



On a high note

Sir Keith O'Nions bows out as President & Rector

 **CENTRE PAGES**



PATHWAYS TO MEDICINE

Smoothing the
journey into
medicine for
school students

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SOLAR POTENTIAL

Connected
solar could
meet up to
80% of energy
demands

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ON SILENCE IN SCIENCE

The role that
silence plays in
the processes
of science

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EDITOR'S CORNER

Logging off

For many staff at the College the summer months spell a **change of routine**. As a science journalist I used to dread this time – few academics were available for comment or help on articles, often working off site or at conferences. As our feature on page 8 explores, making time and space to **withdraw and reflect** is part of the scientific process – and indeed should help us all to be more productive in our work and lives.

The need to switch off from the pressures of modern life and more specifically the digital realm also came up in an interview with Cathy Mulligan of the Business School (page 9). Her research focuses on the benefit that digital technologies can have in making our cities more sustainable for example – but she's certainly not shy of drawing attention to the pitfalls which include privacy issues and even internet addiction. *Reporter's* advice this summer is to put those ipads and laptops down and **immerse yourself** in this issue.

ANDREW CZYZEWSKI, EDITOR

📅 *Reporter is published every three weeks during term time in print and online.*

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LKC Medicine appoints new Dean



Professor James Best has been appointed Dean of the Lee Kong Chian School of Medicine (LKCMedicine) in Singapore.

Professor Best, a distinguished medical leader, who has dedicated his career to improving treatments for diabetes and kidney disease, is currently the Head of Medical School at the University of Melbourne in Australia, and has 30 years' experience in research, teaching and medical leadership.

He succeeds Professor Dermot Kelleher who has been Dean of both LKCMedicine and Imperial's Faculty of Medicine for the past two years. Under Professor Kelleher's leadership, LKCMedicine – a joint venture between Imperial and Nanyang Technological

University – admitted its first cohort of students in August 2013. He will work closely with Professor Best in the future to ensure the activities of both institutions remain aligned.

Under the supervision of Imperial's Professor Jenny Higham, who is Senior Vice Dean for LKCMedicine, the School has transformed medical curricula and, alongside Professor Best, she will play a leading role in the School's further development.

Professor Best was selected after an extensive international search led by President & Rector Sir Keith O'Nions.

Taking up his new role in Singapore on 29 July, Professor Best said: "I am joining a School that has a highly skilled and dedicated team from NTU, Imperial and partner health organisations and I hope to build on the strengths of these institutions as the School moves towards fulfilling its ambitious goals to redefine medicine and transform healthcare."

Boost to equality in medicine training

Imperial has launched a pioneering outreach programme to guide school students along a three year journey to medical school.

Pathways to Medicine will be delivered in partnership with the Sutton Trust, an organisation which works to improve social mobility through education. The programme aims to improve opportunities for state-school students from low and middle-income homes by providing them with subject-specific support and guidance as they take their first steps towards a medical career.

Running throughout Year 11 and Sixth Form, activities will include informative talks by admissions tutors and medical students, e-mentoring with current Imperial medics, a summer-school at the College and personal statement advice. All students on Pathways to Medicine will also be guaranteed access to work experience in a healthcare setting.



Beginning with a cohort of 60 students, the programme aims to reach 180 young people over the next three years. Professor Jenny Higham, Vice Dean for Education and Institutional Affairs in the Faculty of Medicine, said: "We want to attract students with the talent, qualifications and potential to thrive on our competitive, exciting courses. Recruiting the best and brightest students from all backgrounds is essential to the future of medicine and healthcare.

"We are proud to be pioneering Pathways to Medicine as part of our ongoing commitment to removing barriers and ensuring a level playing field for all applicants."

Dr Kevin Murphy, Admissions Tutor for Widening Participation in the Faculty of Medicine, is leading the project at the College alongside Annalisa Alexander, Head of Outreach at Imperial.

—DEBORAH EVANSON, COMMUNICATIONS AND PUBLIC AFFAIRS



Readers – have your say!

Share your views on our news and shape the future of *Reporter*.

If you're interested in joining focus groups over the coming months to inform a reboot of Imperial's newspaper, please contact: reporter@imperial.ac.uk

Data science collaboration launched during Imperial China tour

Some of the UK and China's leading data scientists will team up at a new London lab thanks to a partnership between Imperial and Zhejiang University (ZJU).

The announcement of the Imperial ZJU Joint Lab for Applied Data Science was made at a major ZJU-Imperial conference 'Big Data: Healthy Citizens, Smart Cities', held at ZJU's campus in Hangzhou, China, over 18 and 19 July.

President & Rector Sir Keith O'Nions delivered the Qi Zhen lecture on 'Globalisation and the 21st Century University' during the conference. He said: "Bringing together data scientists from two of the world's great universities will spur creativity and innovation as we use our respective strengths to push scientific discovery forwards."

"In an increasingly data rich world, collaborations like this help the academic community to convert data assets into useful knowledge and valuable products. Data scientists are making profound contributions to the development of new medicines, solutions to environmental challenges, and helping create better ways to live in smart cities."

Sir Keith and other leading Imperial academics led a delegation to China to promote research, innovation and education ties.



During the trip, which covered Hong Kong (16 and 17 July), Hangzhou (18 and 19 July) and Beijing (21 and 22 July), Sir Keith and colleagues also held the first ever Imperial graduation ceremony in China, as Professor Chen Zhu, vice-chairman of the Standing Committee of the National People's Congress received an honorary doctorate at

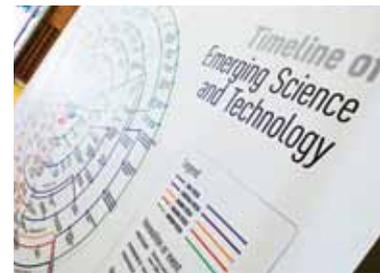
the British Embassy in Beijing; met with leading Tsinghua University academics to explore further collaborations in healthcare, big data, and entrepreneurship and innovation; and presented the College's vision for Imperial West at the largest ever gatherings of Imperial alumni in Hong Kong, Hangzhou and Beijing.

