



Smarter, Faster, Better

The pursuit of excellence in all that we do

... CENTRE PAGES



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EDITOR'S CORNER

Lasting resolutions

January is of course a time of self-reflection and thinking about how we might do things a little bit differently in the coming year. Resolutions differ from person to person, but common themes tend to revolve around being more **productive, efficient and economical**. And so it feels rather fitting that the first *Reporter* issue of 2016 is focussed on a change programme running at the College called Operational Excellence (OE) – which seeks to deliver excellent, efficient and effective administrative services needed by a world class university (centre pages). *Reporter* routinely covers the world-class research and teaching at Imperial; but I've personally really enjoyed speaking with OE support staff who are every bit as **dedicated to achieving excellence** – whether it's in planning student timetables, making access to journals easier for academics or making accounts run smoothly so people and services get paid. Now, OE has been running pilot schemes since April 2014 – so it's not a New Year's resolution *per se*. And mostly importantly it's one we're committed to stick to!

ANDREW CZYZEWSKI, EDITOR

Q *Reporter* is published every three weeks during term time in print and online. Contact Andrew Czyzewski: reporter@imperial.ac.uk

Space mission to test gravitational wave detector lifts off

The LISA Pathfinder mission successfully launched last month, on its way to demonstrate Imperial-built technology for observing gravitational waves from space.

Gravitational waves are ripples in the fabric of spacetime. Predicted a century ago by Einstein's theory of general relativity, these fluctuations are generated by massive objects that can create large distortions in spacetime, such as supernova explosions.

Efforts to detect gravitational waves from the ground are hampered by interference from seismic disturbances.

The Laser Interferometer Space Antenna (LISA) Pathfinder is designed to test the technology to observe gravitational waves from space.

A team of Imperial physicists have designed and built one of the isolation mechanisms for LISA



Illustration of LISA Pathfinder separating from the rocket

Pathfinder. In space, cosmic rays will induce an electric charge on cubed balance weights. The team have designed a system of ultraviolet lamps that discharge the cubes, cancelling out the effect of the cosmic rays.

Dr Peter Wass (Physics) who was part of the team behind the mechanism, said he is thrilled to see 15 years of work come

to fruition. "It's an extremely challenging experiment that requires very high precision technology. The whole LISA team has created something exquisite, and it will be incredible to see it working."

Johann-Dietrich Woerner, ESA's Director General added: "This mission will make the first crucial steps to a brand new way of investigating the cosmos."

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS

Imperial encourages technician recognition

The College is offering support to technicians looking to pursue a qualification in recognition of their skills.

The Registered Science Technician Award (RSciTech) was established by the Science Council as a formal recognition of excellence for technicians working in science education. This award recognises an individual's knowledge and experience, professional excellence, and commitment to science education, and gives technicians access to a community of like-minded professionals.

The RSciTech is offered by a number of professional bodies, and Imperial now supports technicians in applying for this accreditation – through mentoring and also funding at the discretion of individual departments.

Steve Ramsey (pictured) is one of the first



technicians at Imperial to gain the qualification with the College's support. His career as a glassblower has stretched over 47 years, with the past 15 of those spent working at Imperial. He said: "I'm proud to say I have achieved a lot, and the RSciTech is one way of showing that."

Research Technician Katarzyna Sala works with the Department of Life Sciences and has also been awarded the RSciTech qualification. She said: "Becoming a Registered Science Technician is a great

opportunity for research technicians, as we can be nationally recognised by colleagues and it can help us to advance in our careers."

—ELIZABETH NIXON, COMMUNICATIONS AND PUBLIC AFFAIRS

On Friday 22 January the Learning and Development Centre is hosting a session for technicians who are interested in pursuing the RSciTech. For further information and to book a place, please contact jenny.davies@imperial.ac.uk

Imperial celebrates support for academic women

The 2014–15 Julia Higgins Medal and Awards were presented to staff in recognition of their contribution to the support of academic women at the end of December.

Dr Liz Elvidge, Head of the Postdoc Development Centre, was awarded this year's Julia Higgins Medal in recognition of her work mentoring female postdocs and early career academics, supporting Athena SWAN work and running the Springboard women's development programme.

Dr Elvidge said: "I've been committed to supporting women for a very long time. Part of what I do is supporting women to put themselves in the strongest possible position for grant and job applications."

Professor Dame Julia Higgins attended the event, which saw Provost Professor James Stirling and Professor Dot Griffiths, Provost's Envoy for Gender Equality, presenting the awards.

Professor Stirling said: "The Julia Higgins Medal and Awards offer us an important opportunity to take a step back and recognise the work of staff across the College in this important area. I would like to congratulate and thank all our award-winners for their contributions."

—ELIZABETH NIXON, COMMUNICATIONS AND PUBLIC AFFAIRS



Liz is presented her award by Dame Julia Higgins (left)



New Year Honours 2016

Alumnus Michael Uren (Mechanical Engineering, 1943) received a knighthood for his services to philanthropy – one of several members of Imperial's community awarded New Year's Honours.

Among Sir Michael's investments is a £40 million gift to found the Michael Uren Biomedical Engineering Research Hub at Imperial's White City Campus.

Professor Maggie Dallman, Associate Provost (Academic Partnerships), was awarded an OBE for services to bioscience. She said: "I am truly delighted to have been recognised through the award of an OBE and have been deeply touched by the very many warm notes of congratulation I've received from colleagues, family and friends."

