

A portrait of Alice Gast, the 16th Head of Imperial College London. She is a middle-aged woman with shoulder-length brown hair, wearing a dark blue blazer over a light blue shirt and a pearl necklace. She is smiling and has her hands clasped in front of her. The background is a blurred outdoor setting with a building.

Introducing Alice Gast

Getting to know the
16th Head of Imperial

... CENTRE PAGES



UNCONQUERED
The inspiring
journey of
Masters student
Dave Henson
PAGE 10



PRICE TO PAY
Calculating the
cost of saving
Brazil's Atlantic
rainforest
PAGE 7



**TOUCHING
TRIBUTE**
Celebrating the
life of the late
Dame Julia Polak
PAGE 14



EDITOR'S CORNER

Beyond the ordinary

During the break from the *Reporter* schedule this summer, I was keen to find out about some of the **exciting things** that our staff and students get up to **between terms**. The incredible and varied response to my queries ranged from researching crocodile attacks in Northern Australia (Dr Simon Pooley) to doing a 13,000ft skydive for Imperial College Healthcare Charity (Hayley Osborn, page 16).

I managed to interview a few people including Stuart Whitelaw, who in his role as Team GB coach, guided two of our students to silver at the World Rowing Championships in Italy (page 13).

It constantly amazes me how our staff and students can fit in activities that go above and beyond their primary roles and courses. It certainly helps to have a good **community spirit and support** network. All new students and staff joining Imperial this term can look forward to an environment that encourages them to pursue a breadth of activities. I know I've certainly benefited from it since I've been here.

ANDREW CZYZEWSKI, EDITOR

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

Contact Andrew Czyzewski:
reporter@imperial.ac.uk

Movember campaigns help establish new prostate cancer research centre



Imperial, UCL and the Institute of Cancer Research have launched The London Movember Centre of Excellence, funded by the Movember Foundation and Prostate Cancer UK.

The overall focus of the centre is to redefine and personalise the care given to men with prostate cancer.

Prostate cancer is the most common cancer in men, affecting around 250,000 men in the UK. Movember is a global movement that challenges men to grow moustaches during November, to spark conversation and raise funds for men's health programmes.

Movember and Prostate Cancer UK are investing a total of £10 million over five years in the London centre and a second centre based in Belfast and Manchester.

Professor Charlotte Bevan (Surgery and Cancer) said: "The Centre will enable scientists and clinicians from each of the three partner institutes to work together to really make an impact. It is a great vision that Movember and Prostate Cancer UK have, to bring together complementary expertise to expedite results and change for patients and we are excited about being part of it."

—SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS

Swift action needed to curb Ebola outbreak, study warns

Unless Ebola control measures in West Africa are enhanced quickly, more than 20,000 people will have been infected by early November, experts predict.

Researchers from the World Health Organisation (WHO) and Imperial warn that numbers of cases will continue to climb exponentially.

Public health epidemiologists and statisticians reviewed data to determine the scale of the epidemic, better understand the spread of the disease, and explore what it will take to reverse the trend of infections. The first cases were reported in the forest areas of Guinea in December. By May, the focus of the outbreak in Guinea expanded to Sierra Leone and in June it took hold in Liberia.

There are challenges in this region that exacerbate efforts to contain the virus, most importantly the years of conflict that have shattered health systems and left a shortage of health workers. In addition the populations of these countries are highly interconnected, with extensive cross-border traffic and easy connections between rural towns and villages and the densely populated cities.

"The large intermixing population has facilitated the spread of infection, but a large outbreak was not inevitable," said study co-author Professor Christl Donnelly, from the MRC Centre for Outbreak Analysis



Volunteers for the Red Cross Society of Guinea disinfect a hospital in Conakry

and Modelling at Imperial. "In Nigeria, for example, where health systems are stronger, the number of cases has so far been limited, despite infection into the large cities of Lagos and Port Harcourt."

The critical factor determining how big the outbreak could get appears to be the speed of implementation of rigorous control measures.

"Forward projections suggest that unless control measures – including improvements in contact tracing, adequate case isolation, increased quality of care and capacity for clinical management, greater community engagement, and support from international partners – improve quickly, these three countries will soon be reporting thousands of cases and deaths each week," said Dr Christopher Dye, Director of Strategy for the WHO.

Brevan Howard financial research centre launches at Imperial



A new research hub set to help understand and prevent financial crises, was launched by the UK's Chancellor of the Exchequer, the Rt Hon George Osborne MP, at Imperial on 23 September.

The Brevan Howard Centre for Financial Analysis at Imperial College Business School is funded by one of the largest gifts in business education history: £20.1 million from hedge fund Brevan Howard on behalf of its co-founder and Imperial alumnus Alan Howard.

The Centre is led by two of the world's most respected economists: Professor Franklin Allen, formerly of the Wharton School at the University of Pennsylvania, and Professor Douglas Gale, who came to Imperial from NYU.

A key goal of the Centre will be to reach out beyond the academic community to engage policymakers, financial services professionals and the wider public.

Speaking at the launch event, Chancellor Osborne said: "This centre will help us both learn from the mistakes of the past, so we can build a safer banking system, and to seize the opportunities of the future, so we lead the world in new financial technologies and innovation. That's right at the heart of our long term economic plan to provide jobs and growth and economic security for our country."

Professor G. "Anand" Anandalingam, Dean of Imperial College Business School, added: "The Brevan Howard Centre is a major step forward for the Business School. Franklin Allen and Douglas Gale are genuine pioneers in our understanding of systemic risk, corporate governance and interbank liquidity. Under their leadership, the Centre's potential is enormous."

—ANDREW SCHEUBER, COMMUNICATIONS AND PUBLIC AFFAIRS

Research and Translation Hub construction underway

Construction of the flagship research and translation centre on the College's new campus, Imperial West, began last month.



On completion in 2016, the £200 million Research and Translation Hub will form the centrepiece of the new Imperial West innovation district in White City, delivering world-class education, research and translation activities.

Professor David Gann CBE, Vice-President (Development and Innovation), said: "The Research and Translation Hub provides the physical environment to enable world-class research and knowledge transfer at scale – driving innovation and growth.

"Imperial West already hosts scores of innovative spin-outs and start-ups, and is highly connected to London's TechCity and MedCity ecosystems. The Research and Translation Hub allows us to take this to the next level."

The Research and Translation Hub, being delivered and built by Voreda and Laing O'Rourke, includes a 23,000 sq m translation centre and a 25,000 sq m research centre. Incorporating 50 new scalable units for university and industry spinouts and new ventures, the translation centre will serve the needs of London's growing enterprise community. It will be run by Imperial College ThinkSpace – a dedicated team that works with entrepreneurs and companies large and small to provide innovative, high quality workspaces and relocation support. The research centre will provide high specification, multidisciplinary research space for 1,000 scientists and engineers.

—ANDREW SCHEUBER, COMMUNICATIONS AND PUBLIC AFFAIRS

in brief



New CEO at Imperial West Enterprises

Dr Eulian Roberts has become the first Chief Executive of Imperial West Enterprises.

Dr Roberts will work with colleagues across Imperial and beyond, to ensure that Imperial West becomes a dynamic and productive innovation district for world-leading academics, innovative companies and entrepreneurs. Dr Roberts was most recently Chief Executive of Dhahran Techno Valley Company in Saudi Arabia and, prior to this, he held the position of Managing Director at Qatar Science & Technology Park, Qatar.



Tom Welton to head up Natural Sciences

Professor Tom Welton, FRSC, currently the Head of Department of

Chemistry and Professor in Sustainable Chemistry, will become Dean of the Faculty of Natural Sciences from 1 January 2015. Professor Welton will succeed Professor Maggie Dallman, who has led the Faculty since 2008, and who will take up appointment as Associate Provost (Academic Partnerships). Professor Alan Armstrong will succeed Professor Welton as Head of the Department of Chemistry.



LKCMedicine attracts collaboration award

Imperial has been shortlisted for International Collaboration of the Year in the 2014 Times Higher Education Awards. The award recognises exceptional projects that are carried out jointly between a UK institution and one

or more international partners. Imperial has made the cut thanks to its collaboration with Nanyang Technological University (NTU) on the Lee Kong Chian School of Medicine (LKCMedicine) – an undergraduate medical school in Singapore which was established jointly by the institutions in 2010.

Imperial launches new Success Guide



Imperial has launched a new online guide to support new students as they adjust to university life.

The Imperial Success Guide is an online resource, featuring a range of hints, tips and advice on everything from effective study to health and wellbeing, which aims to give new undergraduate students the information they need to succeed at the College.

It will be supported by a new blog providing extra information throughout the term on topics such as exams and preparing for your first assignments.

The Success Guide was created through the College's work on Academic Transitions, as part of the Education and Student Strategy. The project, led by Professor Mary Morrell, was tasked with developing a programme to support new students as they transition from school to university.

Professor Morrell, Chair of the Transitions Working Group, said: "The first year of university is a dramatic time of change. We have some of the brightest students in the world here at Imperial and the Success Guide is designed to make sure they start out well and make the most of their time here at the College."

"We've had a lot of feedback from staff and students on the Guide so far and we'll be drawing on this to further develop it as the year goes on. There's a lot of useful information out there and we'll be regularly producing new content on the blog and across social media."

—JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS

For more information visit imperial.ac.uk/success-guide or visit the Success Guide stand at Fresher's Fair during Welcome Week.

