

Another project that Dot has been heavily involved with is the Athena SWAN Charter awards. Launched in 2005 these recognise and celebrate good employment practice for women working in science, technology, engineering, medicine and mathematics (STEMM).

Currently 11 departments across the College hold Athena SWAN awards ranging from bronze to gold and Imperial holds a coveted institutional silver award – one of only four universities to ever be recognised in this way.

Dot has been a guiding light in encouraging departments at the College to apply and showcase the ways in which they support their women academics.

“I am naturally very bossy so that probably helps!” Dot says of her management style. “I’ve always believed in leading from the front, I like to get things done; if you’re a leader, lead,” she says.

This influence is quite evident from her time as Dean of the Business School – according to Professor G. ‘Anand’ Anandalingam, the School’s new Dean.

“Dot really helped the Business School reach new heights in terms of student enrolment,” he says, noting the recent news that women now make up almost half of the students enrolled on the full-time MBA programme at the Business School.

“Though I was perhaps most impressed by Dot when I was interviewing to be Dean. We had made plans to meet for lunch on a Saturday, but she called on Friday to say that she had tickets for a Rolling Stones concert in Hyde Park and so couldn’t make it – a suitably cool excuse!”

—MAXINE MYERS, COMMUNICATIONS AND PUBLIC AFFAIRS

# inside\*

## story

### mini profile

## Leyla Okhai

Leyla Okhai (Human Resources), Equality and Diversity Manager, joined Imperial 18 months ago as the first College-wide staff disability advisor, and has driven a range of new initiatives.



**What are the main ways we strive for access and equality?**

The College sets equality objectives to ensure we maintain our position as a diverse and forward-thinking institution. Overseeing that is the Equality and Diversity Committee, chaired by Professor Debra Humphris, Vice-Provost (Education). There are also three staff networks which are a great way of building communities, namely Imperial As One, Imperial 600 and the recently established Able@Imperial. Able is a forum for both disabled staff and staff who care for disabled dependents, as well as any other interested parties. It's now looking at ways to encourage staff to disclose a disability and reassure them that support is available if they do.

**This is the second year you've organised events at College for Disability History Month. How has that been received?**

It's been great. My team and Able@Imperial have really helped get the word out there

and as a result we had more people interested and attending events. I try to do a mix of events including training sessions, a talk and a social event so that there is something for everyone.

**Stress and mental health problems are major causes of workplace disability. Do you think that's being better acknowledged now?**

Definitely! Occupational Health and the Learning & Development Centre have put together fantastic resources on stress awareness. In addition the mental health first aid training that I run has proved successful. We now have over twenty mental health first aiders throughout the College, who can spot the signs of mental ill-health and signpost staff and students to the right support channels.

**What do you do yourself to unwind and relieve stress?**

I love going for long walks where I live in Oxfordshire. I also do traditional Egyptian dance and bake cakes for the office!

## A toast to teaching excellence!



From left to right Drs Nick Brooks, Matthew Fuchter, Ed Tate, Andrew McKinley and Laura Patel (all Chemistry).

Some of the recipients of the President & Rector's Awards for Excellence in Teaching, Pastoral Care, Student Research Supervision, and Supporting the Student Experience gather at a special ceremony and reception on November 27 in the Billiard Room of 58 Prince's Gate.



### ▶ SCIENCE FROM SCRATCH

As explained by Aliyah Kovner, MSc Science Media Production

## Will we ever create our own sun?

In this year's film *Star-Trek: Into Darkness*, Captain Kirk risks his life to save the Enterprise by entering the ship's warp core. It may be Hollywood science fiction, but the scene was filmed inside the very real fusion target chamber of the National Ignition Facility (NIF) in Livermore, California. Rather than inventing light speed travel, though, the team of NIF researchers are hard at work trying to make something equally incredible: pocket-sized stars.