David Miles, Professor of Financial Economics at the Business School, received a CBE for services to monetary policy. Between 2009 and 2015, Professor Miles served on the Bank of England's Monetary Policy Committee. He said: "It's an honour to be recognized for having made some contribution to the difficult task of setting monetary policy during an extraordinary period in this country's economic history. Much of my current thinking about economic policy was shaped during my academic career at Imperial where I've had the privilege to work alongside some of the world's leading experts in finance and economics."

Clive Hargeaves, Technical Services and Facilities Manager in the Department of Civil and Environmental Engineering, was honoured with a British Empire Medal.

In addition to the honours announcements, the Queen has admitted three new members to the Order of Merit (see *in brief* below).

—ANDREW SCHEUBER, COMMUNICATIONS AND PUBLIC AFFAIRS



in brief

Order of Merit

In addition to the New Year's honours announcements (see above), the Queen has admitted three new members to the Order of Merit. The award, limited to 24 living recipients, is granted for exceptional services towards the advancement of the arts, learning, literature and science. The new members include Professor The Lord Darzi, Director of the Institute of Global Health Innovation at Imperial, for his contributions to medicine. Lord Darzi joins his colleague Sir Magdi Yacoub, Professor of Cardiothoracic Surgery, who joined the Order in 2014. Sir James Dyson, who

opened the Dyson School of Design Engineering at Imperial last year, was admitted to the Order of Merit for his work in industrial design.

Space dreams

Imperial is helping to host the UK Space Design Competition, where students compete to design space settlements and win a trip to NASA. The Competition exposes groups of students aged twelve and up to their first industrial engineering environment, competing for a

fictional contract to design a space settlement. It is championed by Dr Randall Perry (Earth Science and Engineering). The national final will be hosted at Imperial at the end of March, where more than 200 students will compete during a two-day celebration of all things astro.



“Because of the ‘Imperial guard’ connection we thought that Mark Hamill might go for an Imperial College t-shirt. So we presented him with one, which he immediately put on and said he would keep wearing for Blue Peter.”



ALUMNUS JAMES SINCLAIR RECALLS THE TV INTERVIEW HE CONDUCTED AS AN IMPERIAL STUDENT IN 1977 WITH STAR WARS ACTOR MARK HAMILL, WHO PLAYED LUKE SKYWALKER. WATCH THE INTERVIEW: bit.ly/sky-walker

LKC Medicine marks 5th Anniversary with celebrations and history book

Imperial's medical collaboration with Nanyang Technological University in Singapore celebrated its fifth anniversary on Tuesday 1 December.

Over 400 guests including staff and students gathered at NTU's Yunnan Garden campus to celebrate the Lee Kong Chian School of Medicine with the launch of a book that tells the story of its making.

Guest of Honour Mr Lim Chuan Poh, chairman of the Governing Board of LKC Medicine, addressed guests including Dr Lee Seng Tee, Deputy Chairman of the Lee Foundation, which gave the School its founding gift when it was officially signed into existence in October 2010.

"It's exciting when you have the opportunity to start something new, something never done before," he told the audience in LKC Medicine's newly operational Experimental Medicine Building.

He noted that in the last three years over 60 universities around the world had visited LKC Medicine to learn how it was formed, before looking forwards to 2016 when the



school would admit its first group of PhD students, its fourth cohort of undergraduates and open its new 20 storey Clinical Sciences Building at the Novena campus.

President Alice Gast addressed the celebrations with a pre-recorded message in which she congratulated staff across NTU and Imperial for what had been achieved in five years, and acknowledged the importance of the foundations that had been laid based on people with great working relationships.

—TOM MILLER, COMMUNICATIONS AND PUBLIC AFFAIRS

Disability History Month Lecture explores the portrayal of disability

Entrepreneur Steph Cutler explored the portrayal of disability past and present in the annual lecture at Imperial on Wednesday 16 December.

Ms Cutler comes from a commercial background focused on fashion, but set up personal development and disability awareness training consultancy 'Making Lemonade' after experiencing unexpected sight loss.

The lecture looked at the portrayal of disabled people historically and today, examining how disabled people have chosen to react to these portrayals and represent themselves. The lecture is part of Disability History Month, a UK-wide initiative.

Talking about disability in the media, Steph said: "It's very polarised – either disabled people are presented as high achieving, inspirational figures, or they're a benefit scrounger. In reality of course most disabled people occupy the huge middle ground in between these two extremes.

"In films and TV shows disabled people are often presented as defined by their disability, whether they're a tragic figure or one who has triumphed in adversity. We need to see more portrayals of disabled people as ordinary characters who just happen to have a disability."

Ms Cutler has delivered a number of disability awareness training sessions at the College. She has also contributed to the Calibre Programme, the College's leadership development programme for disabled staff – which celebrated its most recent completing cohort this June.

—ELIZABETH NIXON, COMMUNICATIONS AND PUBLIC AFFAIRS



Imperial comes together for Interfaith Week

Imperial's faith societies joined the Chaplaincy to host a range of events bringing religious and non-religious groups together to explore religion.

Imperial's second annual Interfaith Week took place at the end of November and saw six events including a poetry evening and 'Speed Faithing', a speed dating format event to bring together people to talk about religion.

