



Medical Frontiers

Students deliver health projects in Nepal
as part of new research experience

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City space for
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EDITOR'S CORNER

Holistic medicine

It seems that every week brings a new media story about some fresh crisis afflicting the UK's National Health Service. It's a particularly depressing narrative for our medical students, who could be forgiven for thinking they're boarding a sinking ship. There's no doubting that we face **unique challenges**, particularly around a growing elderly population, antimicrobial resistance and expensive new drugs – but occasionally some **perspective is needed**. That came in stark relief for a group of first year medical students who travelled to Nepal this September (centre pages). What struck many of the students I spoke to was the near total lack of healthcare provision there – particularly in rural areas affected by the 2015 earthquake. As Martin Lupton, Head of the Medical School, told me, the project is part of a wider drive to broaden the education of medics, recognising that **experiential learning** is just as important as sitting in a lecture theatre absorbing physiology principles (see page 10).

ANDREW CZYZEWSKI, EDITOR

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Imperial and Cyprus embark on major EU collaboration



This engineering building will house the Research Centre of Excellence in Monitoring, Control and Security of Critical Infrastructures

Making critical infrastructure more efficient, resilient and economical will be the focus of a new €15 million collaborative project between Imperial and the University of Cyprus.

Critical infrastructure refers to things like transportation and communication networks, airports, energy networks and water utilities. They are vital systems that help ensure that a modern country can function. Cyprus has academic expertise in this field, but has experienced a brain drain over the years, and needs support to help

the country translate its know-how into new technologies, businesses and industries of the future.

Professor James Stirling, Provost of Imperial said: "This new initiative shows what Imperial does best: working with partners from around the globe to tackle the biggest challenges facing society. The College is proud of its long-standing links with Cyprus, and we look forward to further reinforcing our ties through this important collaboration."

When in-kind support from the College and co-funding from the Cypriot Government,

the University of Cyprus and local and international industries is taken into account the overall total of the project budget rises to over €40 million.

The aim is to establish a Research Centre of Excellence in Monitoring, Control and Security of Critical Infrastructures. The intellectual property generated by researchers from the Centre will help make the country a regional hub for new businesses in the Mediterranean and the wider Middle East.

Professor Thomas Parisini, from the Department of Electrical and Electronic Engineering, is Imperial's principal investigator on this initiative.

—COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS

Imperial in Europe

This new European Union support for Imperial research into critical infrastructure will be unaffected by the Brexit vote. Imperial researchers are continuing to apply for new EU-backed research projects through Horizon 2020 and other programmes. The UK government has committed to underwriting UK university participation in any EU research projects formed before 2020, even if they continue beyond that date.

Funding boost for cancer centres

Lifesaving cancer research and treatment centres at Imperial have received a further five years of funding from Cancer Research UK.

The recent announcement from Cancer Research UK (CRUK) and its decision to re-invest in the Imperial CRUK Centre and the Imperial Experimental Cancer Medicine Centre (ECMC) reflects Imperial's world-leading reputation for taking a co-ordinated effort to tackling cancer.

Spread over five years, the investment will help develop the breadth and depth of research performed within the centres. The funding will bring together cancer researchers from all faculties, and support technical staff, research and educational programmes, including: multidisciplinary PhD studentships; a development fund for pilot projects; and support for translation of science, engineering and technology advances to cancer patients.

Professor the Lord Ara Darzi, Director of the Institute of Global Health Innovation and PI of the Imperial CRUK



Centre bid, said: "We are delighted and excited that Cancer Research UK has supported our Centres for another five years. The Centres will focus and build on Imperial's strengths in engineering and physical sciences to address the ongoing challenges of tackling cancer."

The news comes as part of CRUK's largest investment to date into its network of centres across the UK. A total of £226million has been split between 13 CRUK Centres and 18 ECMCs.

—ANDREW YOUNGSON, COMMUNICATIONS AND PUBLIC AFFAIRS

Doors open to next generation of inventors

Imperial has announced plans to open a new community innovation space called 'The Invention Rooms' at White City in west London, allowing members of the local community to turn their creative ideas into real working prototypes, using advanced technology.

Targeted for completion in mid-2017, The Invention Rooms will transform a disused former office building on Wood Lane into a unique community hub.

Imperial is working closely with the London Borough of Hammersmith & Fulham to develop a number of engagement projects which support local education, employment, health and entrepreneurship. The Invention Rooms represents a key milestone.

Professor Maggie Dallman, Associate Provost (Academic Partnerships), said: "The Invention Rooms is about throwing open our doors to our neighbours and channelling their energy and ambition into creative projects. There's so much we can learn from this community and their perspectives and experiences will help shape the world-leading research taking place at our new campus."

Councillor Stephen Cowan, the Leader of the London Borough of Hammersmith & Fulham, added: "By bringing together Imperial's expertise with the talent and aspirations of the community, we can encourage the next Steve Jobs or Robert Winston – who may be growing up next door in the White City Estate – to fulfil their potential."

The Invention Rooms will contain three unique zones: the Reach Out Makerspace for young people to gain hands-on experience of entrepreneurial thinking and prototyping; the Advanced Hackspace workshop for students, staff and partners to work together in turning ideas into inventions; and an Interaction Zone for public events, where local people can connect with science and Imperial's research.



A digital impression of the Invention Rooms

—JOHN-PAUL JONES, COMMUNICATIONS AND PUBLIC AFFAIRS



President's Awards celebrate Imperial staff

The 2016 President's Awards for Excellence in Research and Education were presented at a celebration event in December.

The awards, announced in June, celebrate the achievements of staff in a number of areas across research and education.

Speaking at the ceremony, Professor Alice Gast said: "Our winners embody Imperial's mission to achieve excellence in research and education in science, engineering, medicine and business for the benefit of society.

"In our strategy we say that we will share the impact and achievements of our staff across all disciplines, functions and activities so that their work and contribution to our mission is recognised and celebrated. This evening is one of our efforts to do this."

The awards recognise excellence in both education and research across nine categories.

Dr Chrystalla Orphanides (Medicine) received a President's Award for Excellence in Research Support.

She said: "It was a real honour to win. I think this is the first time someone from the Department has been nominated in this category and I'll be encouraging my colleagues to nominate in the future.

"My role is around creating initiatives to support our academics in the department to maximise research funding. Part of that has been supporting staff applying for Wellcome Trust Investigator Awards and we now have 15 of them. The most of any department in the College."

Nominations were made by staff and students from across the College, with the winners of each award decided by selection panels overseen by the Acting Vice-Provost (Education) and Vice-Provost (Research).

—JON NARCROSS COMMUNICATIONS AND PUBLIC AFFAIRS

in brief

President joins Mayor's Brexit advisory group

Imperial's President Alice Gast is to advise the Mayor of London Sadiq Khan on the risks, challenges and opportunities following the EU referendum. President Gast is one of 14 expert members, including leaders from financial services, technology, science and media. They will provide on-call advice and guidance to the Mayor as he begins a series of monthly meetings with the Secretary of State for Exiting the European Union, David Davis MP. The news follows Professor Gast's recent interventions in the



Brexit debate including a series of meetings with senior politicians (including the European Commissioner Carlos Moedas, inset), as well as interviews with the *Evening Standard* and *Le Figaro*, a comment piece in the *Wall Street Journal*, and a letter to the *Economist*.

Automation for the people

HackScience has won the £10,000 prize in the Business School's annual Dragon's Den-style competition with their platform for automating lab processes. HackScience offers users a platform to develop and control new tools to automate manual lab



processes without the need to code. The team, comprising Imperial's Ali Afshar (Chemistry), Ignacio Willats (Business School), Henry Miskin (Computer Science) and Sabin Marcu, were also supported by Dr James Bannock (Chemistry).