All stars including our own sun generate their astounding energy through the process of nuclear fusion. Their intense gravity creates extremely high temperature and pressure at their cores, which squeezes together atoms of hydrogen gas fusing them into a helium nucleus. In the process, subatomic particles are expelled, such that the resulting mass is less than the sum of its original components. This extra mass is emitted as energy, in accordance with Einstein's famous equation,  $E = mc^2$ .

Researchers at the NIF use 192 precisely focused beams from the world's most powerful laser to heat a pellet of hydrogen isotope, no bigger than this letter 'a', inside a gold cylinder chamber. The laser beams hit the inner walls of the chamber, causing them to emit x-rays, which implodes the pellet, creating the necessary extreme conditions for the hydrogen atoms to fuse.

A rather different type of experimental fusion reactor is currently being built by an international team in Cadarache, France. Instead of using lasers, this 'ITER' reactor heats plasma gas in a hollow donut-shaped magnetic chamber to temperatures of around 100 million degrees – at which point the plasma may undergo fusion.

The challenge that both methods face as potential power sources is that they must produce more energy than they actually need to kick start them. Realistically, it will be decades before fusion energy is lighting our homes and charging our smartphones. But we have to start somewhere, and these projects can also help scientists to peek into states of matter never before seen in laboratory environments.



National Ignition Facility



# The National Institute of fun!

In recent years school pupils have become a more common sight at Imperial with the various outreach initiatives and events that the College puts on; but it's a rare for an entire department to be given over to the younger generation for a whole day.

That's what happened on 28 October, as the National Heart and Lung Institute (NHLI), hosted its first ever 'Bring Your Child to Work Day'.

Over 60 children and their parents, all staff and students of NHLI, arrived at the Hammersmith and Royal Brompton Campuses for a morning of activities including craft workshops, scientific demonstrations and games. After lunch the troupe descended on South Kensington, with the youngest children taking a trip round the Science Museum, 5–12 year-olds taking part in activities at the Wohl Reach Out Lab and the older guests visiting undergraduate teaching laboratories.

Several smoking pumpkins, lung biscuits and sputum smoothies later, everyone gathered at the Queen's Tower Rooms for a Halloween Tea Party, for which Provost James Stirling was guest of honour.

"There was a real buzz to the event, it was clear to me that the children and their parents had enjoyed a great day. The feedback was extremely positive and I hope that it will grow to become a feature of other departments across the College," said Professor Stirling.

The event came together thanks to the dedication of an NHLI organisational team composed of over 40 postgraduate students, postdocs, administrators, technicians and academics.

Professor Clare Lloyd (NHLI), Institute Lead for Women, says: 'We are delighted that it was such a success and to have been able to show that staff and students at NHLI can combine a successful career at Imperial with having a family. This day now forms part of our Athena Silver SWAN aims and goals.'

For more information on how the day came together contact: [e.watson@imperial.ac.uk](mailto:e.watson@imperial.ac.uk)

## Let there be light

**As far as social entrepreneurship goes it doesn't get much more ambitious: bring electricity to 20 million people in developing countries across the world by 2020.**

But that's exactly what an Imperial spinout company is aiming to do after securing the support of a major Silicon Valley investor.

The company BBOXX, a provider of solar power technology systems, has received \$US 1.5 million from Vinod Khosla, one of the founders of the computer company Sun Microsystems.

BBOXX was established by engineering alumni Mansoor Hamayun, Laurent Van Houke and Chris Baker-Brian who all graduated in 2010. The company develops an all-in-one

system for homes and small businesses that integrates a solar panel, a battery and a control panel. BBOXX also sells compatible products such as fridges, shavers, radios, lights, fans and phone chargers.

BBOXX was born out of the charity e.quinox, which sees Imperial students creating and installing solar kiosks in remote villages in countries such as Tanzania and Rwanda.

"The aim when we established e.quinox was to deliver solar power for free," said Mansoor. "However, to provide power to millions of people around the world, we knew we needed more funds and turning our idea into an ethical, clean technology business enabled us to raise capital and export our ideas around the world."