The week was organised by student volunteers from different faith societies including Ahlul Bayt, Buddhist Society, the Christian Union, Hindu Society, Islamic Society, Jewish Society and the Sikh Society, as well as the Athiest, Secularist and Humanist Society, supported by the College Chaplaincy.

Karuna Priya, Chaplain & Buddhist Faith Advisor, said: "The aim of the week is to promote harmony and understanding between religious groups. It's a chance for students to explore a range of faiths and spiritualities.

This year's event built on the success of last year's activities and brought together even more faiths to share and explore what religion means.

Shehzad Syed, Ahlul Bayt Society and Interfaith Week organiser, said: "I felt there was lots of conflict between faiths around the world. The only way to get past this is to represent your faith and learn from others.

"I think to make change you have to bring faiths together and I really want to see Interfaith Week become a platform to do that."

—JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS



Students from the Hindu Society celebrating Holi festival in 2014

media mentions



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The burden of diabetes on young sufferers

THE SUNDAY TIMES ▶ 20.12.2015

Type 1 diabetes is a lifelong and potentially lethal affliction affecting ever more British children. But despite technological advances, it is still incredibly difficult to manage. In the meantime, scientists at Imperial have been given an NHS grant to trial a micro probe patch for continuous glucose monitoring (CGM) that painlessly measures the glucose value of interstitial fluid – the wet stuff between the cells. “We regularly see people in their twenties and thirties who have lost their sight,” says the researcher Dr Nick Oliver (Medicine) in *The Sunday Times*. “They express this heartbreaking regret that they didn’t keep their diabetes under control, but it’s tough for teenagers. The hassle, the pain and the stigma can be overwhelming.”

Astronaut calls for British mission to Mars

SKY NEWS ▶ 12.12.2015

The first Briton in space has urged the Government to continue funding human spaceflight so the Union Flag one day flies on Mars. Dr Helen Sharman (Chemistry), who was part of a Russian mission 24 years ago, said it was ‘better late than never’ for the UK to fund its own return to space with Major Tim Peake – who blasted off to the ISS on 16 December. Dr Sharman, now at Imperial, told *Sky News*: “We have only funded Tim Peake to get into space. The Government will see that human spaceflight is useful – for science and the economy – and inspirational. Britain should definitely be part of a Mars mission.”

Climate Challenge

THE TIMES ▶ 16.12.2015

Professor Joanna Haigh and Professor Martin Siegart (Co-Directors, Grantham Institute) are two of twenty nine signatories to a letter published in *The Times* in reaction to the COP 21 UN climate deal: “Sir, The agreement reached in Paris shows there is global ambition to tackle climate change – but further action is urgently needed to turn ambition into reality.”

Unfortunately, recent UK government decisions are in the wrong direction. Indeed, the UK risks jeopardising its own statutory targets under the Climate Change Act by de-incentivising onshore wind, solar power and home energy efficiency; by the proposed sell-off of the green investment bank; and by cancelling support for carbon capture and storage.”

Regret having one too many over Christmas?

MAIL ONLINE ▶ 04.01.2016

Alcohol affects every system of the body and can change the brain irreversibly, according to Anne Lingford-Hughes (Medicine), a Professor of Addiction Biology. It effects the brain by changing neurotransmitters, the chemical messengers that transmit signals throughout the body that cause processes in the body, behaviours and emotions. Alcohol affects the glutamate and GABA neurotransmitters, Professor Lingford-Hughes explains. “If someone has a seizure or is epileptic – it’s the ying and yang, the GABA and the glutamate, not working together in the brain,” she told the *Mail Online*. “It’s the same with alcohol. Bits of your brain won’t work well together. The brain’s motorways are slowed.”



awards and honours

MEDICINE

Out of Africa

Professor Simon Taylor-Robinson has won honorary fellowship of the West African College of Physicians for his education and research work in TB, HIV, Malaria, Ebola and Hepatitis B. Professor Taylor-Robinson and his team from the Institute of Global Health Innovations helped implement training programmes across West Africa for doctors, nurses and health professionals, in treating and preventing the diseases.



NATURAL SCIENCES

Wade wins comms prize

The Institute of Physics (IOP) Early Career Physics Communicator Award has gone to final year Physics PhD student Jessica Wade. Working in the Nanoanalysis Group in the Centre for Plastic Electronics, Jessica received the award in recognition for her outreach and public engagement work which has seen her visit over one hundred primary and secondary schools to talk to pupils about the world of physics. Four candidates were shortlisted for the award, with each required to deliver a ten minute presentation on their communication endeavours to the IOP Physics Communicators Group judging panel.

COLLEGE

HG Wells legacy lives on



Recent Mathematics graduate Cassandra Yong has received the Judging

Panel Prize in the prestigious HG Wells Short Story Competition for a piece she wrote while on the Horizons programme at Imperial. Her supervisor Dr Aifric Campbell commented: “Cassandra’s outstanding work was inspired by her research into an extraordinary family history. Her short story told the story of a young Chinese girl who was forced into an arranged marriage in Kuala Lumpur in 1918.” (Look out for an interview with Cassandra, in the New Year).

ENGINEERING

Materials for medicine

The Society for Biomaterials has awarded the 2016 Clemson Award for Basic Research to Professor Molly Stevens (Materials). The Society for Biomaterials is a professional society that promotes advances in biomedical research. Its annual awards recognise society members honoured for their outstanding achievements. Professor Steven’s award came for fundamental landmark contributions to the study of the cell-biomaterial interface and the design of biomaterials.