Improve care with big data

Imperial and Imperial College Healthcare NHS Trust are part of a new programme to pool anonymised data from NHS trusts for research. The National Institute for Health Research Health Informatics Collaborative (NIHR HIC) is working to make anonymised NHS clinical data more readily available to researchers, enabling them to gain new insights into areas such as the effectiveness of different treatments and what factors influence patient outcomes and recovery. This is done by ensuring data is in a standard format alongside adhering to strict procedures to guarantee the data is non-identifiable.

New resource to boost primary science

Imperial and primary science resource Tigttag have launched a new online resource to help teachers bring topical science into their classrooms.

Reach Out Reporter offers films and other primary learning resources themed around the latest science news and issues. It aims to help primary school children understand how science relates to the world around them and support teachers to incorporate science into their everyday teaching and learning.

Professor Maggie Dallman, Associate Provost (Academic Partnerships), said: “At Imperial we’re committed to sharing the wonder of our work. That means inspiring a passion for science across all age groups.

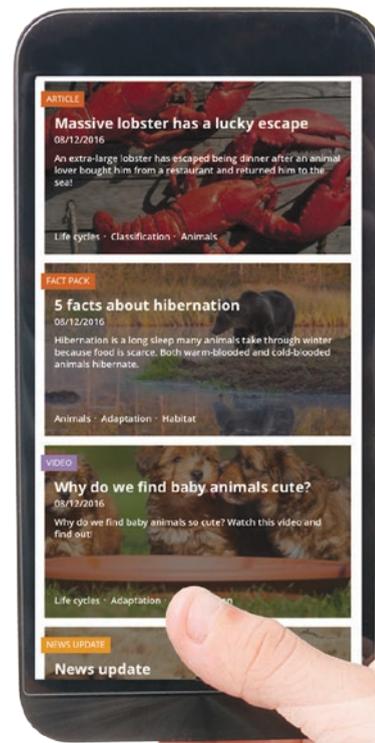
“Young children are naturally curious about the world around them. We need to harness that and encourage

a passion for science from a young age. Through Reach Out Reporter, we’re proud to be partnering with teachers to bring the latest science into their classrooms.”

Catherine Cahn, CEO at Twig, Tigttag’s parent company, said: “We are proud to announce the launch of Reach Out Reporter and thrilled to be delivering this engaging and timely resource to primary school teachers each week. We know that science is crucial to our way of life and for the future of the next generation. This service will help students understand just how important it is.”

Reach Out Reporter is available free of charge to anyone in the UK through the generosity of The Goldsmiths’ Company.

—DEBORAH EVANSON, COMMUNICATIONS AND PUBLIC AFFAIRS



The online resource covers a range of topics including the natural world, space and technology

Next Gen

Imperial College London and Twig World Ltd. have created Reach Out Reporter as part of their pioneering partnership to share the wonder of science with primary school children across the UK through a range of innovative digital resources. Reach Out Reporter builds on the success of Reach Out CPD, a free online continuing professional development resource, launched in October 2014, which helps teachers deliver inspiring and engaging primary science lessons with confidence. Reach Out CPD is now used by over 13,000 teachers from more than 7,000 schools across the UK.

College publishes gender equality report

Imperial will develop a comprehensive action plan to address sexism and advance gender equality, Professor James Stirling announced in December.

It comes as Imperial publishes the findings of an independent research project into the College’s institutional culture and how it impacts on gender equality.

The project, commissioned in summer 2015, was led by independent researchers



from the Centre for Gender Studies at the University of Sussex, Dr Alison Phipps and Dr Liz McDonnell, and assisted by Dr Jess Taylor, an independent consultant.

The report details some of the positive aspects of Imperial’s culture, acknowledging the policies, initiatives and support the College has in place and the benefits that they bring. The College is perceived as a place where staff can excel – supporting talent and achievement as well as enabling flexible working.

However, the report highlights some important areas where the College is currently falling short. The researchers heard examples of staff and students feeling silenced, undermined, and afraid to come forward to report discrimination and bullying. Participants also reported a lack of community spirit and an impersonal culture.

Professor Stirling, said: “If only a single person within our community experiences harassment, or is unable to access the support

they need – that is one person too many. These findings remind us that we cannot stand still. We must do better.”

The report makes a number of recommendations while recognising that cultural change is a complex process that takes time to evolve. Building on the report, Imperial will be developing a comprehensive action plan to address these issues, with the input of the whole College community.

Dr Phipps said: “Imperial College has shown tremendous courage in not just ticking the boxes, but appointing a feminist team to do in-depth research on its institutional culture. Our work at Imperial has been challenging but incredibly constructive, and we are very grateful to the staff

and students who have participated with us. We also feel confident that positive changes will take place because of our study.”

—ELIZABETH NIXON, COMMUNICATIONS AND PUBLIC AFFAIRS

Read the full report online here: bit.ly/phipps-report

media mentions



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Should fertility clinics offer experimental treatments?

NEW SCIENTIST ▶ 09.12.2016

Are clinicians that offer experimental menopause reversal and three-parent babies providing desperate patients with a last stab at parenthood, or offering false hope? “We have to understand that patients are vulnerable, and we can’t exploit that vulnerability,” said Stuart Lavery (Surgery & Cancer), a fertility consultant at Imperial College Healthcare NHS Trust in London, speaking to *New Scientist*. “But just because someone is desperate, doesn’t mean they can’t be informed.”

Overhaul visa system to make London a global innovation hub

EVENING STANDARD ▶ 25.11.2016

Theresa May should overhaul the visa system to make London a ‘global innovation powerhouse’ in the wake of the Brexit vote, the head of one of the capital’s top universities says. In an interview with the *Evening Standard*, Alice Gast, President of Imperial College, said reforms that would make it easier to bring in more of the world’s top scientists would allow Britain to capitalise on leaving the EU.”

Digital instructor to guide you on the slopes

THE TIMES ▶ 06.12.2016

It is a ski instructor that charges mates’ rates, is not irritated by your bad habits and won’t seduce your girlfriend, yet promises to transform your technique. A group of Imperial College London alumni have come up with a digital instructor that uses algorithms and an array of sensors in your boots to give you real-time advice on or off-piste. Co-founder Jamie Grant (Business School) told the *Times*: “It tracks how you’re skiing and can give pointers or highlight mistakes like leaning too far forward or back or shifting your weight too late in the turn.”

Singing could help with lung problems

THE TELEGRAPH ▶ 01.12.2016

People with lung conditions are being urged to sing to help improve their breathing, the *Telegraph* reports. Doctors, physiotherapists, nurses, psychologists and music therapists have come together to sign a consensus statement advising people to join choirs or singing groups, following a review of evidence. Singing can increase lung capacity and strengthen muscles, which can lead to more confident and controlled breathing, according to the British Lung Foundation, which runs ‘singing for lung health’ groups around the country. Dr Nicholas Hopkinson (National Heart and Lung Institute), a reader in respiratory medicine who led the new review of four studies involving more than 400 people, said: “Patients consistently report singing for breathing helps them cope with their lung condition better. This research reveals increasing evidence that singing regularly as part of a group has the potential to improve health-related quality of life, particularly related to physical health, and levels of anxiety without causing side effects.”



awards and honours

NATURAL SCIENCES

Opening up

The College has been recognised by Understanding Animal Research for its communications around the number of animals used in research. At the annual awards for Openness on Animal Research, held on 5 December 2016, Imperial was presented with a Highly Commended award in the Public Engagement Activity category. Every year, Imperial publishes data about the numbers of different animals used in its research activities over the past 12 months. This year, in an effort to give people



a better understanding of how and why these animals are used in research at the College, Imperial published a news story and produced a short video for social media explaining the numbers.