Professor Peter Cheung, Head of the Department of Electrical and Electronic Engineering, who supports e.quinox and is also on BBOXX's board



of advisors says: "An integral part of the experience at Imperial is that we help to equip students with the skills and know-how to tackle some of the really big global challenges we face today.

"Being on the advisory board of BBOXX, I am experiencing first-hand the buzz this business is creating and I really look forward to seeing it move from strength-to-strength."

—COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS

“The aim when we established e.quinox was to deliver solar power for free.”

Student blogger Izzobel

## An intro to Izzie:

So HI! \*waves frantically\* I'm Izzie and I'm a first year biology student. So far, this means I spend quite a lot of time pipetting stuff from Universal tubes into test tubes and dissecting unusual things like squids. When I'm not in labs, I'm learning about cool stuff such as primate evolution and how everything you learnt about electrons in A Level chemistry was a lie. That's one of the hardest things about science... the deeper you go, the more you realise that everything you learnt at a previous level does not quite work as you think it does.



blog  
SPOT

## Start-up success

Global Entrepreneurship Week, which ran from 18–24 November, saw a raft of activities and events across six continents, and here at the College. We spoke to Professor Erko Autio (Business School).

### What advice would you give to aspiring entrepreneurs?

Be innovative and experiment with new ideas and business models. It is important that they learn from their mistakes, pick themselves up and develop their businesses further. This is important in order to come up with services and products that have the most potential to be successful.

### Recent data suggest the number of over 50s starting businesses is on the rise. Is this surprising?

Not really. These days it is becoming more attractive for people, no matter what age, to become entrepreneurs. This is because they can run their business via the internet from the comfort of their home. In the past global trade was the preserve of large multi-national companies. All of a



sudden the internet has opened doors, enabling people from different parts of the world to do business with one another, which is opening up a range of business opportunities.

### Do shows such as Dragons Den give a genuine insight into entrepreneurship?

Certainly I think they provide an insight into the factors behind the success of new business ideas. Most new business ideas are weak, and the Dragons make this very clear to the entrepreneur. However, I do think there are elements of the show that are unrealistic. For example most new businesses do not and should not seek equity funding from the outset.

—MAXINE MYERS, COMMUNICATIONS AND PUBLIC AFFAIRS



## Capturing tweets around the globe

“I’ve worked in all manner of funny places,” says recent Life Sciences postgraduate Samuel Jones, whose passport stamps certainly attest to this. In the past two years Jones has traveled to Borneo, Honduras, and most recently, Ethiopia, while studying and documenting far-flung bird species. After earning his MSc in Conservation Science this summer, he is back in the field and shows no sign of slowing down.

An avid ornithologist and life-long birder, Jones relates his passion to the bigger picture of environmental awareness using photography, blogging, social media, video,

and radio to document his projects and share them with the public.

“I believe people are inherently interested in natural history in one way or another and it’s all about trying to bring that to someone’s curiosity,” Jones said.

In November, the BBC Radio 4 programme *Shared Planet* featured Jones as the guest contributor, discussing his thesis research on Ethiopian Bush Crows. This unique species of bird is found only within a very small area of acacia and thorn bush savannah that surrounds tribal cattle-grazing land. Instead of being displaced due to a human presence, the bush crows rely on the environmental modifications created by the traditional local culture.

To listen to Sam’s radio piece visit: [bbc.in/19vWmA](http://bbc.in/19vWmA)

—ALIYAH KOVNER FOR COMMUNICATIONS AND PUBLIC AFFAIRS



## Full time

After 48 years and seven months at Imperial, Mick Reynolds, Grounds Manager of Harlington Sports Ground and longest serving member of the College support staff, is retiring.



### Can you describe your role at Imperial?

I ensure that the grounds are maintained and made ready for match days. This can require preparation which starts several months in advance, as well as last minute work, for example clearing snow from pitches or puddles from goalmouths. My team and I also cater for Queens Park Rangers, who train here, and any external competitions we host, such as the European Frisbee Championships.