Modified mosquitoes set to help fight against malaria

Malarial mosquitoes have been modified to be infertile and pass on the trait rapidly – raising the possibility of reducing the spread of disease.

The mosquito species *Anopheles gambiae* is a major carrier of dangerous malaria parasites in sub-Saharan Africa, where 90 per cent of annual malaria deaths occur.

Now, a team of researchers has genetically modified *A.gambiae* so that they carry a modified gene disrupting egg production in female mosquitoes. They used a technology called ‘gene drive’ to ensure the gene is passed down at an accelerated rate to offspring, spreading the gene through a population over time.

Within a few years, the spread could drastically reduce or eliminate local populations of the malaria-carrying mosquito species. Their findings represent an important step forward in the ability to develop novel methods of vector control.

“The field has been trying to tackle malaria for more than 100 years. If successful, this technology has the potential to substantially reduce the transmission of malaria,” said co-author Professor Andrea Crisanti (Life Sciences).

The teams says that as with any new technology, there are many more steps to go through to test and ensure the safety of the approach – estimating that it will be at least 10 more years before gene drive malaria mosquitos could be a working intervention.

Lead author Dr Tony Nolan (Life Sciences) sought to allay any fears about unintended consequences of the technology: “While *Anopheles gambiae* is an important carrier of malaria, it is only one of around 800 species of mosquito in Africa, so suppressing it in certain areas should not significantly impact the local ecosystem.”

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS



“If successful, this technology has the potential to substantially reduce the transmission of malaria.”

2,000 million
people infected with malaria annually



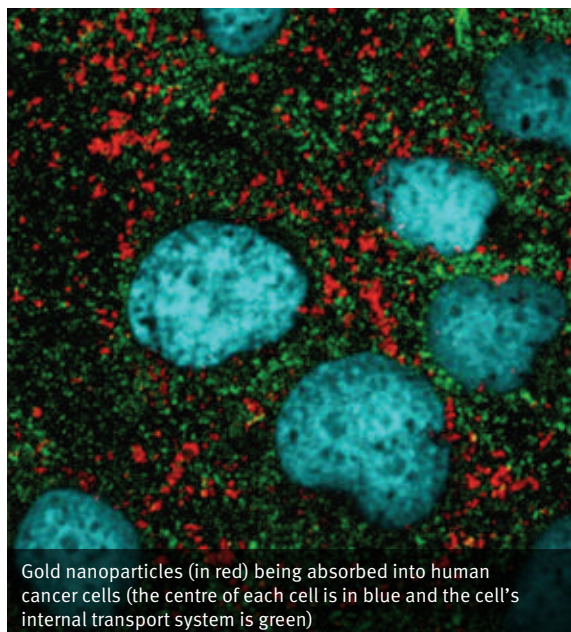
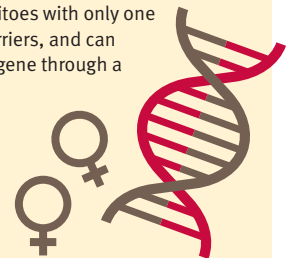
430,000+
deaths every year



Cut and paste

To test the gene drive, the team first identified three genes that impacted female fertility by disrupting the activity of suspected target genes. They then modified the genes with a type of DNA cutting tool that can be designed to target very specific parts of the genetic code. When chromosomes carrying these modified genes come into contact with chromosomes without the gene variant, an enzyme is produced that cuts it, causing a break. The broken chromosome uses the chromosome carrying the desired variant as a template to repair itself, copying in the code with the altered gene variant.

Normally, each gene variant has a 50 per cent chance of being passed down from parents to their offspring. In the Imperial team’s experiments with *Anopheles gambiae*, the gene for infertility was transmitted to more than 90 per cent of both male and female mosquitoes’ offspring. This was done using recessive genes, so that many mosquitoes will inherit only one copy of the gene. Two copies are needed to cause infertility, meaning that mosquitoes with only one copy are carriers, and can spread the gene through a population.



Gold nanoparticles (in red) being absorbed into human cancer cells (the centre of each cell is in blue and the cell’s internal transport system is green)

Gold beads may boost cancer treatment

Scientists are investigating whether microscopic gold beads could make chemotherapy more effective, and reduce side effects for patients.

Scientists coat the gold nanoparticles in chemotherapy drugs, and target them to the tumour, explains research lead Dr Andrew Thorley (National Heart and Lung Institute).

“By using gold nanoparticles we hope to reduce the side effects of existing chemotherapy such as sickness, hair loss and hearing damage. At the moment, chemotherapy is given into the blood stream and so affects the whole body. However, using targeted gold beads, the drug would only enter cancer cells,

and leave healthy tissue untouched.”

Scientists are using gold, explains Dr Thorley, as it does not react with cells of the body, and earlier research suggests the beads are safe. The gold beads can also be easily seen on CT scans, he adds.

“This enables doctors to confirm the nanoparticles have reached the tumour. The gold particles can also be heated using a type of infra-red light – and this heat destroys the cancer cells from the inside, leading to a two-fold attack.”

Dr Thorley cautions the research is at an early stage – and is still to enter large-scale human trials – but holds exciting potential.

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS

Phasing out coal power makes economic sense, says new analysis of global future

New analysis shows what changes in our energy sources are required to keep global warming below the internationally agreed goal of 2°C.