MEDICINE

NICE job

Esmita Charani (Medicine) Senior Lead Research Pharmacist at the NIHR Health Protection Research Unit, has been appointed as an Expert Adviser for the NICE Centre for Guidelines (CfG). The National Institute for Health and Care Excellence (NICE) provides national guidance and advice to improve health and social care. The appointment as Expert Adviser is a three year term.

ENGINEERING

Lifetime achievement

Regius Professor Chris Toumazou has been honoured with a Lifetime Achievement Award at the Elektra European Electronics Industry Awards 2016, in recognition of his dedication to saving and improving lives through leading-edge medical research. His list of achievements includes cochlear implants for born-deaf children, an artificial pancreas for type 1 diabetics and a wireless heart monitor for personalised post-operative healthcare.



ENGINEERING

Funding the future

Imperial researchers who are developing technology to help people manage chronic conditions like COPD at home were awarded £2.7million this month. Dr Pantelis Georgiou is leading one project, ‘An adaptive, real time, intelligent system to enhance self-care of chronic disease’ (ARISES). While Professor Esther Rodriguez-Villegas is leading the other project to develop a novel wearable technology for early detection of exacerbations in COPD.



Boosting anti-ageing molecules might help lung condition

Researchers have discovered that chronic obstructive pulmonary disorder (COPD) may be treated by targeting an anti-ageing pathway.

Researchers have previously found that the lungs of people with COPD exhibit signs of accelerated ageing. Now, a team from the National Heart and Lung Institute (NHLI) has discovered how to target this ageing process, which may lead to effective new therapies.

Lead investigator Professor Peter Barnes FRS (NHLI) said: “What is perhaps most exciting about this study is the unexpected finding that we can reduce the ageing process in COPD. This is exciting, as ageing is thought to be a process impossible to reverse.”

The team previously found that anti-ageing molecules within the identified ageing pathway, called sirtuin-1 and sirtuin-6, were reduced in the lungs of patients with COPD.

In this new study in human lung cells, the researchers were able to increase these anti-ageing sirtuins by blocking another molecule in the pathway, called Micro-34a. As a result, the markers of cellular ageing increased back to normal levels.

The team suggest that the blocking of Micro-34a may be utilized in future therapies to reduce the ageing processes of lung cells, ultimately reducing the effects of COPD.

—TORI BLAKEMORE FOR COMMUNICATIONS AND PUBLIC AFFAIRS

Patching up hearts

Scientists have successfully created a material designed to bridge the gap in the heart’s electrical signals caused by a heart attack.

The international collaboration involving Imperial and the University of New South Wales was co-funded by the British Heart Foundation (BHF).

A heart attack can leave a person’s heart damaged and unable to pump blood around the body effectively, a condition known as heart failure. After a heart attack, scars are formed within the heart muscle. These scars are our body’s way of repairing damaged heart tissue after a heart attack. However, they can also block the electrical signals that control the coordination of this same pumping action by the heart.

The new patch has now been shown to improve the movement of the heart’s electrical pulses across scarred heart tissue in rats. The electrically-conductive device is made from three components: a film of chitosan, a chemical found in crab shells that is often used as a food additive; polyaniline, a conductive material; and phytic acid, a substance found in plants.

Professor Molly Stevens (Materials), who led the research said: “For people who have suffered a heart attack and have heart failure, arrhythmias are a common and very serious problem, which this patch has the potential to help with.

“No stitches are required to attach it, so it is minimally invasive and potentially less damaging to the heart.”

The next step for the team is to test the patch with tissue taken from human failing hearts removed at transplant.

The research was funded by the BHF, Marie Curie, Wellcome and the Australian Research Council Centre of Excellence in Convergent Bio-Nano Science and Technology.

—COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS



Professor Molly Stevens

HEART FAILURE STATS

500,000+

people in the UK are living with heart failure



British Heart Foundation’s **Mending Broken Hearts** appeal is launched



The appeal funds **ground-breaking** research which will provide real benefits for people living with heart failure



£25 million has been raised so far

Einstein put to the test

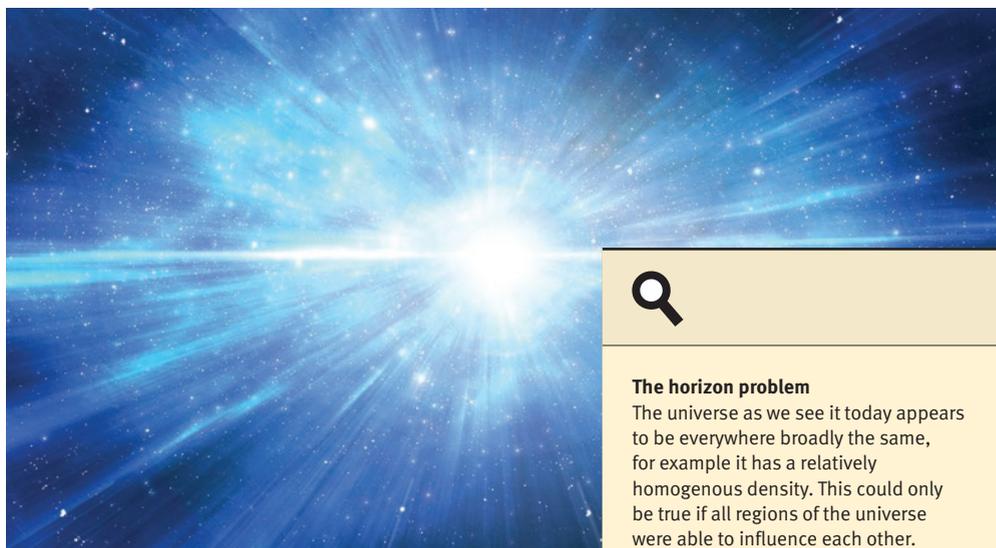
Scientists behind a theory that the speed of light is variable – and not constant as Einstein suggested – have made a prediction that could be tested.

The assumption that the speed of light is constant, and always has been, underpins many theories in physics, such as Einstein's theory of general relativity.

But some researchers have suggested that the speed of light could have been much higher in this early universe. Now, one of this theory's originators, Professor João Magueijo (Physics) working with Dr Niayesh Afshordi at the Perimeter Institute in Canada, has made a prediction that could be used to test the theory's validity.

Structures in the universe, for example galaxies, all formed from fluctuations in the early universe – tiny differences in density from one region to another. A record of these early fluctuations is imprinted on the cosmic microwave background – a map of the oldest light in the universe – in the form of a 'spectral index'.

Working with their theory that the fluctuations were influenced by a varying speed of light in the early universe, the team has now used a model to put an exact figure on the spectral index.



Cosmologists are currently getting ever more precise readings of this figure, so that prediction could soon be tested – either confirming or ruling out the team's model of the early universe.

Professor Magueijo said: "The theory, which we first proposed in the late-1990s, has now reached a maturity point – it has produced a testable prediction. If observations in the near future do find this number to be accurate, it could lead to a modification of Einstein's theory of gravity. If true, it would also mean that the laws of nature were not always the same as they are today."

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS



The horizon problem

The universe as we see it today appears to be everywhere broadly the same, for example it has a relatively homogenous density. This could only be true if all regions of the universe were able to influence each other.