—ANDREW SCHEUBER, COMMUNICATIONS AND PUBLIC AFFAIRS

Visions of 2034 explored at Imperial event

The trends, emerging technologies and big ideas of the next two decades were explored by innovators from industry and academia at Imperial earlier this month.

Imperial's 2034: Tech Foresight event enabled experts to take a long view of technological shifts and emerging challenges, while discussing how scientists, technologists and innovators can shape these trends.



The theoretical limits of materials, smart cities, digital identities and networked science were among the themes covered at the one-day conference for Imperial Business Partners, the College-led network of companies with a strong interest in research and innovation.

The programme, delivered by experts involved in Imperial's Foresight Practice initiative, was designed to prepare the minds of business leaders, industrial scientists and R&D chiefs for the future of today's breakthrough lab discoveries and encouraged debate around how these may impact on business.

Among the 2034: Tech Foresight speakers were Professors Donal Bradley, Vice Provost (Research), who delivered a keynote on innovation ecosystems, serendipity in research and dealing with the unknown; Eric Yeatman (Electrical and Electronic Engineering) who presented on putting intelligence into future cities and Chris Hankin, Director of the Institute for Security Science and Technology, who spoke about digital identity, privacy and security in an age of big data.

Vice Provost (Education) Professor Debra Humphris, who chaired 2034: Tech Foresight, said: "The event gave academics and industrialists a unique opportunity to take a step back from the day-to-day and think long term, way beyond our next research projects or quarterly results. This stimulated a diverse range of new ideas and connections, leaving the Foresighters feeling challenged and inspired, and we hope, better prepared for the future."

—ANDREW SCHEUBER, COMMUNICATIONS AND PUBLIC AFFAIRS

Foresight Practice is a focal point for people interested in exploring the future. To find out more about becoming an academic foresighter, please contact a.ayad@imperial.ac.uk

in brief

Teaming up

KPMG and Imperial have announced the launch of a major new partnership to create the KPMG Centre for Advanced Business Analytics. KPMG will invest over £20 million, with the aim of putting the UK at the forefront of data science. The project will focus on five key areas – analysis of business capital, growth opportunities, people, operations and resilience. The Centre will be led by researchers at the Business School as part of the College's Data Science Institute, which is developing new data science methods and technologies and supporting world class data-driven research.

Getting to the heart of sudden arrhythmic death

Imperial has received a £50,000 donation from charitable foundation Dan's Trust to support a research project into sudden arrhythmic death syndrome (SADS). Dan's Trust was set up in memory of Daniel Bagshaw – a 27 year old lawyer and cycling enthusiast who collapsed suddenly on the finishing line of the Hong Kong triathlon in 2011 after suffering a fatal cardiac arrest caused by SADS. The three year Imperial project, which is being led by Dr Amanda Varnava, a consultant cardiologist at Imperial College Healthcare NHS Trust, alongside Dr Prapa Kanagaratnam and



Dr Fu Ng from the National Heart and Lung Institute, will harness state-of-the-art genetic testing and novel electrical mapping tools to investigate the harmful rhythms that give rise to SADS, and ways to identify those at risk.

Boost for brain science

Imperial's research into new treatments for neurodegenerative conditions is to be accelerated, thanks to a £3 million gift from Lily Safra and the Edmond J. Safra Foundation. The donation establishes the Edmond and Lily Safra Chair in Translational Neuroscience and Therapeutics, with Professor Paul Matthews (Medicine) taking the inaugural Chair. The gift will also support the Edmond and Lily Safra Neuroscience Scholars Programme for early-career scientists researching neurodegenerative conditions such as Alzheimer's and Parkinson's Disease.

media mentions



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What are the chances of that...

WIRED ▶ 03.07.2014

When ten-year-old Laura Buxton released a balloon with a message asking the finder to write to her, the response came from another Laura Buxton 225km away, writes Professor David Hand (Mathematics) in *Wired*. John Ironmonger's new novel, *The Coincidence Authority*, published around the same time as my own book on the theoretical basis for coincidences, features a London-based professor studying coincidences. And his birthday was on June 30, the same as mine. I describe how chance explains extraordinarily unlikely events through a set of laws, which, together, I call the improbability principle. These laws show how we underestimate the chance of coincidences.

UK switches on to green power

THE INDEPENDENT ▶ 26.07.2014

Britain is in the midst of a green energy revolution after production soared to record levels, according to new figures from The Office for National Statistics. The amount of electricity generated from sources such as wind, solar and hydro has soared by 43 per cent in the past year

to account for a fifth of production, as newly-built plants came on stream. "Even if the latest figures were helped by the mild, wet and windy weather, such a high level of renewable energy would have seemed almost inconceivable a decade ago," said Dr Robert Gross (Centre for Environmental Policy). "Renewable energy is now on a par with nuclear in terms of its importance as a power generator."

How many cyclists does it take to power a TV?

THE DAILY TELEGRAPH ▶ 07.07.2014

With the Tour de France having kicked off in Yorkshire this month, *The Telegraph* was eager to find out just how much power is generated by the cyclists. Equipped with a blackboard and a piece of chalk, Dr Simon Foster (Physics), explained how all the cyclists competing in the Tour de France will generate enough energy to power a television for 20 years. Using physics equations that many will fondly recall from their school days, Dr Foster calculated that the power generated by each cyclist is roughly 450W/s. "That's huge," he said adding that one cyclist, travelling at his maximum speed, could generate enough energy to enough to power "10 LED televisions" per second.