The UK has pledged to shut its 12 coal-fired power stations by 2025, but the most cost-effective way to avoid dangerous levels of climate change could mean the early closure of most of the world's coal power plants by 2030, according to new research led by four top climate science institutions.

Researchers simulated different ways to meet the energy demands of a growing world population over the twenty first century, whilst limiting global warming by restricting the amount of carbon dioxide emitted in generating this energy.

The research is part of the 'AVOIDing dangerous climate change' (AVOID 2) programme led by the UK's Met Office, alongside the Grantham Institute, Tyndall Centre and Walker Institute, in collaboration with other leading climate change and energy research institutes.

This analysis highlights that it is 30 per cent more expensive to achieve the 2°C goal if globally coordinated action to reduce carbon emissions starts in 2030, compared to a case where it starts sooner in 2020.

The analysis crucially shows that this ten-year delay would also require the low-carbon power plant technologies to be rolled out at around double the rate.

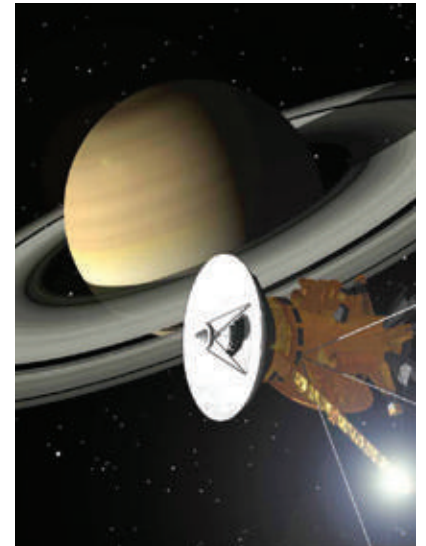
AVOID 2 researcher Ajay Gambhir, from the Grantham Institute, said: "The window of opportunity to limit warming to 2°C is narrowing, and the greater the delay before global coordinated action begins, the more costly, more technically challenging, more risky, and ultimately less feasible it becomes."

The research uses a number of established computer models that assess the range of different technologies and fuels used in the global energy system, to determine how the mix would change over time as humans put a stop to greenhouse gas emissions.

Rather than coal power, low-carbon electricity would be generated by renewable sources such as wind, hydropower, solar and biomass, as well as nuclear power plants and gas plants with carbon capture and storage (CCS) technology.

"We should be aiming to emit as little carbon as possible from now on if we're serious about the 2°C target, so it is not the time to be investing in carbon-intensive technologies like coal," Mr Gambhir said.

—SIMON LEVEY, COMMUNICATIONS AND PUBLIC AFFAIRS



Saturn's space burps recorded

Scientists have found the first direct evidence for explosive releases of energy in Saturn's magnetic bubble using data from the Cassini spacecraft.

Saturn creates its own magnetic bubble, known as its magnetosphere, which protects it from the solar wind. Magnetic reconnection is an explosive process in the magnetosphere that allows material such as gas and plasma (the fourth state of matter) from the solar wind to get in, and material from inside to get out.

A group of researchers used data to show that Cassini had passed through the region at Saturn where magnetic reconnection was occurring, something that has never been directly observed before.

Cassini, a joint mission between NASA, the European Space Agency, and the Italian Space Agency, has been exploring Saturn for 11 years.

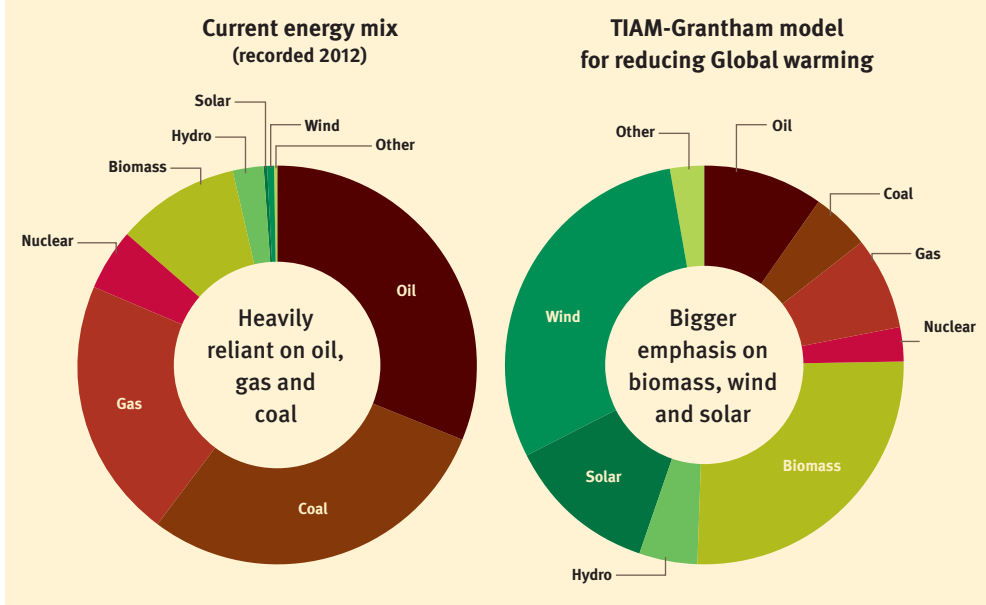
Study co-author Dr Jonathan Eastwood (Physics) also studies the Earth's magnetosphere, where reconnection occurs, albeit on a much smaller scale.