However, if the speed of light has always been the same, then not enough time has passed for light to have travelled to the edge of the universe, and 'even out' the energy. This is known as the 'horizon problem.' As an analogy, to heat up a room evenly, the warm air from radiators at either end has to travel across the room and mix fully. The problem for the universe is that the 'room' – the observed size of the universe – appears to be too large for this to have happened in the time since it was formed. Physicists have proposed different ways of explaining the horizon problem, of which Professor Magueijo's variable speed of light theory is one.

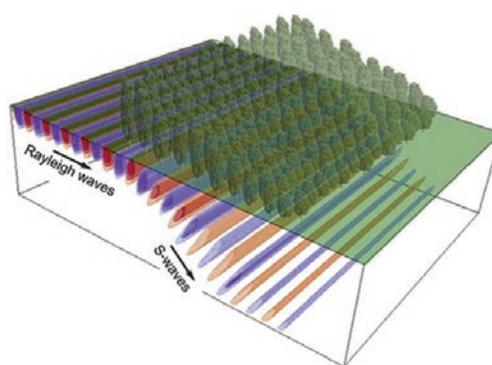
'Invisibility cloaks' may protect buildings from earthquakes



Researchers are developing new methods to shield buildings against seismic waves – taking inspiration from the field of 'cloaking' metamaterials.

Earthquakes travel in waves, much as sound and light do. Scientists have previously designed materials with internal structures that interfere with the propagation of sound and light, effectively 'cloaking' very small objects.

Now researchers are working on making



bigger versions of these structures, which could be used to control the propagation of earthquakes.

Working with collaborators in France, the Imperial team found that trees act as resonators, and oscillate at certain frequencies, even at the long wavelengths propagated by earthquakes. In the right arrangement, the interaction of resonating trees can redirect the energy of seismic waves deep into the soil, reducing damage.

Further, the team demonstrated that a dense forest behaves as a natural seismic metamaterial. By generating vibrations from a crane and measuring the effects with seismometers, they found that the resonating trees offer local protection against surface waves of certain frequencies.

In a natural forest, the researchers noted that the irregular height of trees and of the gaps between them offered protection against a larger range of frequencies than a uniform array would. If the trees are arranged by decreasing height, they would cover an even wider range of seismic frequencies.

Lead researcher Professor Richard Craster, Head of the Department of Mathematics, discussed the potential of the work: "Wouldn't it be great if we could surround a historic castle or a nuclear power station with a metamaterial, so that when the seismic waves come at it they are sent around or diverted into the ground. The building would remain perfectly still, not damaged. This is what we want to do."

—BRUNO MARTIN FOR COMMUNICATIONS AND PUBLIC AFFAIRS



Medical frontiers

Imperial College Enables is a pioneering new project allowing early career medics to take part in community health projects abroad – following a successful pilot in Nepal in September

At 11:56 on 25 April 2015 a devastating earthquake hit Nepal killing nearly 9,000 people and leaving hundreds of thousands without homes. Amongst the forlorn people of Nepal were 12 medical students from Imperial, some of whom were on their final year elective placement, and others who were part of a research project with Professor Mary Morrell (NHLI), who herself had prior experience of practicing medicine in Nepal.

“The students called us from Nepal and were being cared for by people who had lost absolutely everything – they had no home, nowhere to cook, and yet took these privileged western doctors under their wing, fed them, housed them and kept them warm,” Mary says, adding:

“It’s hard to cast your mind back to what total devastation the country was in and remains living with to this day.”

The earthquake was to have a great impact on the students (with one of them staying on to help with the relief) and reverberated back home in London. Head of the Undergraduate School of Medicine Mr Martin Lupton was himself ‘profoundly affected’ by the catastrophe.

“It was around the time the narrative around immigration was

beginning, and it struck me that a rich society was literally folding its arms to Syrian refugees drowning in the sea, while a devastated and penniless society was looking after rich people without question. I couldn’t get it out of my head and began to wonder what we might do to at least try and give back something of what we were given by the Nepalese people.”

The Nepal episode coincided with conversations Martin, Mary and the rest of the Faculty were having about offering students an experience which would help them develop skills around social responsibility, team working and research. An idea formed to offer early career medics the opportunity to carry out simple health and sanitation projects in rural Nepal – where communities were still reeling and attempting to rebuild their lives.

In all, 42 first-year students were selected to join the project and underwent training weekends in the Yorkshire Dales and Brecon Beacons to prepare them for the mountainous climate of Nepal.

“ We want to be a place of scientific excellence, but we also want to produce good, kind and thoughtful people.”





The students formed into teams and had to plan and resource their projects – for example procuring toothbrushes for an oral hygiene project.

The biggest challenge, though was getting students to the rural communities that needed most help, with some centres of population only accessible after a five-day trek. So they partnered with a charity, Community Action Nepal (CAN), which already had a network of health posts and with whom Mary had worked with previously.

One student team made contact with another charity, Days for Girls, which distribute packs containing sustainable sanitary towels, underwear and information for teenage girls. The products are also made in the Nepal and therefore provide local employment.

All in all, the students had an unforgettable experience, despite dealing with numerous challenges and setbacks – not least of which was a late-lingering monsoon season, bringing with it a constant infestation of bloodsucking leeches. Crucially, the teams also made some new insights and discoveries, for example they found high rates of blood pressure among otherwise physically healthy people, which seemed to correlate with areas that were particularly hard hit by the earthquake, suggesting possible underlying stress disorders.

Future ambition

The eventual aim of the Enables project is to offer second year students, irrespective of financial means, an opportunity to take part in a ‘research experience’ – with overseas projects being just one of many options, which might include developing a health app or working in impoverished areas of London. The really unique aspect of the project though is its focus on the development of early career medics, as Mary explains.

“If the students have this experience in year 6 then they’ve nearly left Imperial and we as a medical community don’t benefit from that. But if they go earlier, at a crucial formative stage, then they can carry that experience through their education. It also gives each student an appreciation of healthcare that’s free at the point of delivery [in the UK] at a time when the narrative around the NHS is quite negative.”

Martin also points out the Enables project came around the same time that they were re-designing the medical curriculum to incorporate more experiential learning (see also Dr Sonia Kumar, page 10).

“In terms of our reputation as a medical school, we want to be a place of scientific excellence, but we also want to be a place that produces good, kind and thoughtful people. Things like Enables adds to that.”

STUDENT EXPERIENCES

Ka Yan Cheung

As I was walking into Heathrow Terminal 4 on the day we were leaving, I still had no idea what to expect of the trip. Looking back now, that was the beauty of it: the unknown. I had anticipated to witness the after-effects of the April 2015 earthquake but, one year on, I had not expected to still see such devastation. In the Nepali rurality: formidable landslides still blocked many roads, a whole village remained inundated with earth and rocks, people were still rebuilding their homes with



corrugated iron. One boy who I met at the primary school in Kutumsang will remain in my thoughts as he was gentle but seemed unresponsive, no matter what you said. I later learned that he had lost his mother in the earthquake. Despite such tragedy, the tenacity of the Nepali people was undoubtedly present and their generosity and warmth overwhelmed me; they had barely anything yet they would still go out of their way to make us feel welcome. From inviting us to drink tea in their homes to greeting us with prayer scarves at every place we visited, this is the true Nepali spirit that I have taken away with me and will remember in years to come. I aspire to return to Nepal as a fully trained doctor so I can return the generosity that I so gratefully received.

Olivia Groom

The moment that resonated most with me throughout the entire trip was when we were in a tiny primary school on the side of a mountain in Kutumsang. It was clear from the outset that, even compared to some of the other schools we visited, access to resources was extremely limited. Their lessons were taught in metal huts, which were essentially Andersen shelters, with



just a few wooden benches and tables. As we began teaching our first aid lessons, one girl stood out. Dolma was incredibly bright, participating fully and always keen to answer questions. On reflection in the evening, I realised just how poignant this situation was; despite her talent, opportunities to fulfil her academic potential were few and far between in rural Nepal. However, while we were there, we saw the plans for the new school that CAN are going to build. There was a real sense of hope surrounding it, and an excitement for the empowerment that it may bring.