Help hero soldiers find a job

EVENING STANDARD ▶ 08.07.2014

Prince Charles has urged businesses to make 'fortune favour the brave' by helping hero soldiers into work. A former serviceman who lost both legs above the knee in Afghanistan told how sport had helped turn his life around. Royal Engineer Captain David Henson MBE (Bioengineering), pictured above right, has competed in the Warrior Games in the US and plans to take part in London's Invictus Games, led by Prince Harry, in September. He said sport helped him make both a physical and psychological recovery and gave him a "focus". Captain Henson is living between Southampton and Battersea while studying for an MSc in biomedical engineering at Imperial in the hope of becoming a prosthetic designer.

awards and honours

MEDICINE

Fighting for every heartbeat

A researcher in the National Heart and Lung Institute has been awarded a prestigious grant to investigate the inherited condition hypertrophic cardiomyopathy (HCM) – the most common cause of sudden death in young people. Dr Claire Raphael has received more than £115,000 from the British Heart Foundation (BHF) as part of its Fight for Every Heartbeat campaign. Dr Raphael will be assessing patients with the disorder using sophisticated heart imaging techniques.

ENGINEERING

Pioneering postgraduate in computing win



PhD student Nathan Chong (Computing) has won the ICT

Pioneers competition, run by the Engineering and Physical Sciences Research Council (EPSRC). The competition recognises the most exceptional UK PhD students in ICT-related subjects who are able to communicate and demonstrate the excellence and commercial potential of their research. Nathan's work centres around static verification, which is concerned with the correctness of software.

ENGINEERING

Fuel cell leader recognised

Professor Nigel Brandon OBE has been recognised for his work in fuel cells with the Francis Bacon Medal, named in honour of the eponymous British engineer who developed the first practical hydrogen-oxygen fuel cells, which convert air and fuel directly into electricity through electrochemical processes. Professor Brandon is Director of H2FC Supergen, an Imperial-led hydrogen and fuel cell research hub. The award recognises its fundamental and applied scientific contributions to the field as well as education, outreach and leadership.

BUSINESS SCHOOL

Fashion app impresses judges

A smartphone app idea that acts as a personal shopper for users has propelled a student team to second place in the European Business Plan of the Year Competition. The Business School team also secured £1,000 seed money for the fashion app called Picknig. It is designed to reduce the amount of time spent scrolling through pages of clothes on websites. Users of the app are sent suggestions on new clothing products that they can approve or disapprove, thereby building up a purchasing history. The team comprised: Sheldon Chuan, Doreen Chuang, Schahab Golchin, Linus Hinzmann, John Kerins.



Solar power... even when the sun don't shine

New analysis of large-scale concentrating solar power (CSP) plants suggests they could meet 70-80% of electricity demand if they are linked together.

One problem with deploying solar energy on a large scale is that the sun does not shine all the time, so the energy must be stored in some way. Unlike photovoltaic cells, CSP uses the sun's energy to heat up a liquid that drives turbines. This means that the collected energy can be stored as heat, and converted to electricity only when needed.

In a new study the Grantham Institute at Imperial, Stellenbosch University and the International Institute for Applied Systems Analysis simulated the construction and operation of connected CSP systems. They found that in the Mediterranean region, for example, a connected CSP system could provide 70-80% of current electricity demand – comparable to energy production levels of a nuclear plant.

Study co-author Stefan Pfenninger (Civil and Environmental Engineering) said: "This solar energy system can satisfy up to 80% of our hunger for electricity, at not much more cost than traditional sources. This is the first study to systematically examine the potential of CSP to overcome the inherent variability of solar energy."

The researchers also showed that by doubling the surface area to trap the sun's energy in each plant, connected CSP plants are able to create large enough heat reserves to compensate for times when the sun is not shining. This means that if one plant goes offline because of poor weather conditions, energy stored at another CSP plant could be used.

—GAIL WILSON, COMMUNICATIONS AND PUBLIC AFFAIRS

Secrets of tsunami earthquakes come unstuck

New research has revealed the causes and warning signs of rare tsunami earthquakes.

Tsunami earthquakes happen at relatively shallow depths in the ocean and can be relatively small in terms of their magnitude. However, they create very large tsunamis, with some earthquakes that only measure 5.6 on the Richter scale generating waves that reach up to ten metres when they hit the shore.

A global network of seismometers enables researchers to detect even the smallest earthquakes. However, the challenge has been to determine which small magnitude events are likely to cause large tsunamis.

Study co-author Dr Rebecca Bell (Earth Science and Engineering), said: "Tsunami earthquakes don't create massive tremors such as the one that hit Japan in 2011, so residents and authorities in the past haven't had the same warning signals to evacuate."



The team believes that the root cause of tsunami earthquakes might be extinct undersea volcanoes that create a physical 'sticking point' between two slow moving tectonic plates, where one is sliding under the other. This causes a build-up of energy, which when eventually released, shifts the plate and squashes the volcanoes under the Earth's crust – in turn causing large movements of the sea floor and very large tsunami waves.

"We are beginning to understand for first time the factors that cause these events. This could ultimately save lives," said Dr Bell.

—COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS

Biological basis for 'mind expanding' drugs revealed

New research shows that people's brains display a similar pattern of activity when dreaming as during a mind-expanding drug trip.

Psychedelic drugs such as LSD and magic mushrooms can profoundly alter the way people experience the world. To explore the biological basis for this experience, researchers recruited 15 volunteers who were given psilocybin (the active drug in magic mushrooms) intravenously while they lay in a functional magnetic resonance imaging (fMRI)



scanner. Volunteers were also scanned when they had been injected with a placebo.

The study found that under psilocybin, activity in the more primitive brain network linked to emotional thinking became more pronounced, with several different areas in this network – such as the hippocampus and anterior cingulate cortex – active at the same time. This pattern of activity is similar to that observed in people who are dreaming. Concurrently, volunteers on the drug also showed disjointed and uncoordinated activity in the brain network that is linked to high-level thinking, including self-consciousness.