"Magnetic reconnection is important for understanding space weather, such as the physics of geomagnetic storms caused by the solar wind," he said. "Understanding reconnection in such extreme environments as Saturn's magnetosphere gives us a better understanding of how these systems behave."

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS

What will energy look like in 2100?

The models below show the breakdown of current energy sources and the mix proposed by the Grantham Institute – one of 3 options presented by partners participating in the AVOID 2 programme. Global warming up until 2100 must be kept below 2°C to avoid potentially dangerous and irreversible climate change.



The pursuit of excellence in all that we do.

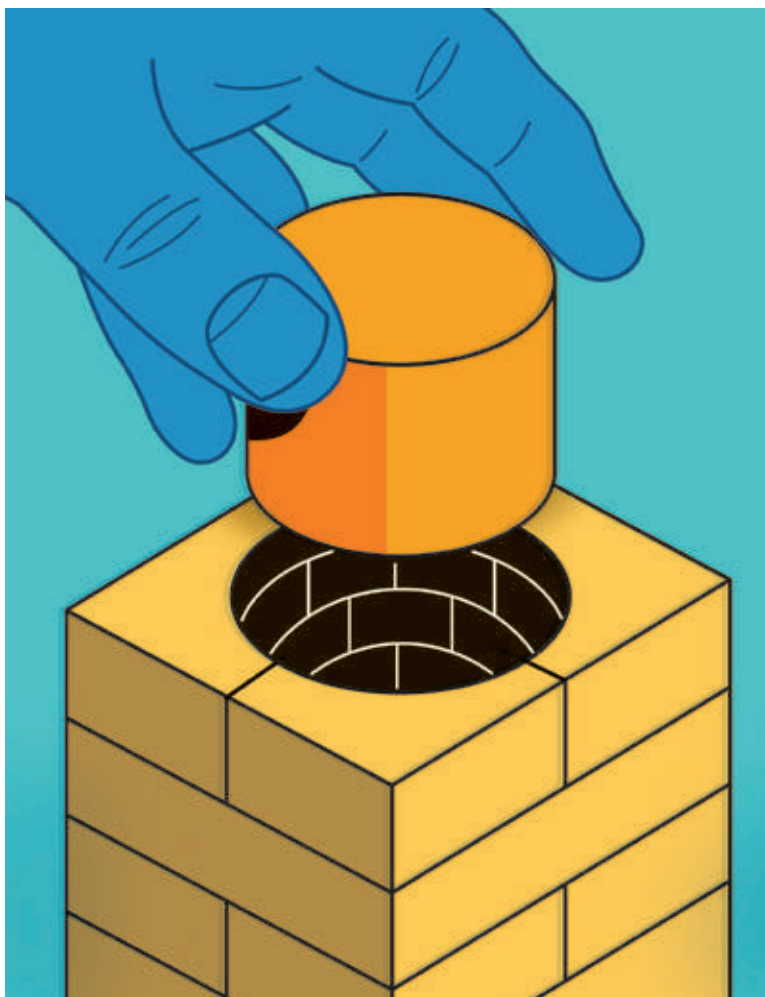


Illustration: Harry Campbell

Imperial is rightly famous for the quality of its teaching and research – yet the College also has a talented and dedicated body of professional and support staff who are committed to improving the processes integral to supporting Imperial's mission.

To help formalise this effort, the College launched the Operational Excellence (OE) Programme in April 2014, which seeks to deliver excellent, more efficient and effective professional support services – the high quality support needed by a world class university. The programme aims to reduce duplicated effort and inefficient processes to better support the College's mission while meeting the needs and expectations of staff and students.

Noting that Operational Excellence is a key part of the College's strategy for 2015–2020, Provost Professor James Stirling says of the initiative: "It is focused on fixing and improving the processes all around us so that they are simpler, more effective and more satisfying for all the end users, both staff and students. The aim is to give our community more of two vitally important features of working at Imperial: time and resource. Most importantly it is a programme that should involve everyone across the organisation and will take a collaborative and collegial approach."

Overseen by OE Programme Director Marc Gray, work is underway across a number of projects within the programme including: the Student Information Management Programme (SIMP); the Space Programme; the Building Maintenance Programme; Finance Transformation; HR eRecruitment and Rapid Improvement Projects within Library Services and the Faculty of Medicine Education Office.

- Reporter spoke with Programme Director Marc Gray and four members of staff who are using OE to support their work at Imperial



Marc Gray, Operational Excellence Programme Director joined the College in June 2015. Previously Marc worked at BAE Systems,

where he led complex change and improvement programmes across engineering, operations and support services businesses.

“ The OE programme team is working with staff and student representatives to deliver on the enabling action within the College's Strategy to provide professional support, consistent processes and appropriate technology for all of our staff and students. The approach we are taking is highly collaborative and involves working with staff to develop an OE capability that equips and empowers teams with the methods and tools to take action, driving improvement and change – pursuing excellence, in all that we do across the support services organisation.”

Make OE work for you

For more information about the programme, visit the Operational Excellence webpage: bit.ly/Imperial-OE

If you have a process that you think would benefit from an OE approach, please get in touch at excellence@imperial.ac.uk



Doru Procopiu, Accounts Payable Manager leads a team of 20 staff in the Finance Division. He has been involved in Operational Excellence through the

Operational Management programme.