Education Insights: Joined up medical training

Dr Sonia Kumar (School of Public Health) is Head of Undergraduate Primary Care Teaching at Imperial

In her role as Head of Undergraduate Primary Care Teaching at Imperial, Dr Sonia Kumar (School of Public Health) is helping to prepare medical students to face the challenge of working as a qualified doctor. They will join the NHS at a time when it is having to cope with the health consequences of people living longer, while simultaneously facing ever squeezed budgets. Arguably there could not be a more challenging time to join the profession and Dr Kumar says students often feel ill-prepared for the job ahead of them.

She explains: “One problem with medical education is that it’s taught in blocks – students study one area at a time, they are tested on it, then they move on to something else. But treating patients couldn’t be more different – you might be working with a pregnant woman who also had MS, who also has a child with asthma.”

An alternative, already gaining traction in medical education in the US is known as the longitudinal clerkship. It is based around a more holistic approach to medicine where students spend more time with individual patients learning about their conditions, their needs



and how they can be helped.

This approach is now being trialled by a group of 24 students at Imperial. For one year, they spend a day a week in General Practice with a case load of patients. For example, a student might work with a pregnant woman, attending antenatal appointments and ultrasound scans, then continuing to visit her following birth and as her baby grows.

Dr Kumar says the authenticity of the experience fundamentally changes the students’ identities: “We are already gathering evidence that this approach leads to better learning and a more meaningful experience for the students. Those who are taking part see themselves differently – not as medical students but as student doctors.

“There are benefits for the patient too – they gain an advocate and someone who can take the time to help them better understand what has happened in the often very short interaction they’ve had with their doctor.”

The longitudinal clerkship model has proved successful and now Dr Kumar’s team have developed a second pilot – a ten-week general practice attachment for third year students. This has included a number of innovative sessions with a wide variety of people, conditions and settings, from patients in prison to a cancer patient receiving palliative care.

Dr Kumar clearly values the use of evidence in medical education and has worked with Imperial’s Educational Development Unit (EDU) to help push forward best

Holistic approach

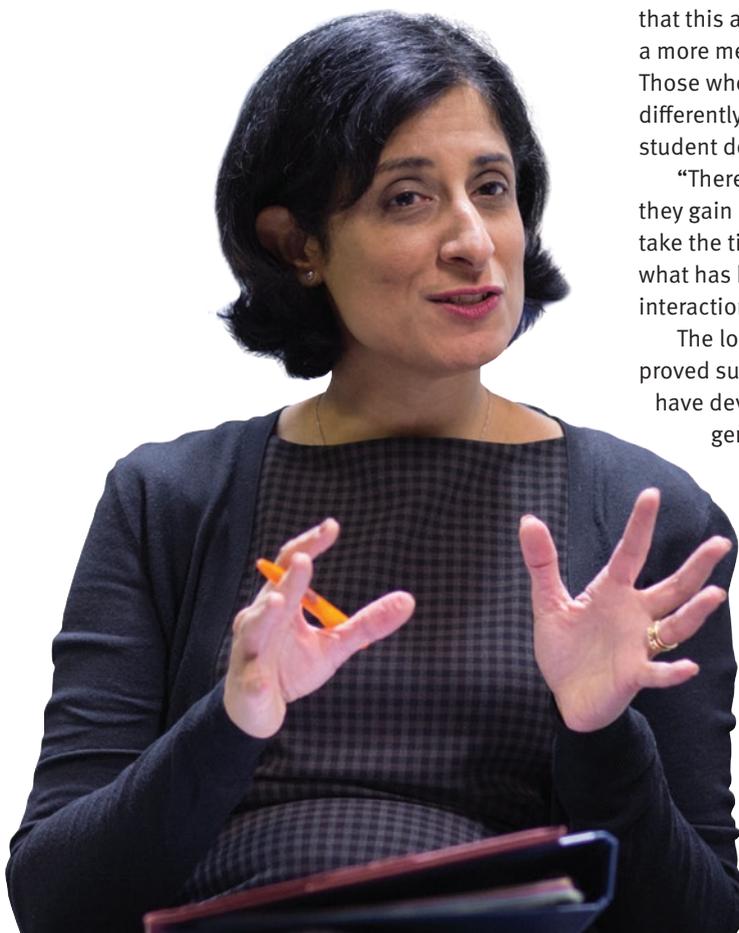
Alongside their traditional academic outputs, students are asked to produce a creative piece of work, which could be writing, music, art or photography, to reflect on their experiences. This encourages students to think about their own values and boosts their empathy for patients. This creative assessment approach has also been used with powerful results, in an optional module developed for students in their final year. Lorna Trenchard’s illustration was inspired by the different types of spoons she saw people using during her placements. She reflected on the metaphor of ‘a silver spoon’ to imply entitlement. The people she met often had some misfortune befall them through no fault of their own.



practice. She says: “We have an open dialogue with staff at the EDU and that’s important. We need education research to demonstrate impact, and we need to share what we’ve learnt.”

By collaborating with the EDU and with colleagues within the medical school, Dr Kumar’s team now has 13 innovative placements up and running, ranging from studying dermatology using art and sculpture, to learning about health inequalities by working at a food bank or refugee clinic.

Reflecting on what she and her team have achieved so far, Dr Kumar said: “I think you have to look for opportunities and, sometimes, create your own ones. It’s difficult, but I believe that you can’t let the day-to-day get in the way of your long-term plans and vision.”



inside*

story

mini profile

Carol Propper

Carol Propper, Professor of Economics at Imperial College Business School has become the School's first female Associate Dean of Faculty and Research.

What do you focus on in your own research?

I'm a health economist and my work focusses on the impact of incentives on the quality and productivity of healthcare, the impact of environmental factors on health and the effect of market incentives on the production of public services.

Tell me about your new role?

I'm responsible for helping our academics get the support they need to pursue the research that's most important to them and to the Business School. A key part of my role is to hire new academics to build up our number of world-class researchers across the Business School, as part of a long term growth strategy. I also take an active role in helping increase the visibility of female academics across the Business School and ensuring their needs are met.

How is the Business School contributing to Imperial's international mission?

We are tackling global issues through our own research and through collaborations with other research teams across



the College. For example, using Imperial's Data Observatory, we are exploring how big data can help businesses stay competitive in a global market and how, through turning data into visual images, we can identify global trends from money laundering to the volume of tweets sent on the night of the US election.

Do you think students benefit from being taught by leading researchers?

I think it's a myth that you're either a great researcher or a great teacher. In my experience, leading researchers often make the best teachers because they are intellectually curious and excited about what they do. This means that they challenge and inspire their students, who benefit from their guidance and outlook on the world.

—LAURA SINGLETON, COMMUNICATIONS AND PUBLIC AFFAIRS



Giskin Day (left) with students in the Centre for Languages, Culture and Communication

Imperial academic recognised with prestigious national fellowship

Giskin Day has been awarded a National Teaching Fellowship from the Higher Education Academy (HEA) - the most prestigious individual award for excellence in teaching in UK higher education

Giskin, Principal Teaching Fellow in the Centre for Languages, Culture and Communication (CLCC), is one of fifty-five new National Teaching Fellows and only the third member of Imperial staff to have received the award.

The award recognises Giskin's role in the development of humanities teaching at the College in her role as Field Leader for the Imperial Horizons programme and her use of 'playful learning', using games to unlock students' creative thinking.