Study co-author Dr Carhart-Harris (Medicine) said: "Learning about the mechanisms that underlie what happens under the influence of psychedelic drugs can also help to understand their possible uses. We are currently studying the effect of LSD on creative thinking and we will also be looking at the possibility that psilocybin may help alleviate symptoms of depression by allowing patients to change their rigidly pessimistic patterns of thinking."

Subsequent analysis of the data also revealed a remarkable increase in entropy in the more primitive brain network. It seemed the volunteers had a much larger range of potential brain states that were available to them, which may be the basis of 'mind expansion' reported by users of psychedelic drugs.

—FRANCESCA DAVENPORT, COMMUNICATIONS AND PUBLIC AFFAIRS

Fitting finale

How best to mark the departure of a leader who has steered Imperial towards bold new frontiers both at home and overseas? Sometimes music says it best.

On 23 June the Imperial community marked the retirement of Sir Keith O’Nions as President & Rector with a concert. Staff, students and friends of the College attended a musical tribute to Sir Keith and his wife Rita given by the Imperial College Symphony Orchestra and the Imperial College Choir.

The concert opened with Brahms’s Academic Festival Overture, ending with the tune *Gaudeamus Igitur*, which has been performed at all of the graduation ceremonies over which Sir Keith has presided.

Speaking before the choir sang Verdi’s *Chorus of the Hebrew Slaves* (from *Nabucco*) and Britten’s ‘Old Joe has gone fishing’ (from *Peter Grimes*), Richard Dickins, Director of Music, expressed the musicians’ gratitude to Sir Keith and Lady O’Nions for their support of music at Imperial. He said, “On behalf of Imperial’s 3,000 musicians, it is a huge honour to say thank you,” noting that Rita has attended many of Imperial’s weekly lunchtime concerts over the past four years.

Following a performance of the second movement of Rachmaninov’s 2nd Piano Concerto, with third year Physics student Jonathan McNaught playing the solo parts, Mr Dickins called for assistance. He said, “It’s time I handed over the baton to someone more qualified and better looking...” then invited Sir Keith to the stage to conduct Tchaikovsky’s 1812 Overture, the concert finale.

Speaking at a reception following the concert, Provost Professor James Stirling highlighted Sir Keith’s

achievements as President. He cited in particular the roles Sir Keith has played in shaping the vision for Imperial West, overseeing the development of the Lee Kong Chian School of Medicine in Singapore and cultivating global links with alumni, research partners and industry.

He added, “Leadership is hard to define. Some of our Business School academics spend years studying what makes a great leader. But I know it when I see it. And Keith has got it. I can honestly say that Keith’s qualities as a leader are among the most outstanding I have ever come across in my career. It is a privilege to work alongside someone so talented. I know that most people in this room – like me – will have learned a lot from him.”

Before cutting a special cake model of the Queen’s Tower Sir Keith thanked the orchestra and the choir for a terrific evening and praised colleagues for their remarkable work. He said, “Imperial’s respect of its academic heritage, combined with its willingness to embrace and define the future, have made it

one of the world’s greatest institutions. Notwithstanding the great things that have happened at Imperial, there is more greatness to come. The best days, I believe, are still ahead of us.”

Eliza Manningham-

Buller, Chair of the Imperial College Court and Council, paid tribute to Sir Keith’s academic excellence, recognised with a Fellowship of the Royal Society while he was still in his 30s, and his long career devoted to public service in government and university leadership. She praised his energy, focus and enthusiasm, noting his in particular how he has built relationships round the world with old and new friends of Imperial.

She said, “Keith is a dear friend who has done an enormous amount for the College. Rita, always smiling, has given magnificent support to Imperial. They will both be very much missed.”

Sir Keith steps down as President on 31 August and will be succeeded by Professor Alice Gast, currently President of Lehigh University, Pennsylvania.

“Leadership is hard to define. But I know it when I see it. And Keith has got it.”



SEPTEMBER 2010 Nanyang Technological University and Imperial announce a partnership to jointly establish the Lee Kong Chian School Medicine in Singapore



MARCH 2013 Sir Keith presents the vision for developing Imperial West into a major research and translation campus



MAY 2014 Alumnus Michael Uren OBE donates an unprecedented £40 million gift to create the Michael Uren Biomedical Engineering Research Hub at Imperial West



OCTOBER 2010 Sir Keith presides over his first of 22 graduation ceremonies while leading Imperial



DECEMBER 2011 Sir Keith and alumnus Dr Hiralal Patel reunite at a reception in Delhi – one of over 40 overseas alumni events between 2011–14



JUNE 2013 Sir Keith launches the second Imperial Festival with a bang – the event attracts more than 10,000 members of the public and alumni visitors to the South Kensington Campus



JUNE 2014 At a reception marking his retirement, Sir Keith cuts a special cake model of the Queen's Tower



JULY 2014 Sir Keith hosts a reception in Beijing attended by 200 alumni – the largest ever Imperial alumni gathering in China

LETTER FROM THE PRESIDENT & RECTOR

Dear Colleagues,

It has been an enormous privilege to lead Imperial College London since January 2010 and a pleasure to work alongside a talented community of staff, students, alumni and supporters.

Imperial is one of the few truly global universities: around the world you will find a growing presence of Imperial and its alumni networks. I am proud to have been at the College to witness this period of increased international presence, such as the Lee Kong Chian Medical School in Singapore and greatly increased research collaborations in China, India, Brazil, and Malaysia to name a few.

Members of the College community, whatever their position, display the same passion for Imperial and its reputation for excellence. All share the motivations which have enabled the College to grow into one of the world's great universities. I am delighted that through events such as the Imperial Festival and alumni reunions around the world, we have created opportunities to bring the Imperial community, past and present, together.

The College has a compelling future ahead of it. Imperial West offers an opportunity unprecedented in the College's recent history to create a new and innovative environment for research, education and translation. The generosity of Michael Uren OBE and his Foundation will enable the College to create a pioneering biomedical engineering centre at Imperial West. I hope that this is the first of many headline projects which will pave the way for the College to grow for generations to come.