Record-breaking year for Imperial donations



The number of people donating to Imperial has more than doubled since 2009

A new milestone in the history of charitable giving at Imperial has been set, as end-of-year figures showed that a total of 5,400 people had donated more than £54 million during the 2013–14 financial year.

That is the greatest number of people ever to give in a single year, and the most ever raised for the College. The funds donated will further the work of leading researchers and will provide prestigious scholarships for the brightest students.

Angela Bowen, Deputy Director of Development, said: "It's been an absolute privilege for us to make contact with so many of Imperial's alumni and friends over the last year, and to tell them about how their support can advance the College's life-changing research and scholarships. Our donor community is the foundation for our fundraising mission, and we are profoundly grateful for their commitment and support."

The number of people donating to Imperial has more than doubled since 2009, rising from around two thousand to over five thousand in 2014. The total amount donated to the College in 2009 was £6.6 million.

—DANIEL MAPP, DEVELOPMENT DIVISION

São Paulo research partnership hails exciting new projects

Imperial and its Brazilian partner, the São Paulo Research Foundation (FAPESP), have announced the first projects to be jointly funded through a recent agreement.

Seven projects involving Imperial researchers and collaborators in São Paulo institutions – including the University of São Paulo and the National Research Centre for Energy & Materials – have been selected to receive matched seed-funding up to the equivalent of £6,000.

They range from a project assessing and guiding sustainability in Brazilian sugar cane to one looking at the transmission of the malaria-causing parasite *plasmodium vivax*.

"I am delighted to see such a diverse and exciting range of projects."

Imperial's Provost, Professor James Stirling, said: "We are very pleased to be working alongside FAPESP, one of our key international partners, to foster a new host of joint initiatives with some of São Paulo's leading research institutions and I am delighted to see such a diverse and exciting range of projects."

Dr Cristina Banks-Leite (Life Sciences) heads one of the successful projects, looking at how rainforest ecosystems work, including

the effects of changes in land-use such as deforestation.

She said: "Many of the UK team haven't yet been to the rainforest and this provides us with the opportunity

to spend some time getting to know the field of study and the challenges it presents."

—JOHN-PAUL JONES, COMMUNICATIONS AND PUBLIC AFFAIRS

media mentions



Rewilding Britain

THE GUARDIAN ► 19.09.14

Reintroducing extinct species to the landscape is called rewilding and is a controversial issue, as a feature article in *The Guardian* explores. Advocates enthuse about the benefits, for example, citing that wolves help keep deer numbers in check enabling woodlands to expand. However, wolves are a threat to sheep and possibly hikers. Other species might be less controversial. Jamie Wyver (Life Sciences) is a masters student looking at public attitudes towards the reintroduction of the lynx in the Scottish highlands and Forest of Dean. "There are no records anywhere in Europe of anyone ever being attacked by a Lynx."

awards and honours

BUSINESS SCHOOL

Social enterprise wins plaudits

A team of MBA students has won £10,000 of start-up investment in a Dragon's Den style competition for their idea to improve access to healthcare in Uganda using mobile phones. Team SasaDoc won the I&EStart! Challenge held at Imperial College Business School with their premium text and voice message service which would allow Ugandans to receive doctor consultations over the phone. A portion of the revenue will be used to fund projects to improve access to doctors and healthcare for Ugandans who cannot afford to pay.

Studying a North Korean volcano

THE WASHINGTON POST ► 08.09.14

A team of scientists has returned from its third field trip to a volcano on the border between North Korea and China, which more than a thousand years ago was the site of one of the biggest eruptions in human history. Fears that Mount Paektu might be unstable began in 2002, following increased seismic activity and ground swelling. "That sparked a lot of interest both in China and North Korea but also internationally," said Dr James Hammond (Earth Science and Engineering). He added that fears of a major eruption soon are probably unfounded. "It's certainly very tranquil at the moment."

'Reckless' antibiotic prescribing fuelling superbugs

THE TELEGRAPH ► 23.09.14

GPs in some areas of England are prescribing almost 25 per cent more antibiotics than others, an investigation has found. Former health minister, Lord Darzi (Surgery and Cancer), Director of the Institute of Global

JOIN OUR MAILING LIST

for regular news alerts:

www.imperial.ac.uk/media/jointsignup

Health Innovation, said: "Reckless prescribing of antibiotics is increasing drug resistance and threatens to turn common infections into untreatable diseases. We risk creating a world where patients entering hospital will gamble with their lives and routine operations will become too dangerous to carry out."

Expert lauds carbon capture feats

GULF TIMES ► 21.09.14

Research by the Qatar Carbonates and Carbon Storage Research Centre (QCCSRC) at Imperial is making a vital contribution to mitigate climate change, but the science will need to be matched with financial and legislative measures. Martin Blunt (Earth Science and Engineering), Professor of Petroleum Engineering, said: "At the moment there is no financial incentive to inject carbon dioxide. Capturing carbon dioxide and piping it to the facilities is rarely worth the amount of extra money you get back whether for carbon trading schemes or the additional recovery." But he pointed out – it is a price worth paying when compared to the cost to the environment.

NATURAL SCIENCES

Queen's Medal for Morris



An Imperial biochemist whose work pushed the boundaries

of mass spectrometry has been awarded the 2014 Royal Society Royal Medal. Research by Emeritus Professor of Biological Chemistry Howard Morris FRS (Life Sciences) has improved our understanding of living systems at the molecular level, in health and disease, by using advanced spectrometry to elucidate the structures of newly discovered, biologically active materials. The Royal Medals, which are also known as the Queen's Medals, are awarded annually for the most important contributions in the physical, biological and applied sciences.

NATURAL SCIENCES

'Outstanding work' of polymer expert recognised



Professor Iain McCulloch (Chemistry) has been presented with the

Wolfson Research Merit Award in recognition of his outstanding work on organic semiconducting materials. The Royal Society announced 14 new award winners who will each receive five years' funding. Jointly funded by the Wolfson Foundation and the Department for Business, Innovation and Skills, the Awards were established in 2000 to attract and retain respected and talented scientists with exceptional potential in the UK.

SUPPORT SERVICES

Grand designs

Imperial's graphic design work has been recognised at both the HEIST education marketing Awards and the University and College Designers Association Competition. At HEIST, the College was awarded a Gold prize for Best Postgraduate Prospectus, following a collaborative revamp by Student Recruitment, Outreach and Communications and Public Affairs. At the University and College Designers Association Competition, the College picked up nine awards against stiff US competition, including prizes for the Imperial Festival and the playing-card themed Alumni Reunion invitation.



Fossil fuel alternative created with the help of bacteria

Researchers have engineered the harmless gut bacteria *E.coli* to generate renewable propane.

The development is a step towards commercial production of a source of fuel that could one day provide an alternative to fossil fuels.

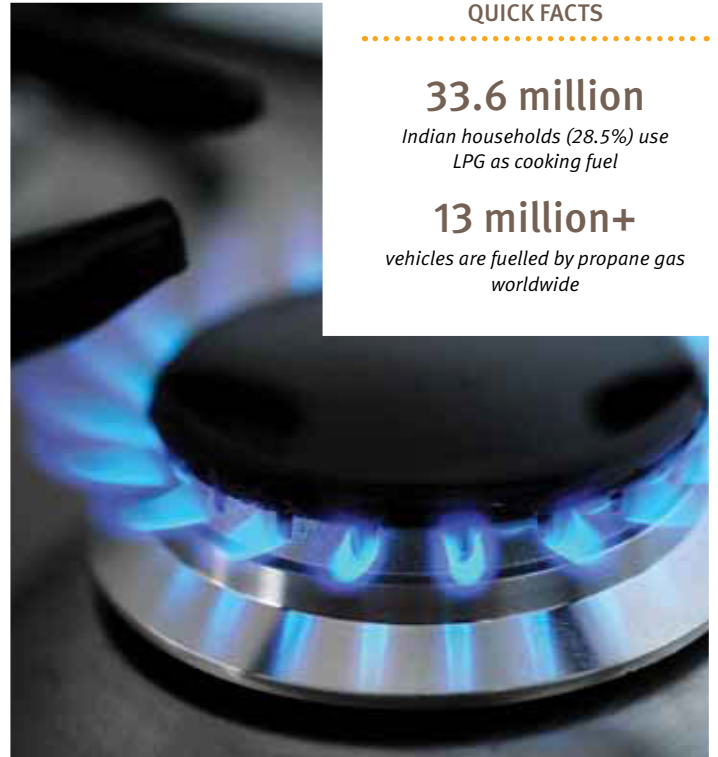
Propane is an appealing source of cleaner fuel because it has an existing global market. It is already produced as a by-product during natural gas processing and petroleum refining, but both are finite resources. In its current form it makes up the bulk of LPG (liquid petroleum gas), which is used in many applications, from central heating to camping stoves and conventional motor vehicles.

In a new study, the team of scientists used *Escherichia coli* to interrupt the biological process that turns fatty acids into cell membranes. The researchers used enzymes to channel the fatty acids along a different biological pathway, so that the bacteria made engine-ready renewable propane instead of cell membranes.

Their ultimate goal is to insert this engineered system into photosynthetic bacteria, so as to one day directly convert solar energy into chemical fuel.