### What changes have you seen?

There is a much wider provision for Imperial sports teams now; Gaelic football and lacrosse both have their own pitches and we currently have a baseball diamond. The floodlighting which we installed in 1990 has allowed the teams to play later. Female participation has also risen – there are a lot more sportswomen at the College now.

### What are you most proud of from your time at the College?

To be awarded the President & Rector's medal for supporting the student experience at Commemoration Day this year. The experience at the Royal Albert Hall was unforgettable: I sat near the front of the stage so I recognised a number of the sportsmen and women as they were awarded their degrees. After the ceremony, we rode on Jezebel, the fire engine of the Royal College of Science, with the Rector.



### Any memorable moments that stand out for you?

Victories against arch rivals UCL, and more recently the 'varsity' matches between the College teams and the Imperial medics' teams were certainly memorable events. Through the ground's connection with professional football, I've also had the opportunity to meet some real legends such as Jeff Hurst, the only person to score a hat-trick in a World Cup final.

### What are your plans for retirement?

I have just moved out of the onsite house at Harlington and returned with my wife to my childhood home I left 43 years ago when I got married. It is surreal to find myself doing the same commute for these last few days as I did when I first started at the College over 48 years ago. Since I announced my retirement two clubs have named a cup after me and they have asked me to come back to present it at their annual dinner.

—DOMINIC MCDONAGH FOR COMMUNICATIONS AND PUBLIC AFFAIRS

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 December–31 December. The data is supplied by HR and is correct at the time of going to press.

#### 20 years

- Ms Zosia Michaelides, Academic Medical Secretary, Department of Surgery and Cancer
- Mrs Aviva Witkover, Research Officer, Department of Medicine

#### 30 years

- Mrs Margaret Tyler, Campus Receptionist, Security Services

#### SPOTLIGHT

**Mrs Aviva Witkover, Research Officer, Department of Medicine**

#### 30 years

During my time at Imperial I've worked at both the St Mary's and South Kensington Campuses, but I've been with the Division of Immunology at St Mary's now since 1997. I would say that the greatest change I've seen has been in the volume of biological samples we can now process via high throughput methods compared to a few samples at a time years ago. That and the fact that in 1993 we didn't use email and I would bring my Sony Walkman and cassettes with me for my journey to/from work! Unusual happenings in my current job have included being shoed out of our labs so that they could



be used by the police, who needed a good view of the road below for criminal surveillance. I enjoy working at Imperial and love the diverse cultural mix that my Department always has; I couldn't imagine working anywhere else.

## Welcome new starters

Dr Raheelah Ahmad, Medicine  
Mr Ehsan Ahmad, Chemistry  
Mr Saif Al Ghafri, Chemical Engineering  
Mr Khalid Al Haj, Civil and Environmental Engineering  
Mr Alvin Alinsod, Surgery & Cancer  
Miss Jemma Allan, Educational Quality Office  
Miss Emma Arbabzadah, Physics  
Dr Julia Balog, Surgery & Cancer  
Mr Christopher Bamikole, Life Sciences  
Dr Thomas Barillot, Physics  
Miss Federica Begalli, Medicine  
Mr Marco Benozzi, Outreach  
Miss Francesca Bertolini, Faculty of Medicine Centre  
Dr Yaw Bimpeh, Medicine  
Dr Neville Boon, Bioengineering  
Ms Laura Bulmer, International Office  
Miss Anna Cauldwell, Medicine  
Dr Navpreet Chhina, Medicine  
Dr Young-Pil Choi, Mathematics  
Ms Alexandra Collins, Centre for Environmental Policy  
Miss Louise Connell, Materials  
Dr Steve Connolly, Life Sciences  
Dr Greg Crawford, Medicine  
Dr Vincenzo Curto, Computing  
Professor John Darlington, Computing  
Dr Sanjan Das, Life Sciences  
Mr Paul De Ponte, Surgery & Cancer  
Mr Joao De Sousa Valente, Surgery & Cancer  
Miss Poh-Leng Devare, Faculty of Engineering  
Mr James Docker, Surgery & Cancer  
Mr Jordan Douglas, IC Student Union  
Dr Laetitia Duval, Public Health  
Ms Kirsty Ellinor, Registry  
Mr Artemij Fedosejev, Public Health  
Mr Mark Fisher, Surgery & Cancer  
Miss Charlotte Fleming, Public Health  
Mr Asher Forrester, IC Student Union  
Dr Paolo Gabrieli, Life Sciences  
Dr Panayiotis Georgiou, Bioengineering  
Professor Duncan Gillies, Computing  
Professor Glenda Gillies, Medicine  
Mr Pavel Gonzalez, Computing  
Mr Peter Goodridge, Business School  
Dr Gael Grail, Aeronautics  
Mrs Tracey Gregory, Medicine  
Dr Simon Guest, Mathematics  
Mr Philipp Hack, Mechanical Engineering  
Miss Samar Hamad, Medicine  
Dr Gule Hanid, Public Health  
Dr Marion Hartl, Clinical Science  
Dr Mark Hayes, Medicine  
Mr Quentin Herreros, Mechanical Engineering  
Dr Arnau Hervera Abad, Medicine  
Miss Victoria Ireton, Life Sciences