On a personal level, my family and I will take away many fond memories of College life. Rita and I were honoured that the College Choir and Symphony Orchestra performed at my leaving event. Other highlights of my time at Imperial include the annual Varsity rugby game where I never cease to be amazed by the ability of Imperial students to combine sporting excellence with academic achievement.

I will watch the College progress with great interest from the sidelines. I would like to conclude by offering my thanks to all of my colleagues who have worked with me during my time as Rector, and later President & Rector, and I wish the College every continuing success.

Best wishes,

Keith O'Nions

Keith O'Nions
President & Rector

The silences of science

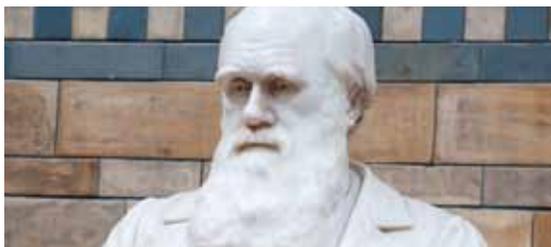
Earlier this term, an unusual workshop concluded a series of events and artistic collaborations developed to explore the role that silence might play in the processes of science.

Funded by the Arts and Humanities Research Council, the Silences of Science network was set up to investigate any discord that might exist between the constant drive to communicate and engage with as many people as possible about research, and the need for scientists to withdraw sometimes from the public sphere and reflect on their work, or perhaps protect its intellectual property.

Over the course of three workshops, a group of experts from fields as diverse as religion, law and music joined science historians, philosophers and communicators of science to get to grips with different ways of talking about silence and considering patterns of contemplation in the work of the scientist in the 21st century.

“What has been fascinating is to engage with people from different professions, where silence is an absolutely essential part of the work, and to see how this might resonate with the working practices of today’s scientists,” reflects project lead Dr Felicity Mellor, who also leads Imperial’s MSc course in Science Communication.

“The priest with his prayerful silences, the musician with the all-important rests between her notes, and the poet who established a new level of attentive quiet from the audience as he sat down to read some of his work – they all provoked us into reflecting in different ways about what silence is and what it can help us achieve.”



There are many examples of scientists developing their most important ideas when they retreat, even temporarily, from the push of professional life – as Darwin suggested in his autobiography, avoiding the rush to publish can help you develop a better understanding of your work.

It is perhaps somewhat ironic that in order to understand silence better, the network had to convene people to generate yet more noise. But not all the events have been noisy. And when silence has been invoked, it has often been done in creative and sometimes unusual ways.

For example, the first workshop included a silent tea break, where participants were surprised to be invited to mingle as usual, but without the high energy networking conversations that so often accompany such breaks in the programme. And the most recent event opened with a commissioned installation by ‘sound-maker’ Edward Prosser, designed to challenge everyone’s ideas about what sound means to them.

The project has covered a huge amount of ground, from philosophical and political angles, such as a highly polarized discussion on who is being silenced in the climate change debate, to more practical considerations such as the time-honoured arguments about what music, if any, should be played in the lab.

The network leaders hope to publish a report based on the workshop presentations aimed at research policy makers. But a more tangible legacy may lie in the direct effects on the working practices of some of the participants. “Although this started largely as a project for humanities researchers, the surprise and pleasure for me was

the number of science PhD students who actually attended our events,” says Dr Stephen Webster, Director of Imperial’s Science Communication Unit, who has also contributed to the development of the network.

“These are people at the start of their scientific careers, who will be asking themselves whether they went into science in order to be hyper-productive or to think more. If the project has given them a route to create and protect a space for contemplation, then it will have served an important purpose.”

There are also plans for the project to feed into more practical approaches for communicating science, such as the programming ideas for next year’s Imperial Festival. “As the Festival attracts more and more people, we might usefully explore how to create more peaceful and contemplative spaces for our visitors to think and to reflect on what they have seen and heard,” says Stephen.

“Silence is an important part of the process of science, and we need to reflect that in the way we tell the story about the science we do. This year we gave our visitors the hugely popular Robot Zone. Maybe next year we can surprise them with an equally exciting Silent Zone.”

—NATASHA MARTINEAU, COMMUNICATIONS AND PUBLIC AFFAIRS

You can listen to Edward Prosser’s sound installation here: bit.ly/silencesofscience



inside*

story

mini profile

Dr Catherine Mulligan

Catherine Mulligan has been a Research Fellow in the Innovation and Entrepreneurship group at the Business School for two years. A computer scientist and engineer by training, Cathy worked for Ericsson for 10 years before completing her PhD at Cambridge University. She is Principal Investigator on two RCUK projects: *Scaling the Rural Enterprise and Sustainable Society Network+*.

How can digital technologies make us more sustainable?

We're seeing mass migration to cities the world over on a scale unprecedented in the history of humanity and that brings with it many challenges – perhaps the biggest one being food. We think digital and data technology can help with things like food distribution and combating waste. The Food and Agricultural Organisation of the United Nations (FAO) recently asked us to develop a tool that will visualise data on food production and shortages. This could help policy makers in developing countries more rapidly identify and fix problems in the supply chain so that people living in cities get better access to healthy food.



You've also written extensively about the negative implications of digital technology?

Yes. And I do worry about where we're heading as a digital society. People tend to focus on the positive aspects of technology but there are always unintended consequences – be it privacy and insurance issues, plagiarism, even addiction. Take the very popular Fitbit Tracker and mobile app, which measures your movement, sleep, and other personal metrics. Their business model is to aggregate that data and sell it to insurance companies who can then change their models based on real data. With Facebook and Google we also have the emergence of global data monopolies, although nobody is calling them that yet.

So do you ever take yourself offline and escape?