Dr Patrik Jones (Life Sciences) said: “Although this research is at a very early stage, our proof of concept study provides a method for renewable production of a fuel that previously was only accessible from fossil reserves. Although we have only produced tiny amounts so far, the fuel we have produced is ready to be used in an engine straight away. This opens up possibilities for future sustainable production of renewable fuels that at first could complement, and thereafter replace fossil fuels like diesel, petrol, natural gas and jet fuel.”

—GAIL WILSON, COMMUNICATIONS AND PUBLIC AFFAIRS



QUICK FACTS

33.6 million

Indian households (28.5%) use LPG as cooking fuel

13 million+

vehicles are fuelled by propane gas worldwide

First gene therapy trial launched for heart patients with mechanical pumps

Patients with advanced heart failure who rely on a mechanical heart pump to keep them alive could benefit from a new type of gene therapy being tested in a clinical trial.



Heart failure occurs when the heart no longer pumps blood effectively. Some individuals with advanced heart failure can be fitted with a Left Ventricular Assist Device (LVAD), which supports the failing heart and aims to restore normal blood flow. These pumps are often fitted to keep patients alive until a suitable donor heart becomes available for transplant. However, a shortage of donor organs in the UK means that many patients will die on the transplant waiting list.

The new trial, a world-first, is led by Imperial and funded by the British Heart Foundation (BHF) and Celladon Corporation and will explore whether this gene therapy could help these patients' hearts recover.

This particular gene therapy is designed to increase levels of SERCA2a – a protein in heart muscle cells that plays an important role in contraction. Genes are inserted into the heart muscle cells using a harmless engineered virus. The research team will take small biopsy samples of the heart muscle six months after treatment for further analysis.

Professor Sian Harding (National Heart and Lung Institute), Head of the BHF Centre of Regenerative Medicine, who helped develop the treatment, said: “We will be using state-of-the-art methods to gain detailed information on how and where the gene therapy takes effect, which will potentially help us develop and improve the therapy.”

The research team plan to evaluate how this therapy works in 24 patients with advanced heart failure who are fitted with LVADs. Of the patients enrolled in the study, 16 will be treated with the gene therapy and eight will be treated with a placebo.

—FRANCESCA DAVENPORT, COMMUNICATIONS AND PUBLIC AFFAIRS



Case study

Lee Adams, 37, from Hertfordshire, has been living with an LVAD for over two and a half years and is on the waiting list for a heart transplant. He is the first such patient in the world to be on this new gene therapy trial. “It took some getting used to living with an LVAD,” he says. “You can’t just jump in the bath or the shower and it’s difficult sleeping. Everywhere I go I have to carry the power supply and spare batteries in a backpack.

“Of course the best thing that could happen would be for my heart function to show signs of improvement. But I’m not building up my hopes too much because, for all I know, I might have had the placebo.”

Less than \$200m would conserve Brazil's Atlantic Forest, say researchers

Brazil could conserve its valuable Atlantic Forest by investing just 0.01 per cent of its annual GDP, according to a new study.

The Atlantic Forest (Mata Atlântica) is one of the most important and threatened biodiversity hotspots in the world, containing the only living examples of nearly 10,000 species of plant and more bird species than all of Europe.

Situated along the Atlantic coast of Brazil, it once covered an area of nearly 1.5 million square kilometres. Today, the forest is home to more than 130 million people and it covers only 160,000 sq km, because of deforestation.

A team of international scientists have calculated that it would cost US\$198 million per year to pay private owners to set aside land for reforestation. This would be enough to conserve the majority of species.

US\$198m is equivalent to only 6.5 per cent of what Brazil already invests in agricultural subsidies and less than 0.01 per cent of the country's annual GDP.

There are already some schemes in Brazil to pay private land owners to set aside land for conservation but these have been local-scale initiatives that have had little impact on maintaining and improving the conditions of the whole forest.

Lead researcher Dr Cristina Banks-Leite (Life Sciences) said: "The Atlantic Forest is smaller and far more degraded than the Amazon rainforest, but it also contains a vast range of biological diversity. The forest is a crucial habitat that is home to more than half of Brazil's threatened animal species.

"Our study shows that it would be relatively cheap to secure the future of the forest by paying land owners on a large scale to set aside land for conservation. Local communities and land-owners will benefit not only from regular payments but also from the benefits that a flourishing ecosystem brings. We need to start to put such a scheme in place now, before it becomes too late."

—GAIL WILSON, COMMUNICATIONS AND PUBLIC AFFAIRS



Method

To calculate costs the researchers first had to record what and how many species are currently living in pristine and degraded areas of the Atlantic Forest. Over a period of nine years, a team of more than 100 researchers collected data on birds, mammals and amphibians living in the forest. Using mist nets to capture birds as well as pitfall traps to capture mammals and amphibians, they painstakingly recorded information on 25,000 individuals, made up of 140 species of birds, 43 species of mammals and 29 species of amphibians. They estimated that to maintain biodiversity and ecosystem functions, a minimum of 30 per cent of native habitat needs to be preserved. To evaluate overall costs of maintaining minimum forest cover the scientists combined current estimates of existing forest cover with average costs paid to private land owners.



Rediscovered ceramic has potential in hypersonic flight

A structural ceramic that can withstand temperatures three times hotter than lava shows promise in hypersonic air travel, say researchers.

Teams around the world are working on prototype technologies that could enable aircraft to travel at hypersonic speeds – five times faster than the speed of sound. These planes would leave the Earth's atmosphere and fly through space, before re-entering to arrive at their destination, dramatically cutting travel times.

2 hours

Time taken to travel from London to Tokyo in hypothetical hypersonic plane

One of the big challenges is developing a material that can shield planes from extreme re-entry temperatures of over 2000°C.

To this end, researchers at the Centre for Advanced Structural Ceramics at

Imperial are carrying out research into ultra-high temperature ceramics (UHTCs).

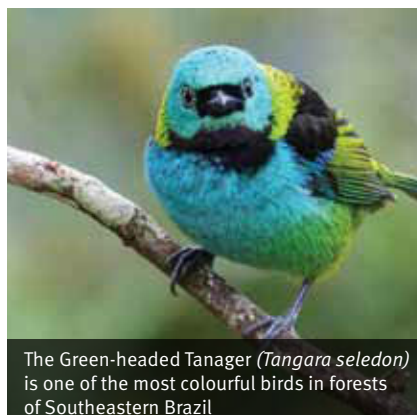
Earlier this year, PhD student Omar Cedillos (Materials) carried out experiments on UHTCs at the Institute for Transuranium Elements (ITU) in Karlsruhe, Germany. He used a high powered laser to create the intense, focussed heat required to melt the ceramics and a second laser to analyse how the material melts as it is being heated.

They found that hafnium carbide, a ceramic first experimented with in the 1960s, can withstand temperatures of more than 4050°C – higher than previously reported.

Commenting on the work Omar said: "Friction between the craft and the atmosphere on re-entry generates enormous amounts of heat, which could destroy the craft if it is not protected properly. Our results are promising and suggest that hafnium carbide may be a material that could shield these planes from heat generated by friction between air and the plane's surface."

The next step will see Cedillos and colleagues investigating coatings and additives that might prevent hafnium carbide and other UHTCs from reacting with oxygen in the atmosphere at high temperatures, which causes degradation.

—COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS



The Green-headed Tanager (*Tangara seledon*) is one of the most colourful birds in forests of Southeastern Brazil



Brachycephalus crispus is endemic to the Atlantic Forest. Individuals are smaller than 2mm



Introducing

President

Alice Gast

Reporter sits down with President Alice Gast, Imperial's 16th Head, to find out about the journey that led her here and what drives her.

When I meet Alice, on the morning of Friday 19 September, the news has just come through that Scotland will remain part of the United Kingdom. While we don't discuss the result or politics in any detail, she admits to being drawn in by the intense campaign and build-up. Interestingly, Alice says she often likes to observe other leadership styles.

"For example, it might be that I admire the way they present something or work through a problem; but then of course there are those instances where you think, 'I definitely wouldn't want to do it in that way'."

Reaching across borders and disciplines is certainly something that is in vogue at the moment whether in politics, science, art or music. But for Alice it's been a lifelong career habit, and even seems to have been hardwired from an early age.

"My father was a biochemist and I used to tag along to the lab occasionally to see what he was doing. We'd often look at images from early electron microscopes. But I also remember helping him repair the car and taking apart my bicycle, painting it and putting it all back together – so I had that mechanical focus too."

At high school Alice most enjoyed chemistry, physics and maths and so it made sense to "pull those together" when opting to take a degree in chemical engineering at the University of Southern California.

The joy of discovery

She completed her postgraduate work at Princeton University, receiving a Masters and PhD in chemical engineering setting up a successful research career focussed on the exciting and often surprising interactions that take place at the surface of small particles. It's an area that laid the foundations for what is now called nanotechnology. While Alice has been fully occupied with academic leadership for many years now, she looks back at her lab days with obvious fondness and pride.

"There have certainly been moments in my research career where the sheer excitement of things working and coming out well is just euphoric. I remember doing neutron scattering experiments at NIST in Maryland studying these polymer micelles, which are essentially particles with hairy surfaces that interact in interesting ways. We turned the beam on and started getting the image and as it built up we saw the result we expected and it was beautiful really."