As well as teaching science communication, she designs and delivers medical humanities teaching for medical students and staff.

An example of her approach of 'playful learning' is the game of medical Monopoly she has created to introduce medical students to London's rich culture, and get them thinking about medicine from different perspectives.

Giskin is also the Co-Course Director for Imperial's new intercalated BSc programme in Medical Sciences with Humanities, Philosophies and Law which integrates approaches from ethics, law, philosophy, history and the arts to explore the cultural contexts of medical science.

Commenting on her award, Giskin said: "It's great to be recognised in this way as it gives you the confidence in your teaching ability. I've come to my role through the practice route rather than the qualifications route so it's nice to have that formal accreditation.

"There are so many unsung heroes who allow me to do what I do. The managers in the CLCC take care of the mechanics that allow these courses to run. It's the admin staff whose support really allows you to fly."

Imperial were also named as finalists in the HEA's new team award for teaching in higher education, the Collaborative Award for Teaching Excellence (CATE).

Professor Simone Buitendijk, Imperial's Vice Provost (Education) said: "Since I arrived at the College in August I've been struck by the commitment and dedication of our teaching staff. Giskin Day's work, and that of our CATE nominated team, are examples of leadership in innovative and transformative teaching that we love to see thrive here at Imperial. I'm sure the whole College will join me in agreeing that we are very proud of these achievements."

—JOHN NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS

Just Dance

An Imperial research team has been dancing up a storm under the direction of a West End choreographer they helped to get back on his feet.

As one of the UK's leading stage and film choreographers, Anthony van Laast's life revolves around his ability to push his body to its movement limits. However the intense nature of life as a professional dancer had left its mark, and last year Anthony found himself unable to move with severe hip problems.

Looking for treatment that



would allow a full return to his profession, Anthony turned to Imperial's Professor Justin Cobb, chair of orthopaedic surgery and director of the MSk research lab at Charing Cross Hospital.

Following an operation under Professor Cobb, Anthony has now made a full recovery and is back working full-time.

"For me as a choreographer this is my livelihood, it's my life, so this operation was incredibly important," says Anthony. "Justin was a complete lifesaver for me, it was like a miracle".

The idea of helping a patient achieve the best quality of life possible after surgery is an important driver for the MSk team. "If the patient can't do what they love doing, it really impacts their quality of life," says Professor Cobb. "Our motive is to

help people keep doing it and do it better!"

Anthony also recently led a dance session at Charing Cross as a thank-you to the team that helped him. Not only was it a unique gesture, but a great opportunity for a large team to discover some unexpected qualities in each other.

"It turns out that there are

several people down the corridor who are keen dancers, and there are several who are not keen at all!" says Professor Cobb. "We all had a great time though, it was just completely wonderful."

Watch a video of the MSk team dancing here: bit.ly/dance-lab

—AGNES DONNELLY FOR COMMUNICATIONS AND PUBLIC AFFAIRS



Twin passions

Dr Marianna Kapsetaki is a concert pianist, qualified medic and neuroscience PhD student – who was recently awarded for her research in performing arts medicine. She also performs around Greece and the UK as part of a double act with her twin sister.

You've taken an unusual path, how did you get here?

People have always insisted that, at some point, I must choose between music and medicine in terms of career path – that I simply can't succeed in both forever. When I finished my medical training everybody was asking which branch of medicine I will pursue. But I didn't

want to just stop music; it was then I found out about the Master's course in Performing Arts Medicine at UCL.

What exactly is performing arts medicine?

It relates to the injuries, psychological problems and all medical issues of performing artists i.e. musicians, dancers, actors and singers. Pianists for instance can develop carpal tunnel syndrome or back pain because of their wrong posture. Performing Arts Medicine covers the prevention, diagnosis and treatment of all of these conditions.

And your own award-winning project was focused on psychology?

That's right, I demonstrated a high prevalence of eating disorders in musicians. In terms

of personality traits, they tend to exhibit perfectionism and also depression, anxiety and stress, which in turn predisposes them to developing disorders such as anorexia nervosa and bulimia nervosa. Over 300 musicians participated in my research study, the largest of its kind.

Tell us about the PhD you've recently started at Imperial

My PhD is in neuroscience, under the supervision of Dr Paresh Malhotra (Medicine). I'm still forming my project but I'll be aiming to gather evidence of how music affects the human body and brain and integrating this into my investigations.

I'm guessing it's a busy time for concerts with the Kapsetaki Duo?

We'll be participating in some international piano competitions soon, then in February we start a UK tour, covering Oxford, London, Cheltenham and Brighton. We enjoy sharing the stage and of course the prizes whenever we're up against each other in competitions!

How do you find time to practice?

On moving to Imperial, I was delighted to find that the Blyth Centre has 10 music practice rooms, with some housing excellent pianos. This has and will be really beneficial in order for me to maintain my standard and prepare for concerts and competitions.

For concert dates visit kapsetakisduo.com



The Kapsetaki Duo

Aeronautics student wins placement with Williams F1 team

A fourth-year aeronautics student won the Autosport Williams Engineer of the Future Award at a ceremony in December.

Sam O'Neill, who claimed the prize after an intensive two-day evaluation process at the Williams team headquarters, will start a two-year placement with the Formula 1 team after he graduates in MEng Aeronautics this year.

The award ceremony, which took place at the Grosvenor House Hotel in London, saw Sam win his prize in front of a large audience, including current F1 world champion Nico Rosberg, retiring Williams driver Felipe Massa and Mercedes Technical Director Paddy Lowe.

Sam said: "When I won it was a complete shock, especially having to be interviewed by veteran broadcaster Steve Rider with Pat Symonds [Williams Chief Technical Officer] looking on. It was an incredible experience."

The award comes after a rigorous two-day assessment process in November where the five selected finalists' knowledge and personalities

were put to the test. The challenges included written examinations, a personality assessment and a variety of practical challenges, as well as a technical interview with a panel of five F1 experts.

Sam explained: "Overall it was a tough, challenging but very enjoyable two days, highlighted by the incredible opportunity to have dinner with the panel in the Williams museum."

The process began back in April when Sam applied to be put forward as one of the College's nominees and wrote an essay on how he would change regulations to improve the Formula 1 spectacle. Following an interview at the Williams team

headquarters he was selected as one of the five finalists to compete in the two-day assessment.

Looking ahead to the placement at Williams F1 in Grove, Oxfordshire, Sam said: "I'm greatly looking forward to

building my experience of how a racing team is run and understanding what is necessary to be a technical director in F1."

He added: "I can't wait to start next summer!"

—SEAN CONNER, FACULTY OF ENGINEERING

"I'm greatly looking forward to building my experience of how a racing team is run and understanding what is necessary to be a technical director in F1."



Salty energy storage

An Imperial student entrepreneur is celebrating after the energy storage company he helped to set-up was recognized with the prestigious 2016 Herman Wijnffels Innovation Award.

Jiajun Cen, who is in his third year of a PhD in the Department of Chemical Engineering, is a co-founder of AquaBattery which is developing a new 'Blue Battery' that can store electricity using only water and table salt.

The company is currently in the Climate-KIC accelerator programme stage 2, where they aim to find a market for the product.

Energy supply from renewable energy such as solar and wind, can be intermittent, and if the energy is not stored at the time of capture it will be lost. Batteries are one solution; however, conventional designs can be toxic, expensive, and unsafe.

Jiajun said: "Unlike other batteries, such as lithium-ion or redox-flow batteries, there are no chemical reactions involved. This makes our battery very safe. Moreover, abundantly available materials are used which allows us to build a really cheap battery. With further improvement of the technology and scaling up of the battery we can store electricity at an incredible price of less than five eurocents per kilowatt-hour.