Definitely! When I go on vacation I make a point of finding accommodation with no internet, no phone signal and is just nowhere basically. I have to switch off but it takes me a couple days.

Staff soirée

Support staff from across the College came together on 8 July for a summer fête held on Imperial's South Kensington Campus.

The Queen's Lawn played host to an assortment of games and activities for the evening including bowling, a fast-reaction challenge, and giant versions of table-top favourites such as Jenga, Connect Four and playing cards.

In the Queen's Tower Rooms more adventurous members of staff faced up to the rodeo bull, which swung willing participants around to a backdrop of music performed by party-band Cheesecake, followed by staff karaoke.

This year's festivities had a 'Mad Hatter' theme, and staff were invited to get creative with their headgear, with a prize awarded for the best hat.

Over 1,500 staff registered for the fête, which is organised by the Support Staff Social Committee. The event was held for the first time last year in response to survey feedback that support staff had little opportunity to meet people from other areas of the College doing similar jobs to their own.

Louise Lindsay, Director of Human Resources, said: "We wanted to have an opportunity to celebrate the important contributions of Imperial's support staff and also to bring people from different areas of the College together. I was delighted to see so many staff attending from all the campuses, meeting colleagues and enjoying themselves."



Marcus Rees-Roberts from the Development Division was one of the attendees. He said: "It was great to see such a good turnout at the fête, and it was nice to have the opportunity to meet staff from across the College's campuses and hospitals, many of whom I had never met before. Watching people on the rodeo bull was certainly a highlight – an excellent spectator sport."

—DEBORAH EVANSON, COMMUNICATIONS AND PUBLIC AFFAIRS



A member of staff enjoying the fast-reaction challenge, put on by the Finance Division



Easing interview nerves

Many of us still fear interviews, even after years of experience doing them – some might even still recall the dread of that first interview.

In the fierce competition for jobs today, young people feel particularly under pressure. That's why members of Imperial's Human Resources Division leant their experience and expertise to students at a West London secondary school last month.

At Burlington Danes Academy's first Mock Interview Day on 23 June, 12 members of HR joined employees from the likes of KPMG, Bloomberg, ARK and the BBC to sit on practice interview panels for 94 sixth form students – helping to boost their confidence and give them experience of interview processes.

Imperial's participation formed part of the Chartered Institute of Personnel and Development's 'Inspiring the Future' initiative, which aims to get

young people ready for work by helping them develop interview skills and providing guidance on applications, CVs and their career aspirations.

Burlington Danes Academy is a secondary school situated between Hammersmith Hospital and Imperial West. The Academy delivers A-Levels as well as vocational courses to almost 200 sixth form students.

Gerard Haliti, a Year 12 student at the school, said: "I found the feedback really valuable. My interview panel explained the importance of knowing my CV and giving specific examples of skills and knowledge gained in the past to prove I have them."

Louise Lindsay, Director of HR at Imperial, said: "It was clear that just a couple of hours of our time made a real difference to the preparation the young people were undertaking for the world of work and further study. Most had never experienced an interview before so we were able to guide them on planning for their next 'real life' interview to ensure they were in a good position to show their full range of talents."

—DEBORAH EVANSON, COMMUNICATIONS AND PUBLIC AFFAIRS

Empowering patients facing surgery

Imperial researchers and clinicians have launched a new smartphone app, MySurgery, to help patients get the best outcome from their surgery.

The app combines simple, jargon-free information about coming in to hospital for an operation with very practical step-by-step advice on the actions that patients and their family can take to optimise surgical outcome, safety, recovery and satisfaction.

In recent months, parts of the NHS have been under particular scrutiny regarding the occurrence of avoidable patient harm and systemic failings in care delivery, such as the issues highlighted at the Mid Staffordshire hospitals. MySurgery is a new and innovative approach to reducing risk in surgery, which is unique in that it gives the patient and their family a role in making their care safer.



Creator of the app, Dr Stephanie Russ (Surgery and Cancer) came up with the idea for MySurgery as a method for empowering patients to play a more active role with their healthcare team.

Stephanie says: "MySurgery is a user-friendly, animated

app that takes patients through the entire surgical journey highlighting the actions they can take to reduce risk according to four categories: Do, Ask, Check and Inform. The app covers everything from preparing for surgery, knowing what to expect, identifying warning signs, providing necessary information and asking the right questions from the professionals."

MySurgery, which is supported by NHS organisations, can be downloaded for free and takes roughly 10 minutes to work through.

The app was released by DigitalStitch, a spinout from Imperial, formed with support from Imperial Innovations, which is focused on using mobile device technologies to deliver effective and cost-efficient healthcare solutions.

—FRANCESCA DAVENPORT, COMMUNICATIONS AND PUBLIC AFFAIRS

long service

Staff featured in this column have given many years of service to the College. Staff listed celebrate anniversaries during the period 1 August–30 September. The data are supplied by HR and correct at the time of going to press.

20 years

- Charlotte Soteri, Early Years Educator, Early Years Education Centre
- Professor Maggie Dallman, Dean of the Faculty of Natural Sciences
- Professor Paola Piccini, Professor of Neurology, Medicine
- Dr Gareth Tudor-Williams, Reader in Paediatric Infectious Diseases, Medicine
- Dr Karen Mosley, CRF General Manager, Medicine
- Dr Matt Lee, Programme Director and Departmental Manager, Medicine

- Jackie Sime, MSc Cluster Administrator, Civil and Environmental Engineering
- Dr Teresa Sergot, Academic and Alumni Relations Manager, Faculty of Engineering
- Professor Tim Green, Director of the Energy Futures Laboratory

30 years

- Professor Chris Hankin, Director of the Institute for Security Science and Technology, Computing
- Professor Yanniss Hardalupas, Professor of Multiphase Flows, Mechanical Engineering
- Chrissy Stevens, Secretary, Mechanical Engineering