“ I’ve been at Imperial for 27 years, as a Deputy and then Manager, and seen considerable change including a major restructuring two years ago and significant investment in technology and electronic invoicing.

But with OE, we’ve never had such a concerted effort to introduce a framework of principles, and really look at our work and processes in a new light. Of course there have been attempts to benchmark our processes against other universities – but OE is different in that it is almost scientific in its approach, which is fitting for an institution such as Imperial.

I attended a two day course and we also had an OE expert come and work with us for 8 months. It’s beneficial for the business, for the managers and the team, because everything is out in the open and very clear. If you look around our open plan office you’ll see a big wall-to-wall whiteboard where we gather on a Monday morning and record what was achieved the week previously, what the projected audits are and what the focus of the week ahead might be. We invite people in the team to voice concerns or ideas. It’s a more effective way of running a team and keeping everyone motivated.”



Ben Howitt, Deputy President (Clubs and Societies), Imperial College Union, recently finished the third year of an Msci in Mathematics.

“ I found out about Operational Excellence through my predecessor, who was involved in the College’s OE Space Programme, and when I came in as the incumbent it was something I was keen to continue with and support.

I attended a three day training course, which lays the groundwork and crucially brings you into a network of people with the same training and ways of working.

Primarily, it gives you access to a certain set of ‘tools’ or ‘processes’ which inform the way you work through problems. Something that I hope students might be noticing before the end of the year is the change in approach to room bookings. We’ve just reached the end of an audit on College Space, and we’ll be spending the next few months working with students, clubs, and departments to make the process more user-friendly for the person booking the room.

Through my role as Deputy President I have gained fresh perspectives about how to work with staff and students, applying the language and structures learnt through OE. In terms of the longer term benefits of implementing the programme, I think it will feed into a more gradual culture change, encouraging less bureaucracy and more communication between different facets of the College.

Operational Excellence certainly feels ‘student focused’; it feels like people are working hard to try and put the ‘end user’ first and include the student voice in College-wide decisions.”



John Crook, Head of Timetabling was recruited in June 2014 in a new role created to transform the College’s existing systems. Here he talks about his role and how he implements OE on the ground.

“ Compared with other HE institutes I’ve worked at, Imperial has a very distributed approach, with the independence of the faculties and departments. This presents a particular challenge when you’re trying to standardise something as complex as timetabling.

We’ve been trying to build up a framework that enables departments to work together more closely with a central database – the aim being to bring greater timetabling coordination across the College. We also carried out consultation work with students to ask them what they want and expect from their timetable. The message was quite clear – students want an individual timetable that is dynamic (so if there’s a late change they want to know about it straight away), and a timetable that’s electronic and preferably accessible on their mobile devices.

We worked very closely with the ICT Applications Support team to deliver a product that is fully mobile, integrated with college email address, and can also pull through to mobile calendar solutions including Google Calendar.

There are still challenges ahead as we aim for 100% student coverage – bringing in postgraduates across College and undergraduate medical students, whose timetabling needs are particularly challenging. I’d also like to improve the user experience of the product – for example introducing Facebook-style notifications for timetable changes.”

11,000

individual timetables rolled out this year

89%

coverage of all taught students



Chris Banks, Director of Library Services joined the College in September 2013. She has worked with many change programmes throughout her extensive career.

“ In the Library Services, we really pride ourselves on our user experience. We’re clearly not doing too badly as we regularly get NSS scores in the region of 96% satisfaction – but behind the scenes there are a lot of people doing a lot of things and there are increasing, changing demands on them. So we need to make sure we are doing things as efficiently as possible.

What we are particularly focusing on are processes that go across teams or departments. So for example we ran an improvement exercise between Library Services and Finance to look at all the process involved in paying invoices. Our current, fifth Rapid Improvement Exercise is looking at our subscriptions to around 85,000 journals. At the moment, they all go through exactly the same renewal process but we’ve found that there are some journals that we are always going to buy because the academics need them – so why do we need to subject these to all the same renewal processes?

This is not me as a Director saying: ‘right, I want you to make 20% efficiency savings here,’ or presuming I know exactly what goes on, therefore I know what the solutions are. The staff work together to improve the processes and so embedding those changes is likely to be much more successful.

It’s not about finding fault; rather it is about improving processes and workflows and ultimately a better service for the end user. During the OE and Rapid Improvement process, staff use a toolkit that gives them a language and a way in which to ask questions to enable them to uncover an issue in the first place, then to start probing and finally finding solutions.”

“What I most like about the OE approach is that it involves the staff who actually do the job”

Echoes from the past: The Tizard Mission 75 years on

In 1940 Imperial's Rector Sir Henry Tizard led a team of scientists and engineers across the Atlantic to launch one of WWII's most important missions.

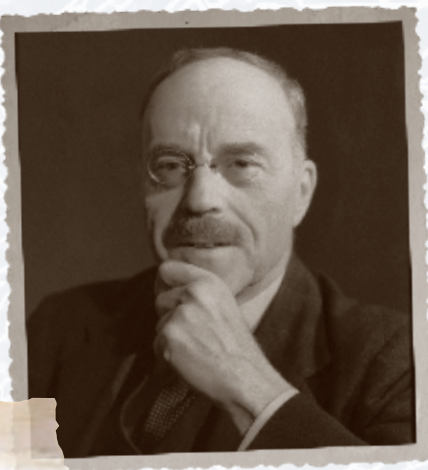
Carrying a cargo of blueprints, prototypes and new technologies, the group travelled to the United States via Canada with the hope of sharing these innovations in exchange for assistance with the war effort. The attack on Pearl Harbour was more than a year away, and it remained unclear whether the US would join Britain and the Allies in the fight against Nazi Germany.