For Alice though, there was always a pull to explore new avenues and horizons and that meant looking further afield. At graduate school in Princeton she learned to speak French, studying early in the morning, and went on to successfully apply for a postdoctoral NATO fellowship at ESPCI in Paris – returning to the city as a Guggenheim



“There have been moments in my research career where the sheer excitement of things working is euphoric.”

Memorial Foundation Fellow in 1991 while on sabbatical at Stanford University. She also spent time in Munich on sabbatical where she moved into the field of biophysics, studying protein crystallization on membranes.

Leadership lessons

It was during her 16 years at Stanford University that Alice started to take on more leadership roles in overseeing projects. The university had, and still has, a Synchrotron Radiation Lightsource, producing high energy X-rays for scientific research. Alice became a faculty member for the facility and led a faculty design consultation for a new building that would bring medical and science researchers together in mixed labs – a space now called the Clark Centre.

“That was really stepping out of my scientific and teaching role and looking at how physical space influences the way people collaborate and how people from very different fields can work together. I think it took some real bravery and boldness on the part of many of the researchers – who were comfortable in their own reputation – to move beyond their area of expertise.”

From Stanford it was onto the Massachusetts Institute of Technology where Alice served as Vice-President for Research and Associate Provost for five years and then the office of President at Lehigh University for eight years from where she came to Imperial. Alice had very successful tenures leading and growing both these institutions, and just as when she was a junior professor, she looked for opportunities that would take her down new avenues.

In 2006, Alice co-chaired a National Academies committee advising the government on the topic of science and security before being appointed as a Science Envoy for the Department of State in 2010.

Speaking about that period Alice says: “It was post 9/11 and it was an important time in striking the balance between openness and sharing and the need to keep certain information secure from those who would do us harm. I got very involved in international student visas and making sure we had a flow of talent from overseas and that export issues with regards to sharing information and collaborating among research groups were thought through.”

Campus life

Alice has spent much of her working life at universities around the world, and clearly has a love for campus life.

“It’s just a wonderful environment; there are always arts, music and sporting events going on. Also there’s a real community spirit I think too – at Stanford my kids were in the childcare centre which really benefited me and other academics and I know we have something similar at Imperial with the Early Years Education Centre.”

While the expansive campuses of Stanford and Lehigh might be a far cry from our own tightly-knit London homes, Alice sees that as an opportunity to get out and about meeting academic and support staff and students.

“Being compact actually has its benefits I think, you do bump into people more, and have those serendipitous encounters and conversations from which great new ideas spring.”

Alice plans to spend the next few months visiting different Departments with the Provost and Faculty Deans, getting to know academic and support staff better. With her extensive experience driving interdisciplinary collaboration Alice is keen to host a series of receptions and breakfasts with divergent groups – encouraging a broader mix of staff to get together. Impressed at the huge range of student clubs and societies, she also suggested this might be a new way of connecting with our student community – through something they have a real passion for.

So what should the wider Imperial community expect in the months and years to come from their President? The overriding impression is of someone bold and brimming with new ideas, who values the breadth of opinions that are part and parcel of university of life.

“I think my leadership style has evolved over time as I’ve matured; I certainly hope so since I’ve learned so much along the way from so many different people. I do feel it’s important to get all the voices around the table and have a discussion that moves everyone forward, so that they each see the benefits of a certain decision even if it is not exactly how they wanted it to go.”

Q&A

Who have been your main mentors?

Certainly the late Chuck Vest and Bob Brown, who were President and Provost, respectively at MIT. I learned a tremendous amount about academic leadership from both of them. Also I would say that Shirley Tilghman, President of Princeton University, has been a mentor.

Are you currently reading a book or novel?

Strides by Benjamin Cheever. It’s about the history of running from antiquity onwards, with some of the author’s own personal running experiences thrown in there. As a runner myself, it’s quite fascinating.

Is there a gadget you couldn’t do without?

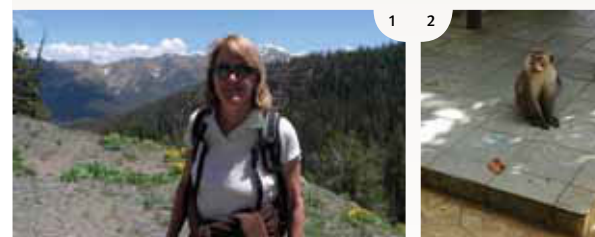
I have my iPad and iPhone with me most of the time and I find that certain apps can become quite addictive. I use ‘Log my run’ and now I feel like I don’t get any credit for a run if I don’t log it properly! I already use Yoyo to pay for refreshments on campus. It’s a great system.

I understand you’re a keen hiker, any favourite destinations?

That’s tough, there are so many. Some that spring to mind include the Sawtooth Range in Idaho (1), the Swiss Alps and the Penang National Forrest in Malaysia – we saw lots of wildlife there and some monkeys stole our apples (2).

The last time you were in awe?

When I visited CERN in June (3) and the detectors were open to view. I’ve worked in some impressive beamline facilities in my career but CERN is something else. It will be exciting as it goes to full power later this year.



THE WARRIOR engineer

Captain David Henson is a soldier, athlete, student and recently a Member of the Most Excellent Order of the British Empire (MBE). But when I sit down to chat with him, he tells me he never really thought he'd be anything other than an engineer when he was growing up.

"If you think in a certain way, that's just how you think – it informs how you approach problems and overcome them."

Dave studied mechanical engineering at university before going onto the Royal Military Academy Sandhurst. He then joined 22 Engineer Regiment and was subsequently deployed to Afghanistan.

Part of his role was to lead a detachment force clearing improvised explosive devices (IED). He was doing just that on Sunday February 13 2011, hoping to make an area safe for Afghan families to set up homes. They successfully cleared the first of two compounds; but whilst in the second, the unthinkable happened as Dave stepped on a hidden IED. His right leg was amputated above the knee and his left leg through the knee and what followed was a period of long physical and psychological rehabilitation.

While Dave doesn't shy away from talking about that time, we focus on recent positives. He is fresh from a successful campaign as GB Captain at the Invictus Games, leading a team of injured personnel and veterans in sporting competition with counterparts from armed forces around the world. Dave is also in the process of finishing his dissertation project for his Master's Degree in Biomedical Engineering,

focused on developing better prosthetic knee joints.

Needless to say Dave has a vested interest in seeing this technology succeed for his own benefit and those of other amputees. While his carbon fibre blades allow him to run 200m on a track faster than most people, they do have major limitations in terms of flexibility of movement and the stress they place on the back and hips.

"That is a constant driver for me. I really miss being able to do things I did before like climbing mountains, playing basketball and squash, doing leisure activities with my wife. So the question is what can we do about it? That's the way an engineer thinks. Rather than sitting around being miserable, let's find a solution."

In the case of Dave's work that solution is an internal knee reconstruction that could be fitted inside a residual limb and connected to tendons and muscles, making for a more mobile joint that has better long term outcomes.

Faster, higher, stronger

Dave sees the Invictus Games as a chance to show spirit and a refusal to be broken, as well as an opportunity to thank the general public for their ongoing support.



Dave led Team GB at the Invictus Games and even squeezed in a gold medal himself in the 200m IT2 Final

"Sport is a big part of the army, but I personally never trained to be good at sport. It was only during my recovery phase that I found the benefits that came with competition, namely the focus and drive it gives you. Nothing else matters when you're training."

Dave has experienced incredible pressure when he was clearing IED fields in Afghanistan. But does he still get pre-race jitters?

"Oh yes. The nerves are huge. On the first day of the 200m, because I'd been in the BBC documentary beforehand a lot of people were recognising me and I sort of felt like the face of the Games."

Dave hopes to stay on at Imperial working in the same line of research. While that remains his primary focus he hopes to carry on training and competing and doesn't rule out a tilt at the World Championships in Doha next year, and possibly Rio in 2016.

Does he ever look back at how remarkable events in his life have unfolded?

"Sometimes it feels like this is what was supposed to happen, and certainly that makes it easier to accept. Also it's nice not to always have the future planned out in great detail, if a left turn comes up, you just go left."

inside*

story

mini profile

Chris Hankin

Professor Chris Hankin, Director of the Institute for Security Science and Technology (ISST), celebrated his 30th year at the College this Summer.

You've been in many roles here, can you talk us through some of the highlights?

I was Deputy Head of Computing for almost 10 years, so I have an enduring interest in the Department. A major juncture was being elected as Dean of City and Guilds College in 2000, which has become an important ongoing part of my activity here. I also served as Pro-Rector (2004 to 2006) and enjoyed being part of a team working with the then Rector Sir Richard Sykes and Deputy Rector Sir Leszek Borysiewicz developing the first articulation of a College-wide research strategy – remnants of which are still visible in today's strategy.

How have you found your Directorship of the ISST?

It's been an incredibly exciting time, an opportunity, towards the end of my career, to find real applications for some of the ideas I've been working on as a theoretical computer scientist for the previous 25 years. We've done a lot of work on data analysis to support major investigations into criminal activities, and we're one of the government's academic



centres of excellence for cyber security research in the UK. The ISST has also been involved in the creation of three new research institutes – including the Research Institute into Trustworthy Industrial Control Systems, which I am Director of.

What function will that Institute serve?