"As a co-founder I am very happy to see the company grow, and I am grateful for the support and freedom that Imperial and the Chemical Engineering Department have given me to further develop the Blue Battery technology while doing my PhD research."

The team is currently working on building their first pilot scale system (1kW power and 10kWh energy storage capacity) in order to test whether the technology is commercially viable on a large scale.

—MICHAEL PANAGOPULOS, CHEMICAL ENGINEERING



obituaries

NEIL PRIDE

Neil Pride, Emeritus Professor of Respiratory Medicine in the National Heart and Lung Institute, died on 12 November 2016, aged 85. His colleague and friend in the Department, Professor Peter Barnes, pays tribute.

Born in Croydon to a general practitioner father, Neil was educated at Bryanston School, Dorset. He studied preclinical medicine at Christ's College, Cambridge University and proceeded to clinical studies at St Mary's Hospital Medical School, London, qualifying as a doctor in 1956.

In 1964 Neil moved to the Royal Postgraduate Medical School and Hammersmith Hospital as Senior Lecturer in Medicine. During his time at Hammersmith he became a guru of respiratory physiology and fostered the careers of many academics in respiratory medicine in the UK and across the world. Neil was responsible for my own entry into respiratory research and was an outstanding mentor.

Neil made major contributions in the field of lung mechanics, unravelling the mechanisms of airway narrowing in common lung diseases, such as asthma

and chronic obstructive pulmonary disease (COPD). He was also a very gifted teacher, who was able to simplify and communicate complex ideas in lung physiology. He was a doctor much loved by his patients.

For all his brilliance, he was modest and generous, and an inspiring mentor to young researchers. His writing was as clear as his talks and he published many very influential papers, reviews, chapters and books. His last paper, written with Ann Watson, on the history of COPD was published this year.

In 1996 he was elected Emeritus Professor of Respiratory Medicine at Imperial and continued his physiology research at the NHLI at the Royal Brompton, working with established researchers and students.

Neil was a continued source of inspiration to those who had the great fortune to work with him and will be greatly missed by all his friends and colleagues within NHLI and by the international respiratory community.

He is survived by his wife Roma, his daughters, Fiona and Catherine, and two grandchildren.



long service

Staff featured in this column have given many years of service to the College. Staff listed celebrate anniversaries during the period 1 November–31 December. The data are supplied by HR and correct at the time of going to press.

30 years

- Professor Timothy Allen-Mersh, Visiting Professor, Surgery & Cancer
- Dr Ian Godsland, Wynn Reader in Human Metabolism, Medicine
- Dr John Stevenson, Honorary Principal Research Fellow, National Heart & Lung Institute
- Professor Velisa Vesovic, Professor of Transport Phenomena, Earth Science & Engineering
- Professor Jing Zhang, Professor of Physics, Physics

50 years

- Emeritus Professor Roger Hobbs, Senior Research Investigator, Civil and Environmental Engineering



SPOTLIGHT

**Emeritus Professor Roger Hobbs,
Senior Research Investigator,
Civil and Environmental Engineering
50 years**

Professor Hobbs has been associated with Imperial for over 55 years, completing his BSc and PhD here in the 1960s, and later serving as Head of Department in the mid 1990s. Throughout his career, he has maintained close links with Industry, and is still active in Tension Technology International, Ltd, providing design services in moorings for offshore structures, a place where interesting research topics frequently emerge. He was involved with the EU committee responsible for the development of the steel Eurocode, EC3, and with the latest edition of the OCIMF Mooring Guidelines.

Welcome

new starters

Miss Louise Abela, Public Health
 Dr Rushdie Abuhamdah, Bioengineering
 Mr Anuj Anand, Business School
 Ms Mehmaz Anvari, Aeronautics
 Miss Maria Arianoglou, Surgery & Cancer
 Ms Dilshad Badshah, Chemical Engineering
 Ms Maeve Bartlett, Medicine
 Dr Alister Bates, Bioengineering
 Mr Rahul Bhattacharyya, Surgery & Cancer
 Dr Benjamin Blaise, Surgery & Cancer
 Dr Colin Boyle, Bioengineering
 Miss Leanne Brooks, Sport and Leisure
 Dr Serena Brusamento, Public Health
 Ms Leah Burden, NHLI
 Miss Claire Byrne, Medicine
 Dr Leigh Chambers, NHLI
 Dr Warangkana Chantima, Medicine
 Dr Ridwana Chowdhury, NHLI
 Mr Nazario Colaco, Catering Services
 Ms Katie Coupar-Evans, Advancement
 Mr Julius Demmer, Life Sciences
 Ms Frances Domingo, Surgery & Cancer
 Dr Otto Erlwein, Medicine
 Mr Owen Everall, Estates Division
 Miss Rosemary Everitt, Central Secretariat
 Dr David Fairbairn, Computing
 Professor Neil Fairweather, Life Sciences
 Mr Henry Firth, Student Recruitment & Outreach
 Dr Penny Fletcher, Advancement
 Ms Emily Frost, Design Engineering
 Mr Theodosios Georgiou, EEE
 Mr Giovanni Giustini, Mechanical Engineering
 Dr Finn Gubay, Public Health
 Dr Tibebe Habtewold, Life Sciences
 Dr Gule Hanid, Faculty of Medicine Centre
 Ms Carolyn Henry, Public Health
 Dr Clint Ho, Business School
 Ms Holly Johnson, Mechanical Engineering
 Miss Coline Jumeaux, Materials
 Ms Marina Kafeza, Surgery & Cancer
 Mr Hadi Karimi Khouzani, EEE
 Mr Erwin Kooistra, Medicine
 Dr Maria Lathouri, ESE
 Mr Chee Leow, Bioengineering
 Dr Aurelie Levillain, Bioengineering
 Miss Olivia Majorin, Life Sciences (Silwood Park)
 Mr Eftychios Manoli, Surgery & Cancer
 Miss Andrea Mason, Communications and Public Affairs
 Dr Douglas McIlwraith, Computing
 Mrs Meryem Mehmet, Business School
 Ms Pamela Monteith, Business School
 Dr Aaron Morris, Public Health
 Miss Lara Nelson, Central Secretariat
 Mr George Nesr, Medicine
 Miss Rocio Nogueira, Public Health
 Ms Mariam Noor, Faculty of Medicine Centre
 Mr Zane Page, Estates Division
 Mr Sharad Patel, Bioengineering
 Mr Isaac Pence, Materials

Dr Fiona Pereira, Surgery & Cancer
 Ms Viji Pillai, Chemical Engineering
 Mr Morgan Pinfold, Estates Division
 Miss Isabel Rabey, Physics
 Mr Andrejs Rajevskis, Estates Division
 Dr Nicholas Raske, Aeronautics
 Dr Risheka Ratnasabapathy, Medicine
 Miss Karolina Repel, ThinkSpace
 Mr Kostadin Rolev, Bioengineering
 Dr Graciela Sainz de la Fuente, Enterprise
 Mr Philip Sandwell, Grantham Institute
 Miss Zoe Saunders-White, ICT
 Dr Munazza Shahid, Chemistry
 Ms Amber Shaw, Medicine
 Miss Maria Shchepinova, Chemistry
 Mr Koval Smith, NHLI
 Miss Arthika Sripathy, Surgery & Cancer
 Ms Emma Stubbe, Student Recruitment & Outreach
 Mr Theo Stubbs, Library
 Mr Mingyang Sun, EEE
 Ms Komelija Suveizdyte, NHLI
 Mr Duncan Swinscow-Hall, ISST
 Ms Antonia Szigeti, Computing
 Mr Michael Tekle, Catering Services
 Ms Kunyuan Tian, Medicine
 Dr Sofia Trejo Abad, Mathematics
 Miss Anna Trichkine, Registry
 Ms Anna Turvey, Advancement
 Mrs Elena Vaguine, ICT
 Ms Sara Vrbinc, Surgery & Cancer
 Ms Wiaam Wanis, Registry
 Ms Deeqa Warsame, Estates Division
 Miss Marie-Sophie Wegner, Centre for Environmental Policy
 Mr Scot Wheeler, Grantham Institute
 Mr David Winstanley, EEE
 Ms Chi-Tung Wong, Life Sciences
 Dr Yuanwei Xu, Mathematics
 Mr Yujian Ye, EEE
 Mrs Morag Zelisko, NHLI
 Dr Di Zhang, Centre for Environmental Policy
 Dr Fangni Zhang, Civil and Environmental Engineering