40 years

- Shirley Baker, Student Fees Officer, Finance Division
- Alan Bolsher, Technician, Civil and Environmental Engineering

Welcome

new starters

Miss Sun Ahn, Accommodation
 Dr Nicolas Alvarez, Mechanical Engineering
 Dr Giuliano Allegrì, Aeronautics
 Professor Franklin Allen, Business School
 Dr Elizabeth Atkins, Medicine
 Dr Elisabetta Aurino, Public Health
 Miss Sophie Austin, Clinical Sciences
 Dr Ebubekir Avci, Computing
 Dr David Bell, Life Sciences
 Ms Jo Birch, Registry
 Mr Jason Bishop, Finance
 Miss Laura Brett, NHLI
 Dr Carlos Bricio Garberi, Bioengineering
 Miss Caroline Bridgwood, Faculty of Engineering
 Mr Adam Burke, Surgery and Cancer
 Miss Jenn Bywater, Comms and Public Affairs
 Dr Emilie Cauet, Public Health
 Ms Andreea Cetateanu, Public Health
 Dr Mohammed Chakrabarti, ESE
 Dr Stephen Chambers, Bioengineering
 Mr Kai Chang, Surgery and Cancer
 Miss Laura Coates, Surgery and Cancer
 Mrs Ghazaleh Cousin, Faculty of Engineering
 Dr Tiago Cravo Oliveira, Business School
 Mr John Crook, Estates Division
 Miss Molly Davey, EYEC
 Miss Alex Dawes, Faculty of Medicine
 Miss Lauren Devereux, Estates Division
 Mrs Maria Dickinson, Grantham Institute
 Miss Ana dos Ramos Rodrigues, Life Sciences
 Miss Maureen Driessen, Bioengineering
 Dr Andrew Duncan, Mathematics
 Mrs Nidaa Eldosougi Nounou, Finance
 Dr Benjamin Evans, EEE
 Dr Iliana Fauzi, Chemical Engineering
 Mrs Chinwe Floerchinger, Surgery and Cancer
 Dr Fung Foo, Surgery and Cancer
 Mr Khari Fraser, Accommodation

Professor Douglas Gale, Business School
 Mrs Kelly Goodrich, Registry
 Mr Daniel Green, Imperial College Union
 Dr Layal Hakim, Computing
 Miss Mariel Harrison, Life Sciences
 Miss Alison Harrod, Surgery and Cancer
 Mr Petr Hosek, Computing
 Dr Ashleigh Howes, NHLI
 Mrs Seema Jagdev, Development
 Mrs Rebecca Jenkins, Development
 Dr Surrinder Johal, Health and Safety
 Miss Hannah Jones, Faculty of Medicine
 Miss Victoria Jones, NHLI
 Dr Eleni Korompoki, Medicine
 Mrs Ewa Krakowiak, Accommodation
 Miss Stefanie Kuenzel, EEE
 Mr Christopher Kwan, EEE
 Miss Folasade Labiyi, Chemical Engineering
 Mrs Sarah Lane, Faculty of Medicine
 Dr Victoria Leitch, Medicine
 Mr Benjamin Lester, Life Sciences
 Dr Michael Liu, Medicine
 Mr Ross Manson, Health and Safety
 Mrs Amanda Marshall, Registry
 Dr JP Martin-Flatin, Computing
 Mr Nicholas Mason, Chemistry
 Dr Adam Masters, Physics
 Mr Mohammed Mazid, ICT
 Mrs Pam McCarthy, Business School
 Dr Jed McDonald, Bioengineering
 Mr Alastair McIntosh, Chemistry
 Dr Orla McLaughlin, Life Sciences
 Miss Alina Miedzik, Surgery and Cancer
 Mr Byrone Mitchell, Accommodation
 Dr Michi Miura, Medicine
 Dr Francesco Montomoli, Aeronautics
 Dr Simon Moore, Life Sciences
 Miss Sibel Narin, Surgery and Cancer
 Dr Nelofar Obaray, Medicine
 Ms Sasha Oelsner, Outreach Office
 Dr Harriet Palfreyman, Surgery and Cancer
 Dr Bhopal Pandeya, Grantham Institute
 Mr Bhavish Patel, Chemical Engineering

Mr Raj Patel, Computing
 Dr George Pelios, NHLI
 Dr Javier Pereda Torres, EEE
 Dr Aiswarya Prabha, Chemistry
 Miss Chloe Pyle, NHLI
 Miss Maryam Qurashi, Chemistry
 Dr Huw Rees, Professional Development
 Mr Christopher Reynolds, Life Sciences
 Mr Euan Roney, Registry
 Dr Antonia Rotolo, Medicine
 Ms Charlie Royle, Faculty of Natural Sciences
 Dr Javier Rubio Garcia, Chemistry
 Dr Delwen Samuel, Faculty of Medicine
 Dr Arick Shao, Mathematics
 Dr Somnath Shinde, Chemistry
 Miss Namrita Shukla, Finance
 Miss Cleo Silvestri, Business School
 Ms Konstantina Spanaki, Business School
 Mr Clement Stevens, Professional Development
 Dr Andrew Strangeway, Mathematics
 Dr Christian Struber, Physics
 Dr Claire Sweetenham, Outreach Office
 Ms Delphine Thizy, Life Sciences
 Dr Leonora Velleman, Chemistry
 Miss Caroline White, ICT
 Dr Dylan Williams, Public Health
 Dr David Woodward, Bioengineering
 Miss Maria Xenou, Medicine
 Dr Joe Yu, Life Sciences
 Mr Hua Zhang, Surgery and Cancer