It's looking at how we might protect against and mitigate cyber threats to the infrastructure that controls a range of processes, including manufacturing, energy distribution and the national rail network. The threat has arisen because industrial control systems are increasingly using off the shelf components, which are essentially full powered computing elements. These can be and often are connected to the internet because that makes maintenance easy, but at the same time it makes them vulnerable to the same kind of cyber threat as desktop machines.

For the full interview visit: bit.ly/ChrisHankin



Imperial's Bo in collision course with CERN

On 1 September Imperial mascot Bo called in at CERN during his tour of Switzerland. Stephanie Hills of the CERN Press Office reports on the visit.

"It is not every day that CERN welcomes a 112 year old member of its university community. Boanerges ('Son of Thunder') is one of Imperial's mascots and is looked after by volunteer students of the City and Guilds College Motor Club, otherwise known as Team Bo. They visited CERN as part of a wider tour of France and Switzerland and were welcomed by James Devine (MEng Electrical and Electronic Engineering 2005), an alumnus and former president of the club.

A 1902 James and Browne, Bo is thought to be one of only two remaining examples of this manufacturer. The car is in full working order – if you ignore the small pools of water and oil that accumulate beneath when he stands for any length of time! He can manage a death-defying top speed of 27 mph and turns heads wherever he goes. Bo completed most of the tour on the back of a trailer with excursions in selected locations such as a drive along the shore of Lake Geneva.

Of course, a car this age requires constant maintenance, and European tours don't happen every year; James recalled that he "inherited the car in a thousand pieces." For the current tour, the support vehicle was packed with tool boxes, spares, greasy rags, and copious amounts of Brasso.

Back in 1902, Bo was the epitome of engineering excellence, and as part of the visit to CERN, it was important to introduce him to a modern day equivalent, the CMS experiment. Petrol heads Austin Ball (CERN) and Professor Tejinder (Jim) Virdee (Physics) were on hand to make the introductions, and Austin gave Team Bo, minus Bo himself, an impromptu underground tour of the experiment.

Valued at £250,000, only the club's president is insured to drive Bo. "He's a bit of a handful," said this year's President, Sam Esgate (Computing). "Bo's doing fine, it's me that's letting him down!"

Throughout Bo's visit to CMS, a succession of technicians, security guards, engineers and physicists came to take a closer look at the car. Fortunately, that provided many extra pairs of hands when it came to helping this elderly gent back onto his trailer."

This article and photos from Bo's visit featured in the 23 September issue of UK News from CERN

Did you know?

Another College mascot, Jezebel, also featured in an episode of Downton Abbey recently





► INVENTOR'S CORNER

The spidery start-up combating advertising fraud

Imperial Computing graduates Ashley Brown (pictured) and Simon Overell talk about their online fraud-busting start-up spider.io, recently acquired by Google.

What does your company do?

Simon: We focus on combating online advertising fraud. Display advertising has historically been built on trust and on direct relationships between advertisers and publishers. That worked fine in 1999, but as the industry has become more complicated it's become easier for people to cheat the system – often with the help of automated software programs or 'bots'.

What's the most interesting case of fraud that you've come across?

Ashley: In 2013 we revealed the chameleon botnet – we'd seen traffic committing ad fraud on a huge scale. By disassembling it we were able to see what it was doing, which was basically to run lots of windows in the background loading websites.

How do you know when you've conquered something?

Simon: You don't, it's basically an arms race. Whenever you stop a particular attack, a new attack will spring up as they try to work around what you've identified. The ultimate aim is to make advertising fraud uneconomical. I think that's feasible, but there will always be something that people with access to thousands of PC's can do to make money.

How difficult was it to build the company up?

Ashley: It was hard – I had a few 24-hour days in the year running up to the acquisition! I was setting the computer off to do something for a few hours, going to sleep for two hours, waking up and starting it all over again. We had an idea of what we wanted to achieve and we needed to do it quickly.

How did it feel to be acquired by Google?

Ashley: All you want to do when you're running a small company is make a big difference with the resources that you have, and I feel like we made that difference.

–JESSICA ADAMS, COMMUNICATIONS AND PUBLIC AFFAIRS



MSc Engineering Geology student Leo Peskett in Rwanda

Hot rocks: the promise of geothermal energy in Rwanda

For most people, Rwanda is synonymous with the terrible genocide that afflicted the country 20 years ago. The country is now relatively stable politically, has good roads, a high standard of education and excellent healthcare. But being densely populated and landlocked with no fossil fuel, energy security is a major issue.

"They're currently relying on massive generators on the outskirts of the major cities which run on expensive fuel, driven in from over the border," says Leo Peskett, who recently completed his MSc in Engineering Geology at Imperial. "It's not economically or environmentally sustainable."

During his course, Leo heard about the annual Basu Prize – a competition that funds the best proposal for an overseas MSc dissertation project in the Department of Civil and Environmental Engineering. He successfully pitched an expedition to investigate geothermal energy in Rwanda and flew out to the capital Kigali on 15 June for three weeks.

Geothermal energy involves drilling deep into seismically active regions with the aim of finding groundwater at high temperatures and pressures that can be used to produce steam to drive a turbine. Rwanda's Virunga Mountains are a series of dormant volcanoes that sit on Africa's Great Rift Valley and are a prime candidate location for geothermal energy.

Leo's first job out in Rwanda was to access survey data stored in the capital Kigali. He also was able to get out into the field in the Virunga Mountains and do some field-based structural geology.

"That's what we've been training at Imperial to do. There are lots of signs you can look for in the different types of surface rocks, particularly large faults and smaller fractures. That gives you an idea of permeability of the underlying rock, which is essential for geothermal energy as it means there could be circulating water."

With this work Leo has built a more detailed geological model of the area. He hopes others might continue using similar methods to help inform future drilling operations.

"There was of course a limit to what I could do in the three weeks I was there, but I hope to recommend things that may be of help to the Government of Rwanda."

"There are lots of signs you can look for in the different types of surface rocks. That's what we've been training at Imperial to do."

River rapid

Imperial's Head of Rowing Stuart Whitelaw recounts a summer of successful competition and exciting times ahead for the Boat Club.

"It's been an enthralling but rather exhausting summer for rowing at Imperial, which culminated in an intense week in Varese, Italy for the Under 23 World Rowing Championships, which I was involved with as one of Team GB's coaches. In all, Team GB took away medals in four different boat classes. Three members of Imperial Boat Club (two of them students) won silver medals: Wilf Kimberley (Life Sciences), Timothy Richards (Medicine) and Georgia Francis.

But it's not just the elite group where things are happening. Prior to the start of term I was showing round some new students. We pair them with older rowers from the same course who give them tours of all the labs and facilities at Imperial which works really well. We're keen to attract rowers at all levels – it's important to have a diverse community.

And we're already seeing the fruits of that approach. At Henley in early July, two first year students Ollie Hines (Physics) and Tristan Vouilloz (Mechanical Engineering) made it to the semi-finals – theirs was the top student boat as well.

With the new season starting we've just been on a cycling camp to the French Alps to train in the mountains while we wait for the Boat House in Putney to be refurbished.



Imperial's Wilf Kimberley (far left) celebrates silver in the lightweight men's pairs race at the U23 World Championships

Some good news for the wider club is that Sir Richard Sykes, a former Rector of Imperial, recently agreed a request by the club captain to become the President of the Boat Club, which is fantastic. He also generously donated a new boat, named the John Galley, after an alumnus, former Imperial academic and long-term supporter of the Club who sadly passed away last year. At the naming ceremony there was

a gathering of Boat Club alumni who were all reminiscing and sharing stories from their time here. Interestingly there's quite a range of experiences from different generations but there's always been a strong sense of community I think.

Anyway if you're a new to the Boat Club this October – welcome! I'm certain you'll enjoy your time here. And if you're an existing member – best of luck in racing this year."

Sailing to success: business lessons from the America's Cup

The 150 year-old America's Cup sailing competition combines a long and prestigious history with cutting edge technology and big money. According to researchers from Imperial College Business School, the Cup can provide businesses with ideas for developing technologies and in improving their strategic and tactical decision making. Ahead of the launch event for the 35th America's Cup we caught up with Business School researchers Dr Jan Michael Ross and Dr Dmitry Sharapov.



So what can businesses learn from the Cup as a whole?

DS: The parallels between business and sport are strong: both involve selecting the right people to form teams, and getting them to develop their leadership and motivational skills, and learning how to allocate resources effectively. Just like business, the captain and crew need to make good strategic and tactical decisions while rivals are trying to get ahead of them. The America's Cup is particularly interesting because the participating teams, which often involve more than 100 people, are faced with a competition that involves both sport and technological development. In a similar way, businesses develop or acquire technologies, design their products, and launch them on to the market in the hope that their products are better selling than their competitors.

What can businesses learn from competitive interactions in sailing competitions?

JMR: Similar to the America's Cup teams, businesses are forced to make short-term and long-term decisions under challenging conditions. Market environments can be highly uncertain. You never know what the next move of the competitor is going to be. Businesses have to make decisions considering the moves of the competitor and their own abilities to use given technologies.

Can you tell me about your upcoming work around this topic?

DS: We have been looking at the effectiveness of a "follow the follower" imitation strategy, in which the leading boat imitates the moves and positioning of the follower in order to stay ahead.

JMR: We believe that this work has relevance for a broader management audience. The insights from this study help to explain, for example, why Apple decided to imitate Samsung's decision to release phones with larger screens. Our findings will be published soon in the *Academy of Management Journal*.