Ms Jua Iwasaki, NHLI  
Dr David Jackson, NHLI  
Mr Matthew Jackson, Surgery & Cancer  
Ms Malgorzata Kalinowska, Surgery & Cancer  
Ms Maja Kecman, Surgery & Cancer  
Miss Rachel Kelly, Public Health  
Professor Geoff Kelsall, Chemical Engineering  
Dr Teresa Kennedy-Lydon, NHLI  
Mr Philip Kent, IC Student Union  
Mr Colin Kerr, Educational Quality Office  
Dr Rustem Khusainov, Bioengineering  
Mr Ioannis Kirmitzoglou, Life Sciences  
Mr Jeong Ko, Medicine  
Mr Jean Kossaifi, Computing  
Miss Ira Ktena, Computing  
Dr Mikhail Kustov, Physics  
Dr Maialen Lasa, Medicine  
Mr Christopher Lee, ICT  
Dr Avigdor Lerner, Surgery & Cancer  
Dr Rodrigo Liberal Fernandes, Life Sciences  
Dr Jun Liu, Mechanical Engineering  
Dr Xinlei Liu, Chemical Engineering  
Dr Yufei Liu, EEE  
Dr Erick Loomis, Surgery & Cancer  
Dr Vjera Magdalenic, Corporate and Enterprise Partnerships Manager (FoM)  
Mr David Malatinsky, Life Sciences  
Dr Sarah Malik, Physics  
Ms Kiruthika Manivannan, Medicine  
Mr Nikiforos Maragkos, Chemical Engineering  
Ms Nadine Marshman, Aeronautics  
Mr Pedro Martins, Computing  
Mr Finian McCann, Civil and Environmental Engineering  
Mrs Parul Mehta, Life Sciences  
Dr Thais Mello Cintra L Muller, Clinical Science  
Miss Clare Metcalfe, Business School  
Ms Eyerusalem Michael, Surgery & Cancer  
Dr Geev Mokryani, EEE  
Dr Hani Muammar, EEE  
Mr Jonathan Narcross, Communications and Public Affairs  
Dr Martin Obligado, Aeronautics  
Mr Chidozie Ofoego, Finance  
Mr Ozan Oktay, Computing  
Mr Pawel Orzowski, Chemical Engineering  
Miss Pauline Osseo-Asare, EYEC  
Professor Martyn Partridge, NHLI  
Dr Giuseppe Pasqualetti, Medicine  
Dr Mahim Qureshi, Surgery & Cancer  
Dr Joel Raffel, Medicine  
Mr David Rawaf, Public Health  
Mr Paul Reilly, ICT  
Mr Pedro Rente Lourenco, Bioengineering  
Mr Saymon Rodrigues Maderia, Surgery & Cancer  
Mr Mike Russell, ICT  
Mrs Anu Sadasivan Pillai, NHLI  
Ms Rajvinder Samra, Public Health  
Mr Michael Scanlon, Surgery & Cancer