Farewell

moving on

Dr Reza Akhavan, Computing
 Dr Uma Anand, Medicine (6 years)
 Mr Ivan Andrew, Institute of Clinical Sciences (7 years)
 Miss Amaia Artazcoz Galaria, Surgery & Cancer
 Dr Anna Bielinska, Surgery & Cancer
 Mr Timothy Brauner, Aeronautics
 Dr Guy Burdiak, Physics
 Mrs Judith Carr, Library
 Miss Yik Chan, Life Sciences (Silwood Park)
 Dr Prakash Chatlani, Public Health
 Dr Hung-Yang Chen, Chemistry
 Mrs Floria Cheng, Surgery & Cancer
 Ms Deb Darling, Advancement
 Miss Hannah Dickinson, Student Recruitment & Outreach
 Dr Daniel Dubois, Computing
 Dr Graham Easton, Public Health (8 years)

Mr Stefanos Eleftheriadis, Computing
 Dr Otto Erlwein, Medicine (12 years)
 Dr Sarah Fadda, Chemical Engineering
 Mrs Niketha Gamage-Watson, Grantham Institute
 Dr Rebecca Ghosh, Public Health (5 years)
 Mr James Griffin, Faculty of Medicine Centre
 Dr Florence Guida, Public Health
 Miss Rebecca Jeffers, Mechanical Engineering
 Dr Andrew Jenkins, Chemistry
 Dr Jingjing Jia, Chemistry
 Dr Sathiji Kathiresu Nageshwaran, Medicine
 Dr Tanzeela Khalid, Surgery & Cancer
 Ms Sabrina Kiefer, Business School (10 years)
 Mr Ian Letts, Library
 Dr Nan Lin, Public Health
 Dr Richard Ma, Public Health
 Ms Ellen Macfarlane, NHLI
 Mr Brendan Maginnis, ISST
 Mrs Denise Maines, HR
 Dr Miguel Matias, Life Sciences (Silwood Park)
 Dr Shilpi Mehra, Public Health
 Dr Roberta Migale, Surgery & Cancer
 Dr David Mummery, Public Health
 Dr Sophie Nicod, Medicine
 Dr Ashley Nordsletten, Public Health
 Dr Evangelos Papaefthymiou, Mathematics
 Dr Jin Park, Aeronautics
 Dr Ryan Pedrigi, Bioengineering
 Miss Elli Polemiti, Public Health
 Dr Raquel Prado Garcia, Chemistry
 Dr Kumara Ramaswamy, Mechanical Engineering (7 years)
 Professor Mala Rao, Public Health
 Dr Thomas Scheuerl, Life Sciences (Silwood Park)
 Dr Christopher Spicer, Materials
 Dr Jean-Philippe St-Pierre, Materials
 Dr Steve Stribbling, Surgery & Cancer
 Dr Nathan Sweeney, Medicine
 Dr Pamela Tempone, ESE
 Miss Jessica Thompson, Public Health
 Mrs Vani Thuvargan, Chemical Engineering (5 years)
 Dr Akis Tsiotsios, Computing
 Mr Gerben Wedekind, Enterprise

retirement

Mr Scott Peters, Life Sciences (13 years)

This data is supplied by HR and covers staff joining the College during the period 1 November–31 December 2016. 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.



16 JANUARY, 18.30

Imperial Business Insights 3:20

In the first of three special seminar events to profile Imperial College Business School's most notable academics, faculty members Professor David Gann CBE, Professor Carol Propper CBE, and Professor Franklin Allen will analyse their specialist areas of business innovation, healthcare and finance. The event is open to all and

offers the chance to hear from some of the UK's leading experts on topics ranging from financial crises to impact of market incentives on healthcare. The evening will start with an introduction by the Dean of the Business School, Professor Nelson Phillips and Diane Morgan, Associate Dean of programmes and will finish with a drinks and networking reception.



31 JANUARY, 16.15

Fortune sides with her who dares

Professor Barbara Casadei from Oxford University is presenting the National Heart & Lung Institute's annual Athena Lecture, which aims to highlight lead female scientists and their work. Professor Casadei will discuss her research on cardiovascular disease and treatments, and how her career has

expanded, leading to her current posts as a Professor of Cardiovascular Medicine at the University of Oxford, Deputy Head of the Division of Cardiovascular Medicine, Honorary Consultant Cardiologist at the Oxford University Hospitals NHS Trust and Fellow of Wolfson College.

take note

Call for Festival ideas!

Staff are invited to submit proposals for interactive research exhibits, creative installations, tours of facilities, talks or performances (music, dance, art) for the next Imperial Festival, which takes place on Saturday 6 and Sunday 7 May 2017.

The Festival is the College's flagship annual event for celebrating our work, with opportunities to engage with over 15,000 visitors, including members of the general public, alumni and other College stakeholders. Submissions should be made by mid-day, Monday 6 February.

Find out more and apply here:
bit.ly/fest-apply



10 JANUARY, 17.00

Blending Mathematical Models with Data

Warwick University's Professor Andrew Stuart will discuss the quest to integrate vast data sets with complex mathematical models, in order to tackle geophysical, biomedical and social challenge.

26 JANUARY, 14.00

Energy Structure Function Maps – Designing Functional Materials 'From Scratch'

Hear from leading materials scientist, Professor Andrew I. Cooper FRS, on cutting-edge research to develop materials of the future.



01 FEBRUARY, 17.30

Schrodinger Lecture: Data, data everywhere, but let's just stop and think

Big data is big news, but what are the risks and how can these be managed? Join Professor David Hand for the 29th annual Schrodinger Lecture.

07 FEBRUARY, 17.15

The streets of London: safe, reliable and cared for

Transport for London's Asset Management Director, Dana Skelley will explore the history of London's streets and how engineering is shaping our future city, in the 42nd Annual Worshipful Company of Paviers Lecture.



15 FEBRUARY, 17.30

Great Ideas of Biology

Nobel Prize Winner, Professor Sir Paul Nurse FRS will give an enlightening talk on how fundamental ideas in biology are shaping current work, in the 10th annual Peter Lindsay Lecture.



15 FEBRUARY, 14.00

Avoiding myth, mayhem and myopia: the challenge of climate science communication

This Royal Meteorological Society National Meeting offers the chance to hear from leading climate change communication experts, and to give your views on the best way to communicate climate science.

16 FEBRUARY, 17.00

Imperial Fringe: Money Matters

Join Imperial College researchers to explore the world of money; from new financial technologies and next generation bank notes, to bit coin, digital currencies and our economic future.



Stay in the loop

✉ Visit www.imperial.ac.uk/events for more details about these events and others. To sign up for regular updates about Imperial events please email: events@imperial.ac.uk