–MAXINE MYERS, 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 October–31 October. The data are supplied by HR and correct at the time of going to press.

20 years

- David Traske, Quality Audit and Compliance Manager
- Adrian Hawksworth, Assistant Registrar (Placements), Registry
- Professor Martin Buck, Professor, Life Science
- Professor Andrea Crisanti, Professor of Molecular Parasitology, Life Science
- Dr Scott Fraser, Research Fellow, Life Science
- Dr Laurence Bugeon, Research Fellow, Life Science
- Dr Emma McCoy, Deputy HOD of Mathematics and Senior Lecturer, Mathematics
- Stephen Kellock, Senior Research Officer, Physics
- Professor Ralf Toumi, Professor of Atmospheric Physics, Physics
- Professor Stephen Warren, Professor of Astrophysics, Physics
- Dr Garry Perkins, Research Fellow, Physics
- Dr Kenny Weir, Associate HoD and Senior Lecturer, Physics
- Michael Pearse, Clinical Senior Lecturer, Surgery and Cancer
- Miss Cheryl Costello, Cardiovascular Sciences Administrator, National Heart and Lung Institute
- Professor Francesca Toni, Professor in Computational Logic, Computing
- Professor Michael Lowe, Professor in Mechanical Engineering, Mechanical Engineering

30 years

- Dr Michael Schachter, Senior Lecturer, National Heart and Lung Institute
- Dr Robert Edwards, Research Lecturer, Medicine
- Dr John Gibbons, Reader in Applied Mathematics, Mathematics
- Professor Murray Selkirk, Head of Life Science and Professor of Biochemical Parasitology, Life Sciences
- Dr Anthony Field, Reader in Performance Engineering, Computing

40 years

- Professor Geoffrey Hall, Professor of Physics, Physics

obituaries

JULIA POLAK

Emeritus Professor Dame Julia Polak (Medicine), former Director of the Tissue Engineering and Regenerative Medicine Centre, died on 10 August 2014, aged 75. Her friends and colleagues Professors Sara Rankin (National Heart and Lung Institute) and Steve Bloom (Medicine) pay tribute.

“Julia’s incredible life story is well known throughout the College and beyond – and has inspired many newspaper articles and even a book and play.

Whilst already established as a leader in the field of histochemistry, Julia contracted pulmonary hypertension – one of the illnesses she was studying – and subsequently underwent a heart and lung transplant aged 56.

For most people that might have been a sign to slow down, but not for Julia. She became resolved to help the many patients not as fortunate as she, who die whilst waiting for a suitable transplant.

A chance encounter with Professor Larry Hench, then a material scientist at Imperial, introduced her to the field of tissue engineering, setting her on the ambitious quest to make artificial lungs. Julia quickly recognised that this problem could not be solved by any one scientist working in a specific discipline and therefore in 1998, together with Larry, she set up the Centre for Tissue Engineering and Regenerative Medicine at Imperial. The Centre propelled the field forward and led to the founding of the Tissue Engineering Society in the UK.



Julia was an amazing influence for good. She worked non-stop and all she did was a direct benefit to others. Her discoveries are leading to new treatments and new cures as we speak. She was as effective with people as she was with science and educated literally thousands of students, all of whom will no doubt remember her as a key influence in their lives. She had the highest ethical standards and the greatest insight of anyone I know.

Julia is survived by her husband Daniel and their sons, Sebastian and Michael.”

JANICE DE ABELA-BORG

Janice de Abela-Borg, Safety Manager in the Faculty of Natural Sciences, died unexpectedly on 16 August after recuperating from surgery. She was 55 years of age. Stefan Hoyle, Head of Health and Safety for Natural Sciences, pays tribute.

“Jan gave almost 25 years of service to the College as a dedicated safety professional – joining what was then the Kennedy Institute in January 1990 as Chief Technician and subsequently Senior Laboratory Manager. She then moved to the Faculty of Natural Sciences, as Faculty Safety Manager, in October 2007.

I was lucky enough to have worked with Jan for the past seven years and regarded her not only as a supportive and dedicated work colleague but also a very good friend. Many others at the College felt the same way, which was reflected by the presence of so many members of the Imperial community at her funeral.

Jan will be remembered as being someone that you could always go to with any problems or issues that you were trying to deal with, whether personal or work related. Many people will remember her mantra of ‘let’s have a cup of tea and a chat’ which proved an effective strategy for many such issues.



She was generous and had a fantastic memory, always surprising friends and colleagues by sending them or their children small gifts and cards each year on their birthdays and at Christmas.

Jan will be greatly missed, but her legacy and dedication to improving safety in Chemistry, the Faculty and the whole College will always be with us.”