Farewell

moving on

Mr Mark Atkinson, ICT
 Dr Susannah Bloch, NHLI
 Dr Paddy Brock, Public Health
 Dr Federico Calboli (9 years), Public Health
 Dr Alessandra Carriero, Bioengineering
 Mr Alan Chandler (16 years), Finance
 Dr David Charles, Life Sciences
 Dr Ciara Clarke, Faculty of Medicine
 Dr Vasa Curcin (12 years), Public Health
 Mr Michael Cutler, NHLI
 Mr Brian Daughton, Professional Development
 Mr Daniel Davidsson, Medicine
 Mr John Demello, Faculty of Engineering
 Mr Nikolaos Diangelakis, Chemical Engineering
 Miss Catherine Edeam, Faculty of Medicine
 Mr Philip Elliott (12 years), Finance
 Miss Helen Evans, Surgery and Cancer
 Dr Cailong Fang, NHLI
 Dr Jake Foster, Surgery and Cancer
 Dr Alison Gaudion, Medicine
 Miss Karanjit Gill, NHLI
 Miss Justyna Glegola, Faculty of Medicine
 Miss Louisa Gnatiuc (5 years), NHLI
 Miss Rachel Harris, Medicine
 Dr Maud Henry, Life Sciences
 Mr Stuart Higgins, Physics
 Sir Tom Hughes-Hallett, Institute of Global Health Innovation
 Dr Michiyo Iwami, Medicine
 Dr Shichina Kannambath, Medicine
 Dr Christina Kanonidou, Medicine
 Miss Natasha Khalife, Public Health
 Mr Tesilimi Koko, EYEC
 Dr Matthew Laffan, Aeronautics
 Miss Charlotte Lemaigre, Public Health
 Mrs Diane Lewis (8 years), Finance
 Miss Clare Loane (5 years), Medicine
 Dr Maria Lopez Heras, Materials
 Dr Liang Lu, Aeronautics
 Mr Dan Marston, Imperial College Union
 Mr Cal McLean, Medicine
 Mr Miguel Miranda (6 years), NHLI
 Dr Beinn Muir, Physics
 Dr Samuel Murphy, Materials
 Dr Shoma Nakagawa, Surgery and Cancer
 Mrs Alison Nicholson, Faculty of Engineering
 Dr David O'Connor, Medicine
 Mr Michael O'Shea, Accommodation
 Mr William Otter, EEE
 Mr Paul Pahiti, Finance
 Miss Loredana Pellegrino, Surgery and Cancer
 Miss Mireille Rack, Environmental Policy
 Mr Lateef Raheem, EYEC

Mr Ahmadur Rahman, Medicine
 Dr Paul Randell, Medicine
 Dr Vanessa Raymont, Medicine
 Professor Tamas Revesz, Medicine
 Ms Lorna Richardson (19 years), Registry
 Mr Diogo Rodrigues Feleciano, NHLI
 Miss Caroline Royle, Medicine
 Dr Despoina Sarridou, Surgery and Cancer
 Mr Peter Saunders (8 years), Mechanical Engineering
 Mr Sahil Shah, Accommodation
 Mr Efstratios Skordos, EEE
 Dr Joe Smallman, Physics
 Dr Benjamin Smith, Physics
 Ms Lisa Smith, Public Health
 Dr Martin Spitaler (8 years), NHLI
 Dr Tesha Suddason, Medicine
 Dr Kelly Sutton, Public Health
 Ms Negar Tadayan, Surgery and Cancer
 Mr Ho Tang, Public Health
 Ms Kaori Taniguchi (6 years), Professional Development
 Dr Hannah Taylor, Medicine
 Miss Bora Trimcev (5 years), Business School
 Mr Kostas Tzortzis, Medicine
 Miss Maria Vlachopoulou, Environmental Policy
 Dr Thomas Walpuski, Mathematics
 Dr Jane Warwick, Public Health
 Miss Natalie Watt, NHLI
 Miss Nikki Whitelock, Public Health
 Mr Gary Wilkes, Physics
 Ms Laura Williams (11 years), Medicine
 Mr Joe Witts, Registry
 Dr Melanie Wood, Medicine
 Dr Hongshi Yan (8 years), ESE

✉ 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.



26 SEPTEMBER ▶ EXTERNAL

Science Uncovered

Imperial researchers present their interactive exhibition 'How to catch flu' at the Natural History Museum, alongside other science exhibits, debates and behind-the-scenes tours as part of European Researchers Night.

Get stuck into the latest research on pandemic flu with scientists from the National Heart and Lung Institute (NHLI) and brought to life by the renowned illustrator Steven Appleby and film maker Pete Bishop.



12 NOVEMBER ▶ LECTURE

Erwin Schrödinger Lecture

Joint recipient of the 2012 Nobel Prize in Physics, Professor Serge Haroche, College de France, speaks about how to trap, and experiment on, photons of light.



take note



Hopping between campuses?

From next term a free hourly minibus service for staff and students will run from South Kensington to Wood Lane Studios at Imperial West and Hammersmith Campus.

The pilot service, delivered by Imperial Estates Facilities Team, will operate between 08.00 and 18.00, Monday to Friday throughout the Autumn term.

The service is being trialled in response to feedback from last year's Travel Survey.

7 OCTOBER ▶ LECTURE

EDF Annual Lecture

Energy Futures Lab lecture about the human and social dimensions of business, presented by Marianne Laigneau, Group Senior Executive Vice President, Human Resources, at EDF Energy.

29 OCTOBER ▶ LECTURE

Vincent Briscoe Lecture

Institute for Security Science and Technology annual lecture presented by Professor Dennis S Mileti, University of Colorado, Boulder covering the social impact of terrorism and extreme natural events.



13 NOVEMBER ▶ LECTURE

Ernst Chain Lecture

Professor Michael Levitt, Stanford University, joint recipient of the 2013 Nobel Prize in Chemistry, speaks about modelling the molecules of life.



▶ PHOTO EXPO

The Heart and Lung Repair Shop at Hammersmith's Kings Mall attracted curious shoppers and members of the public last month. The science engagement project was devised by NHLI researchers in collaboration with artists and designers with funding from the Wellcome Trust

Stay in the loop

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