Mrs Reena Sheladia, Catering Services  
Mr Michael Sibley, Life Sciences  
Miss Eirini Siougkrou, Chemical Engineering  
Mr Edward Smith, Mechanical Engineering  
Mrs Lakmini Staskus, Business School  
Dr Vani Subbarao, Medicine  
Dr Minwon Suh, Physics  
Dr Katrina Sweeney, Surgery & Cancer  
Mr Atsushi Takagi, Bioengineering  
Mr Michael Thomas, Materials  
Mr Nikolaos Trasanidis, Life Sciences  
Ms Tatiana Ustinova, EEE  
Mr Harpinder Virdee, ICT  
Mr Stephen Voller, Climate KIC  
Mr Paul Westacott, Centre for Environmental Policy  
Mrs Beverly Weston, Finance  
Mr Nathan Whittaker, Finance  
Dr Yueping Wu, EEE  
Dr Laura Yates, NHLI  
Dr Susan Young, Medicine  
Mr Xiao Yu, Life Sciences  
Dr Hsiang-Yu Yuan, Public Health  
Dr Yan Zhang, Mathematics  
Miss Zhe Zhang, Life Sciences  
Mrs Agata Zielinska, EYEC

## Farewell moving on

Miss Carmen-Sorina Agarafinei, Accommodation  
Dr Diego Alvarez Feito, Mechanical Engineering  
Dr Alexandra Alves Duarte, Chemistry  
Dr Raphael Assier, Mathematics  
Dr Sunny Bains, EEE (11 years)  
Dr Nathan Bartlett, NHLI (13 years)  
Mrs Sabin Bilal, Business School  
Dr Alessandro Borghi, EEE  
Mr Timothy Brush, Surgery & Cancer  
Dr Peter Budd, Business School  
Dr Simon Cauchemez, Public Health (8 years)  
Dr Michael Cecchini, Chemistry  
Ms Marion Chaix, Public Health  
Dr Amarnath Challapalli, Surgery & Cancer  
Dr OnJee Choi, NHLI (6 years)  
Dr Hannah Clapham, Public Health  
Dr Katie Cole, ESE  
Mr William Collins, Climate KIC  
Ms Sara Contu, Life Sciences  
Dr Matthew Cook, Medicine  
Mr Andrew Copley, NHLI  
Mr Rafal Czapiewski, Surgery & Cancer  
Dr Linda Davies, Centre for Environmental Policy (14 years)  
Professor Francesco Dazzi, Medicine  
Dr David Drew, Life Sciences (7 years)  
Dr Lynsey Duffell, Surgery & Cancer (5 years)  
Mrs Eva Farkasne Keller, Catering Services  
Mr Lambert Felix, Public Health