Welcome

new starters

Miss Nihaad Abbass, Faculty of Medicine Centre	Miss Emma Branch, Medicine	Dr Andree Delahaye-Duriez, Clinical Science	Mr Matthew Haddrill, School of Professional Development	Mrs Joanna Kuska, Sport and Leisure	Miss Olivia Ogle, Surgery and Cancer	Mr Alberto Sanchez Pinilla, Mechanical Engineering	Dr Geraldine Torin Ollaves, Chemical Engineering
Dr Lucille Abrahams, Public Health	Ms Charlotte Breeze, ICT	Dr Francois Demoures, Mathematics	Dr James Hall, Chemical Engineering	Mrs Julie Lade, EYEC	Dr Amirhoushang Omidvari Abarghouei, Public Health	Miss Lucinder Sandhu, Sport and Leisure	Dr Matthew Towers, Mathematics
Ms Chloe Ackerman, Sport and Leisure	Ms Ann Brew, Library	Dr Eleonora Di Nezza, Mathematics	Dr Belinda Hall, Life Sciences	Ms Elna Lafortune, Sport and Leisure	Mr Bo Lan, Mechanical Engineering	Ms Bruna Santandrea, Estates Division	Mr Stephen Townsend, Faculty of Engineering
Dr Ildem Akerman, Medicine	Miss Maria Briana, Faculty of Medicine Centre	Mr Abdoul Diaby Aziz, EYEC	Mrs Anne Harbitz, Finance	Mr Nicholas Harper, Medicine	Mr Mustafa Othman, Sport and Leisure	Dr Paramita Sarkar, Medicine	Miss Anna Townsend, Business School
Dr Nasrin Al Nasiri, Materials	Dr David Briggs, Life Sciences	Mr Michael Drake, Human Resources	Mr Rhys Harris, Sport and Leisure	Mr Rhus Harris, Sport and Leisure	Miss Kayleigh Ougham, Medicine	Mr Alex Savell, IC Student Union	Dr Konstantinos Tslidis, Public Health
Miss Rosie Al-Adwani, Development	Dr Alex Brogan, Chemical Engineering	Ms Sophie Dymond, Sport and Leisure	Mr Dariush Hassanzadeh-Babolfi, IC Student Union	Dr Kuen-Bae Lee, Mechanical Engineering	Dr Emiliano Pagnotta, Business School	Mr Michael Schaub, Mathematics	Mr Jeremy Turcaud, Physics
Miss Sarah Al-Beidh, Chemistry	Dr Neil Browning, Public Health	Miss Hannah Edwards, Human Resources	Dr Johannes Hattula, Business School	Mrs Tanisha Lewis, Faculty of Engineering	Dr Panagiotis Papathanasiou, Materials	Mr Christoph Schlegel, Surgery and Cancer	Dr Samuel Turton, Medicine
Mrs Melanie Albright, Bioengineering	Mr Scott Buckley, Sport and Leisure	Dr Ed Egan, Business School	Miss Rebecca Heath, Medicine	Mr Lucas Lieber, Life Sciences	Dr Jjin Park, Aeronautics	Dr Chowdary Seemulamoodi Yellappa, Public Health	Dr Chi Udeh-Momoh, Public Health
Dr Samer Aldhaher, EEE	Mr George Buckman, NHLI	Mr Mohammed el Bhiri, Faculty of Engineering	Dr Thomas Heinis, Computing	Mr Martin Lisboa, Business School	Mr Gregory Parkinson, Sport and Leisure	Mr Shaun Sehmi, Sport and Leisure	Miss Fatima Valencia Agudo, Medicine
Dr Ben Almqvist, Bioengineering	Dr Edward Burgin, Chemistry	Mr James Ferguson, Life Sciences	Dr Kathrin Heinzmann, Surgery and Cancer	Ms Susan Hodge, Sport and Leisure	Mrs Pauline Parkinson, Sport and Leisure	Dr Sneh Shah, Surgery and Cancer	Miss Helena van Velthoven, Public Health
Ms Eunice Anderson, Finance	Dr Emma Burke, Bioengineering	Mr Terance Fernandes, Sport and Leisure	Mr Matthew Hennessy, Chemical Engineering	Mr Chong Ho, Public Health	Ms Bhavita Patel, Surgery and Cancer	Mr James Sholto-Douglas, School of Professional Development	Dr Stefaan Verbruggen, Bioengineering
Mr Christopher Andrews, Sport and Leisure	Mr Raj Burman, Faculty of Engineering	Mr Magno Ferrao, Sport and Leisure	Dr Lucy Hicks, Medicine	Dr Fiona Lucas, Surgery and Cancer	Mr Rajan Patel, Medicine	Dr Nataliya Shiraz, Business School	Ms Sabine Vuik, Surgery and Cancer
Mr Delfim Araujo Ferreira, Medicine	Mr Javier Cambiasso, Physics	Dr Michael Field, Mathematics	Mr Chong Ho, Public Health	Ms Susan Hodge, Sport and Leisure	Dr Brijesh Patel, Surgery and Cancer	Mr Hugh Simpson, Public Health	Ms Helen Wadsworth, College Headquarters
Mr Federico Armata, Physics	Mr Stephane Camuzeaux, Surgery and Cancer	Miss Julie Fitzpatrick, Medicine	Dr Margaret Holme, Materials	Ms Lisa Holdaway, Sport and Leisure	Mr Jacek Pawlak, Civil and Environmental Engineering	Mr Ajit Singh, ESE	Mrs Shiqi Wang, Chemical Engineering
Ms Hannah Arnell, Sport and Leisure	Mr Paolo Capriotti, Life Sciences	Ms Jessica Floyd, Public Health	Ms Susanne Horn, Mathematics	Dr Margaret Holme, Materials	Dr George Pelios, NHLI	Mr Abhinav Singh, EEE	Mr Yinan Wang, Aeronautics
Mr Tom Ash, Sport and Leisure	Dr Alessandro Carlotto, Mathematics	Dr Jens Foell, Public Health	Dr Samuel Humphry-Baker, Materials	Dr Heidi Makrinioti, NHLI	Dr Bjorn Penning, Physics	Mr Akos Skobrics, ICT	Mr Anthony Webb, Sport and Leisure
Mr Muhammad Ashraf, Business School	Ms Marta Casanovas Espinar, Medicine	Dr Fabrizia Foglia, Chemical Engineering	Dr Linda Ibeta, Surgery and Cancer	Dr David Mann, School of Professional Development	Mr Fidelis Perkonigg, Computing	Miss Nathalie Skrzypek, Physics	Ms Susie Wen, Medicine
Mr Yashir Atewala, Business School	Mr Sean Carroll, Business School	Mr Gianluca Fontana, Surgery and Cancer	Ms Joanna Ivison, College Headquarters	Dr Kazunobu Maruyoshi, Physics	Mr Bastian Pfeifer, Life Sciences	Dr Patrick Smadbeck, Life Sciences	Mr Tom Wheeler, IC Student Union
Dr Stephen Atkinson, Medicine	Dr Catherine Carter, Chemistry	Miss Sarah Fort, Public Health	Miss Milaana Jacob, Public Health	Mr Deepak Mawar, Sport and Leisure	Miss Carissa Phipps, Sport and Leisure	Ms Denise Snait, Sport and Leisure	Mr Thomas Whelan, Computing
Mr Nathaniel Ayres, Business School	Ms Rachel Galassini, Medicine	Dr Yan Francescato, Physics	Dr Ashley Jacobs, Medicine	Mrs Mahsa Mazidi, Public Health	Ms Joan Phipps, Sport and Leisure	Professor Stuart Solin, Physics	Ms Nicola Whiffin, NHLI
Dr Minas Bacharis, Physics	Miss Danielle Gallagher, Life Sciences	Dr Arie Gafson, Medicine	Mr Sakda Janla-or, IC Student Union	Dr Julie McDonald, Medicine	Ms Stacy Pietrusinski, Sport and Leisure	Dr Chara Stavranka, Surgery and Cancer	Ms Angela Whitehead, School of Professional Development
Mr Thomas Bailey, Human Resources	Ms Sophie Charleson, Human Resources	Miss Rachel Galassini, Medicine	Mr Vincent Jarlaud, Physics	Dr Joanna McGarry, Communications and Public Affairs	Dr Sebastian Pike, Chemistry	Mr Iain Stenson, Surgery and Cancer	Miss Rosalind Whiteley, Human Resources
Mr Jim Bailey, Physics	Mr Po-Yu Chen, Computing	Miss Daniela Giampa, Sport and Leisure	Mr Paul Jennings, ICT	Dr Andrew McKeown, Public Health	Dr Raquel Prado Garcia, Chemistry	Dr Mark Stillwell, Computing	Mr Nathan Whittaker, Finance
Miss Rosie Baker, Campus Services	Ms Charlotte Chester-Tatten, Public Health	Ms Rosemarie John, Estates Division	Ms Rosemarie John, Estates Division	Ms Grainne McNamara, Clinical Science	Mrs Ruby Prasad, Sport and Leisure	Dr Robinian Strimmer, Public Health	Mr Stephen Williams, Surgery and Cancer
Mrs Beate Baldwin, Business School	Mr Alan Cheung, Sport and Leisure	Mr Roland John, Human Resources	Mr Roland John, Human Resources	Mr Wayne Merritt, Sport and Leisure	Miss Gemma Pryor, IC Student Union	Mr Michael Sullivan, Registry	Mrs Gillian Williams, Public Health
Mr Dylan Banahene-Sabulsky, Physics	Dr Marta Ciechonska, Life Sciences	Mr Edward Johns, Computing	Miss India Jordan, IC Student Union	Dr Lania Mestek Boukhibar, Life Sciences	Mrs Barbara Przybojewska, Sport and Leisure	Dr Aline Tabib-Salazar, Medicine	Professor Laurence Williams, Materials
Miss Simi Bansal, Sport and Leisure	Dr Richard Clegg, Computing	Miss India Jordan, IC Student Union	Dr Peter Jourdan, Public Health	Dr Cornelia Metzgi, Public Health	Dr Jennifer Puetzer, Materials	Mr Yad Tahir, Computing	Mr David Wood, Physics
Mrs Hannah Barclay, Human Resources	Ms Ellen Clegg, Medicine	Ms Daniela Giampa, Sport and Leisure	Dr Heeljung Jung, Business School	Miss Alina Miedzki, Surgery and Cancer	Dr Balaji Purushothaman, Chemistry	Professor Kalyan Talluri, Business School	Dr Jennifer Wood, Life Sciences
Dr Anna Barnard, Chemistry	Dr Dario Colombo, Research Office	Miss Mary-Ann Gilbert, Medicine	Miss Marika Kaakinen, Public Health	Dr Sven Mikolon, Business School	Mr Arjun Tamrakar, Sport and Leisure	Mr Rohan Tamrakar, Sport and Leisure	Mr Christopher Woodsford, ESE
Mr Jonathan Barnes, Sport and Leisure	Mrs Pauline Consiglio, Physics	Ms Jaswinder Gill, Business School	Ms Irene Mittermayr, Sport and Leisure	Dr Aruchuna Mohanaruban, Surgery and Cancer	Dr Phyllis Quinn, Faculty of Medicine Centre	Mr CT Tang, Life Sciences	Mr Richard Woodward, Mechanical Engineering
Dr Cedric Beaume, Aeronautics	Miss Amy Gilligan, ESE	Ms Amy Gilligan, ESE	Miss Marika Kaakinen, Public Health	Dr Zameer Mohamed, Medicine	Dr Reka Ratkaine Jablonka, School of Professional Development	Dr Aline Tascini, Chemistry	Dr Jiahua Wu, Business School
Dr Maxwell Benjamin, Public Health	Mr Jez Cope, Library	Mr Simon Goff, School of Professional Development	Mr Manoj Joshi, Physics	Dr Aruchuna Mohanaruban, Surgery and Cancer	Miss Iqrah Razzaq, Life Sciences	Dr Paolo Tatocchi, Business School	Mr Steve Turozo, School of Professional Development
Mr Paul Bennett, Faculty of Engineering	Mr Josh Cornish, ICT	Dr Paul Golby, NHLI	Dr Peter Jourdan, Public Health	Mr Thomas Monk, NHLI	Mr Gary Reader, School of Professional Development	Mr Steve Turozo, School of Professional Development	Dr Upasana Tayal, NHLI
Miss Federica Bernardini, Life Sciences	Dr Jian Cui, Physics	Dr Noemi Gonzalez Abuin, Medicine	Dr Heeljung Jung, Business School	Mr Matthew Moore, Mathematics	Dr David Richards, Faculty of Engineering	Mr Sydney Teles, Sport and Leisure	Ms Sky Yariett, IC Student Union
Mr Tomass Bernots, Mathematics	Mr Robert Cunniffe, Life Sciences	Dr Miguel Gonzalez Gonzalez, Chemistry	Miss Marika Kaakinen, Public Health	Mrs Akpeseba Mukoro, Library	Miss Maria Richter, Physics	Ms Didi Thompson, Surgery and Cancer	Dr Liang Zhao, Computing
Miss Alison Bettis, Public Health	Miss Rose Curtis Marof, Surgery and Cancer	Mr Chai Gopalasingam, Life Sciences	Ms Lalitha Kambhammettu, ICT	Ms Jean Murch, Sport and Leisure	Ms Hazel Ridgers, Medicine	Miss Phoebe Tickell, Life Sciences	Dr Qiyuan Zhao, Life Sciences
Mr Abiali Bhaisaheb, Sport and Leisure	Dr Rocco Cuzzilla, Medicine	Miss Emma Grant, Public Health	Mr Manoj Joshi, Physics	Dr Jennifer Murphy, Surgery and Cancer	Mr Luca Rigovacca, Physics	Dr Serena Tommasini Ghelli, Surgery and Cancer	Dr Liya Zheng, Chemical Engineering
Mr Debarshi Bhattacharya, ICT	Dr Anish Cyriac, Chemistry	Mr Paul Greenstade, Sport and Leisure	Dr Peter Jourdan, Public Health	Miss Jayshree Naik, Human Resources	Mr Paul Rinne, Bioengineering		
Miss Rebecca Birch, Medicine	Miss Aleksandra Dabrowska, Surgery and Cancer	Mr Henry Gregor, Public Health	Dr Steven Kealey, Chemistry	Ms Ratisha Narayan, NHLI	Miss Catherine Robb, Public Health		
Dr Ines Biscaya Semedo Pereira Da Graca, Chemical Engineering	Dr Rocco Cuzzilla, Medicine	Dr Aurelien Grolet, Mechanical Engineering	Miss Skye Kelly-Barrett, NHLI	Mr Sathish Natarajan, ICT	Miss Emma Robbins, Surgery and Cancer		
Mr Oliver Blandy, Medicine	Dr Anish Cyriac, Chemistry	Dr Steven Kealey, Chemistry	Mrs Kelly Kent, Development	Miss Marina Natoli, Surgery and Cancer	Dr Eulian Roberts, College Headquarters		
Miss Katrin Blondrath, Medicine	Miss Aleksandra Dabrowska, Surgery and Cancer	Dr Steven Kealey, Chemistry	Dr Yousif Khan, Medicine	Dr Gemma Nedjati Gilani, Public Health	Dr Stuart Roberts, Medicine		
Mr Martin Boddy, Sport and Leisure	Dr Tarik Dahoun, Clinical Science	Dr Steven Kealey, Chemistry	Mr Worawut Khunsin, Physics	Mr John-Poul Ng-Blichfeldt, NHLI	Dr Emma Robinson, Computing		
Ms Anais Bompard, Public Health	Dr Nicola Daina, Civil and Environmental Engineering	Dr Steven Kealey, Chemistry	Dr DoYeon Kim, Chemical Engineering	Dr Nicoletta Nicolaou, EEE	Dr Gabriele Rocco, Aeronautics		
Mr Thomas Bond, Human Resources	Dr Melanie Dani, Medicine	Dr Steven Kealey, Chemistry	Mr Michal Klosowski, Chemical Engineering	Dr Phillip Noonan, Medicine	Mr Jaypal Rooprai, Sport and Leisure		
Mr Matthew Boot-Handford, Chemical Engineering	Ms Olivia Daniel, Life Sciences (Silwood Park)	Dr Steven Kealey, Chemistry	Mr Roman Kolcun, Computing	Ms Gaye Norris, Sport and Leisure	Mrs Tina Sadler, Sport and Leisure		
Ms Kathleen Bouanane, Medicine	Mr Konstantinos Daskalakis, Physics	Dr Steven Kealey, Chemistry	Dr Katri Konturri, Chemical Engineering	Dr Daniel Nucinckis, EEE	Miss Louise Sadler, Sport and Leisure		
Dr Kristelle Bougot-Robin, Chemistry	Mr Brian Daughton, School of Professional Development	Dr Steven Kealey, Chemistry	Dr Viola Kooji, NHLI	Mr Dennis Nuernberg, Life Sciences	Mrs Rituparna Saha, Chemical Engineering		
	Ms Jennifer Davies, Human Resources	Dr Steven Kealey, Chemistry	Mr Luke Koschalka, Public Health	Mr Thomas Nutz, Physics	Ms Zareen Saleem, Faculty of Medicine Centre		
	Dr Elizabeth Day, ESE	Dr Steven Kealey, Chemistry	Dr DoYeon Kim, Chemical Engineering	Dr Bennett Nwaobi, Life Sciences	Mr Carl Salton-Cox, IC Student Union		
	Miss Lisa Day, Medicine	Dr Steven Kealey, Chemistry	Mr Worawut Khunsin, Physics	Mr Samuel O'Connell, Medicine			
	Dr Angela De Carlo, Civil and Environmental Engineering	Dr Steven Kealey, Chemistry	Dr Yousif Khan, Medicine	Ms Sasha Oelsner, Outreach			
	Mrs Orquidea De Castro Ribeiro, Life Sciences	Dr Steven Kealey, Chemistry	Mr Yousif Khan, Medicine				
	Mr Nicola De Laurentis, Mechanical Engineering	Dr Steven Kealey, Chemistry					
	Mr Farhang Haddadfarshi, Physics	Dr Steven Kealey, Chemistry					