Ms Jane Field, Public Health (7 years)  
Mr Angelo Franchini, Public Health  
Dr Jarvist Frost, Physics  
Mr Toshifumi Fujimori, NHLI  
Dr Antonio Galleu, Medicine  
Dr Alicia Garcia, Clinical Science  
Miss Tessa Gardner, College Headquarters  
Dr Marco Genoni, Physics  
Mr Siamak Ghassemi, Surgery & Cancer  
Miss Sam Gillatt, Business School  
Dr Roman Gonitel, Medicine  
Dr Juan Gonzalez Maffe, Public Health  
Mr Pavel Gonzalez, Computing  
Mr Jevgeni Gordejev, Catering Services  
Miss Nikki Hale, Campus Services  
Dr Mohammed Hankir, Clinical Science  
Miss Nazeeha Hasan, Medicine  
Dr Hans-Joachim Hein, Mathematics  
Dr Samantha Hill, Life Sciences  
Mr Thomas Hills, Grantham Institute  
Dr Lawrence Hudson, Life Sciences  
Dr Yilin Huo, NHLI  
Dr Lisa Iddon, Surgery & Cancer  
Dr Agnieszka Ignatowicz, Public Health  
Dr David Inwald, Medicine (5 years)  
Dr Valeria Iodice, Medicine  
Mr Daniel Jarrett, EEE  
Miss Shiromani Jayawardhana, Life Sciences  
Ms Christina Kabba, Medicine  
Mr Omar Katamish, Aeronautics  
Mr Glenn Keen, Finance (5 years)  
Dr Shahid Khan, Medicine (10 years)  
Miss Aneire Khan, Public Health (7 years)  
Dr Bernadette Khoshaba, Public Health  
Miss Lucy King, Educational Quality Office  
Miss Minjoung Koo, Public Health  
Dr Daniel Kuhn, Computing (6 years)  
Dr Manuel Liebeke, Surgery & Cancer  
Mr Martin Lisboa, Business School  
Dr Binbin Liu, Medicine  
Dr Mariella Lomma, Life Sciences  
Dr Brenda Luken, Medicine (6 years)  
Dr Victoria Male, Life Sciences  
Emeritus Professor Peter Mantle, Centre for Environmental Policy (13 years)  
Dr Jan Marchant, Life Sciences  
Dr William Mathieson, Surgery & Cancer (5 years)  
Dr Alison McMillan, NHLI  
Dr Simon Medina, Mechanical Engineering (8 years)  
Dr Edward Mitchell, Physics  
Dr Sharmal Narayan, Medicine  
Mr Will Neal, ESE  
Mr Christopher Neill, Faculty of Medicine Centre  
Dr Adrian Nightingale, Chemistry  
Dr Ilaria Nisoli, Life Sciences  
Ms Despoina Noula, Development & Corporate Affairs

Dr Amit Patel, Clinical Science  
Dr Amol Patil, Chemistry  
Dr Federica Pisaneschi, Surgery & Cancer (7 years)  
Dr Marios Politis, Medicine (6 years)  
Professor Andy Purvis, Life Sciences (18 years)  
Dr Amanda Quigley, Chemical Engineering  
Dr Mark Rackham, Chemistry  
Ms Julie Rahman, Registry  
Dr Simon Ralphs, Medicine  
Dr Lucy Rayner, Life Sciences  
Ms Helen Richmond, Medicine  
Dr Alessandro Romagnoli, Mechanical Engineering  
Dr Stephanie Russ, Surgery & Cancer  
Miss Carlyn Samuel, Life Sciences  
Miss Alexandra Shaw, Life Sciences  
Mrs Nataliya Shiraz, Business School  
Dr Yannick Sonnefraud, Physics (5 years)  
Miss Zinah Sorefan, Surgery & Cancer  
Ms Sarah Stocker, Surgery & Cancer  
Ms Julie Stove, Medicine  
Dr Tatiana Subkhankulova, NHLI  
Miss Louise Sullivan, Campus Services  
Dr Mark Tame, Physics  
Mr Brian Taylor, Public Health  
Dr Anna Trenaman, Life Sciences  
Miss Cristina Trento, Medicine  
Dr Mark Ungless, Clinical Science (7 years)  
Dr Mikel Valganon Petrizan, Medicine  
Mrs Rachael Venn, Chemistry  
Ms Anne-Laure Vieille, History of Science, Technology and Medicine Centre  
Dr Xiuli Wang, Chemistry  
Dr Claire Westwood, Public Health  
Dr Lynsey Whilding, Surgery & Cancer  
Dr Kerstin Williams, Medicine (8 years)  
Dr Kerry Wilson, Chemistry  
Ms Eleanor Wilson, Public Health  
Dr Oliver Wright, Bioengineering  
Dr Zhiyong Yu, Chemistry  
Dr Christopher Zaltis, Chemistry  
Mrs Marzieh Zamani, NHLI  
Mr Frank Zhao, Life Sciences

This data is supplied by HR and covers staff leaving the College during the period 15 July–11 September. This data was correct at the time of going to press. For Moving In, visit the online supplement at [www.imperial.ac.uk/reporter](http://www.imperial.ac.uk/reporter)

✉ Please send your images and/or comments about new starters, leavers and retirees to the Editor at [reporter@imperial.ac.uk](mailto:reporter@imperial.ac.uk)

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



14 JANUARY ▶ PUBLIC TALK

## 4th EDF Annual Lecture

Humphrey Cadoux-Hudson, Managing Director of Nuclear New Build, EDF Energy, will discuss plans to build the UK's first new nuclear power plant in 20 years. The government and energy company EDF Group forged an agreement over the



station, to be called Hinkley Point C, in October 2013. This special lecture is presented by Imperial's Energy Futures Lab and Centre for Nuclear Engineering.



29 JANUARY ▶ PUBLIC TALK

## Randomness, dynamics and risk

Professor Damiano Brigo (Mathematics) addresses a world of conundrums in his inaugural lecture. Is the toss of a coin really a random event? How about tomorrow's value

of the FTSE100? Is there any free will? Why is long term weather forecasting so difficult? How is randomness different from chaos? Professor Brigo navigates through the following issues and many more as he answers the age-old question: What is probability and what does it really measure?

## take note

### Still time to book your team Christmas lunch...

Eastside Restaurant is serving a three course traditional Christmas lunch or dinner until Friday 20 December for just £13.95. Staff can book a table by calling 020 7594 5438. For the full menu visit: [bit.ly/1fj25xW](http://bit.ly/1fj25xW)



14 JANUARY ▶ SEMINAR  
**Perspectives in Education: Opening their Minds?**

*Establishing an interdisciplinary curriculum enhancement programme.*



28 JANUARY ▶ PUBLIC TALK  
**Dark matter: dark energy: dark gravity**

*Friends of Imperial event with Alan Heavens, Professor of Astrophysics (Physics).*



13 FEBRUARY ▶ PUBLIC TALK  
**Imperial Business Insights Series**

*Tim Kay, KPMG presents 'Big business and start-ups: competition or competitive advantage?'*



9 – 10 MAY  
**Imperial Festival and Alumni Reunion weekend**

*With demonstrations, talks, music, dance and more, don't miss the chance to explore Imperial's ground breaking research at the third Imperial Festival on the South Kensington Campus.*



16 JANUARY ▶ SEMINAR  
**Food in Exile: of Porridge and Pumpernickel**

*A consideration of refugee life in UK during the Second World War with Dr Anna Nyburg (Co-curricular Studies).*



30 JANUARY ▶ PUBLIC TALK  
**Imperial Business Insights Series**

*Adam Warby, CEO Avanade.*

11 FEBRUARY ▶ PUBLIC TALK  
**Engineering and managing some of the world's busiest highways**

*Ginny Clarke, Director of Strategy and Planning, Highways Agency.*



19 FEBRUARY ▶ PUBLIC TALK  
**Does beauty hold the key?**

*Professor Ulrik Egede (Physics).*

20 FEBRUARY ▶ SEMINAR  
**Crick symposium: Rare Diseases**

*Exploring diseases that affect 5 in 10,000 people.*



## MEET THE READER

**Andrew Sellick, Day Security / Postal Officer**

**What are you doing in the picture?**  
 Just casually stroking my 'Movember' moustache, which I grew in aid of prostate and testicular cancer, much to the disdain of my wife and kids! Since I know a lot of staff around College from doing the post rounds, collecting donations has been relatively easy – I'm at £1400 and counting.

**What would you do if you were editor of Reporter for a day?**  
 As one of the first people who sees the magazine each issue when it comes to the post room, I think I would relish the opportunity to be editor! I'd like to see a regular update from the Heads of Department to see what they are up to.

**Who would be your cover star?**  
 Well my cover story would look at the work of the post room during the festive period, when our workload increases markedly. Just this Monday alone (9 Dec) we had 131 packages from Amazon. Though it's a challenge, we obviously enjoy delivering Christmas cards and presents and seeing the smile on people's faces.

Want to be the next reader featured in Reporter? Send in a picture of yourself to: [reporter@imperial.ac.uk](mailto:reporter@imperial.ac.uk)

## Stay in the loop

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