This data is supplied by HR and covers staff joining the College during the period 15 July – 30 September 2014. This data was correct at the time of going to press. For Moving On, visit the online supplement at www.imperial.ac.uk/reporter

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

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



8 OCTOBER–7 NOVEMBER

On innards

Artists Amanda Couch, Andrew Hladky and Imperial's own Mindy Lee explore changing conceptualisations on digestion, innards and the interior body. Alongside an exhibition of paintings, objects and prints at the Blyth Gallery, there will be a free experiential

day-long event on 11 October bringing together researchers and practitioners from the fields of gastroenterology, cultural theory, art history, yoga, performance and fine art, with participants encouraged to share their own knowledge and experiences.



21 OCTOBER, 18.15

Systemic risk: a challenge for mathematical modelling

The recent financial crisis has made the monitoring and regulation of systemic risk a major concern. Professor Rama Cont (Mathematics) delivers his inaugural lecture as Chair in Mathematical Finance and founding Director of the CFM-Imperial Institute of

Quantitative Finance. He will discuss how mathematical modelling can provide insights on systemic risk, financial regulation and financial stability. Interact with this lecture on Twitter using #systemicrisk.

6 OCTOBER, 18.30

Exhibition Road Choir

The first performance by singers from Imperial, Royal Albert Hall, Victoria & Albert Museum, the Science Museum and the Royal College of Music, at St Stephen's Church, Gloucester Road. Entry is Free.



7 OCTOBER, 9.00

London Farmers Market

Fresh meat and vegetables, takeaway lunches and cakes available from more than fifteen market stalls. The Market visits Princes' Gardens on 7 October then the Queen's Lawn every Tuesday subsequently.

7 OCTOBER, 16.30

Black History Month Lecture

Software engineer Tunji Akintokun talks about his journey to become a director at Cisco, including his work with the company's network for black, Asian and minority ethnic (BAME) staff

7 OCTOBER, 18.00

HR Vision 2020

The 5th EDF Annual Lecture following the human and social dimensions of business. Presented by Marianne Laigneau, Group Senior Executive Vice President, Human Resources at EDF Energy

9 OCTOBER, 13.00

Lunchtime concert

The Belcea Quartet plays Alban Berg's Lyric Suite

13 OCTOBER, 17.00

Teaching and education leadership

Dr Dilly Fung, Director of the UCL Centre for the Advancement of Learning and Teaching, discusses challenges and opportunities for Russell Group universities

16 OCTOBER, 13.00

Lunchtime concert

Pianist Margaret Fingerhut plays Schubert; Liszt/Chopin and Chopin

16 OCTOBER, 19.30

Auto-Biology

Launch of a new exhibition in the Centre for Co-curricular Studies by Dr Neil Dufton, featuring artworks inspired by his own research in the NHLI

22 OCTOBER, 18.00

Hybrid, PHV and fuel cells

Katsuhiko Hirose, Project General Manager at Toyota, talks about the company's commitment to a more sustainable future

23 OCTOBER, 13:00

Lunchtime concert

The Badke Quartet plays Haydn Op 77 No 2 and Ravel's String Quartet



28 OCTOBER, 18:30

Being smart with energy

Electrical engineer Professor Tim Green gives his introductory lecture as Director of the Energy Futures Lab



29 OCTOBER, 17.30

Quantum theory: it's unreal

Find out how to construct a better narrative over what really goes on in the subatomic world, at the Inaugural lecture of Professor Terry Rudolph (Physics)



29 OCTOBER, 17.30

The dark net: inside the digital underworld

Explore the world of dark internet subcultures, crypto-currencies and hidden web with Jamie J Bartlett at the Vincent Briscoe annual security lecture

30 OCTOBER, 13.00

Lunchtime concert

Chloë Hanslip performs works for solo violin by Bach and Hindemith

take note

Baby show discount



The Genesis Research Trust – a charity based at Hammersmith Campus that funds research in gynaecology and obstetrics – is supporting The Baby Show, the UK's biggest pregnancy and parenting event at the Olympia Conference Centre from 24–26 October. The Genesis Trust will be exhibiting at stand E100.

Visit: thebabyshow.co.uk using the code 'GEN1' to get a 40% discount in advance

MEET THE READER



Hayley Osborn, Senior Fitness and Exercise Practitioner, St Mary's Campus

What are you doing in the picture?

I've just completed a skydive with my friend Elisha. We have known each other for 17 years having previously played football for Leyton Orient Ladies. Sadly Elisha has a benign tumour on her spine and is now unable to walk, although we have been working together in the gym to improve her mobility. Elisha told me she regretted not doing certain things whilst she was able, but we decided disability should not be a barrier and arranged a skydive! We've raised over £870 for Imperial College Healthcare Charity that will go towards spinal research.

What would you do if you were editor of Reporter?

Share stories of the amazing people we work with here St Mary's Energia gym including cancer, lung and cardiac patients as well as students and NHS staff. We're actually involved in research into the role of exercise in post-operative recovery rates in cancer.

Who would be your cover star?

Elisha. Seeing her develop mentally and physically over the past year is such an inspiration.

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

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