The resulting agreement sparked what is now an unparalleled collaboration in science and technology between the three nations.

The Tizard Mission took place at a time of nightly onslaughts from German Air Forces and ever diminishing resources. With infrastructure stretched to breaking point, Britain was unable to exploit the military potential of its scientific research.

Tizard had been instrumental in the development of radar as chairman of the Government's Aeronautical Research Committee in the 1930's, and recognised its value in helping the Allies gain an advantage over Nazi German Forces. On Tizard's advice, British Prime Minister Sir Winston Churchill commissioned a task force to share some of Britain's technological secrets with the US – particularly its advances in radar – in return for industrial resources to help develop these technologies at the mass scale needed for war.

“Tizard's Mission was a desperate act of trust that sowed the seeds for future victory and collaboration.”



Tipping the balance

Among the secrets taken across the Atlantic was a piece of hardware called a cavity magnetron – the core technology for microwave radar. Invented just a few months earlier by scientists John Randall and Harry Boot, the cavity magnetron would greatly reduce the size of radar sensors such that they could be incorporated into aircraft.

The American and British scientists agreed to collaborate and production of the magnetron began. The team opened a facility at MIT to house the project in 1940, dubbed the Radiation Laboratory as a cover for their work in radar. By early 1941, portable airborne radar had been developed and fitted to both American and British planes. The collaboration led to the development of other technologies which would be instrumental in the war effort.

John Holdren, director of the White House Office of Science and Technology Policy and assistant to President Barack Obama for science and technology, said: “The cavity magnetron allowed the miniaturization of radar, tipping the balance against U boats in the battle in the Atlantic.

“It also led to the proximity fuse, enabling precision of anti-aircraft fire and dramatically reducing the threat posed by Japanese planes to allied ships in the Pacific; the design of Whittle's jet engine; and somewhat less well-known countermeasures against German radar. I think anyone who has studied the Second World War understands the Allied edge many of these technologies played in the outcome [of the war].”

Tizard's Mission was a desperate act of trust that sowed the seeds for future victory and collaboration.

(L-R) Sir Henry Thomas Tizard by Howard Coster, 1974; The cavity magnetron radar, which produced clear images of distant objects



German submarine U-175 is sunk with the help of radar

In celebration of the anniversary of the Tizard Mission, the UK, USA and Canada held a symposium at the Canadian Embassy in Washington on 17 November 2015 where they renewed their commitment to mutual scientific collaboration.

Vernon Gibson, chief scientific advisor for the Ministry of Defense, said: “The Tizard Mission, and the partnership resulting from it, showed that the way we develop technology is just as important as how we use technology.

“Tizard's Mission was a desperate act of trust that sowed the seeds for future victory and collaboration.”

Special relationship

In October, US Secretary of Defence Ashton Carter and UK Secretary of State for Defence Michael Fallon visited Imperial to see technology and research jointly funded by the UK and US. During the visit, they called for a strengthening of bonds between the two nations that match the ambition of the Tizard Mission.

Mr Fallon said: “Both Secretary Carter and I believe taking a more innovative approach is vital to ensuring we are ready for the challenges we will face together in future. Harnessing new technologies and concepts of operation will be central to that.

“So today Secretary Carter and I have challenged our teams to tighten our bonds, to bring forward proposals that match the ambition of the Tizard mission.”

—DEBORAH EVANSON, COMMUNICATIONS AND PUBLIC AFFAIRS

inside*

story

mini profile

Dr Claire Morgan

Dr Claire Morgan (Medicine) is a postdoctoral researcher and part of a network of postdoc reps supported by Imperial's Postdoc Development Centre. She recently won an award for her work as postdoc rep.



Firstly, tell me about your own research work at Imperial

I'm trying to understand the molecular genetics of Type II Diabetes using evolutionary analysis. In many ways it is a modern disease that has arisen in an environment in which we have an abundant food supply. In the past, populations went through multiple famines and so it was beneficial have mutations that would allow more insulin be released in the body to maximise storage of surplus energy.

What is life like as a postdoc?

It's exciting, especially at somewhere like Imperial which has all the latest genome sequencing technologies. But it's hard work and stressful at times. Contracts are for a fixed period and you have to publish in that time. On top of that you have to decide whether you are going to continue in research, given everything you've put into your PhD and postdoc. As reps we provide support in the form of practical workshops for topics like CV writing, but also

the community aspect and just talking to each other.

Tell us more about those workshops?

The first one, around a year ago was a CV workshop with three or four speakers, who were former postdocs who had gone into non-research jobs. Among them was an editor at *Nature* – who gave a great talk and actually inspired one of the attendees, who herself subsequently went to *Nature* and came back to give the talk this year! The most recent workshop was titled 'Thinking about a baby,' which was rather different from the usual programme. Postdocs are generally over 28 and under 40 years and 50% are women, and so clearly it's an important time in life to think about that decision – yet the temporary contracts and relatively low pay mean many dismiss it out of hand. We tried to lay out the options for people, and just encourage more discussion and openness about this topic.

Air raising

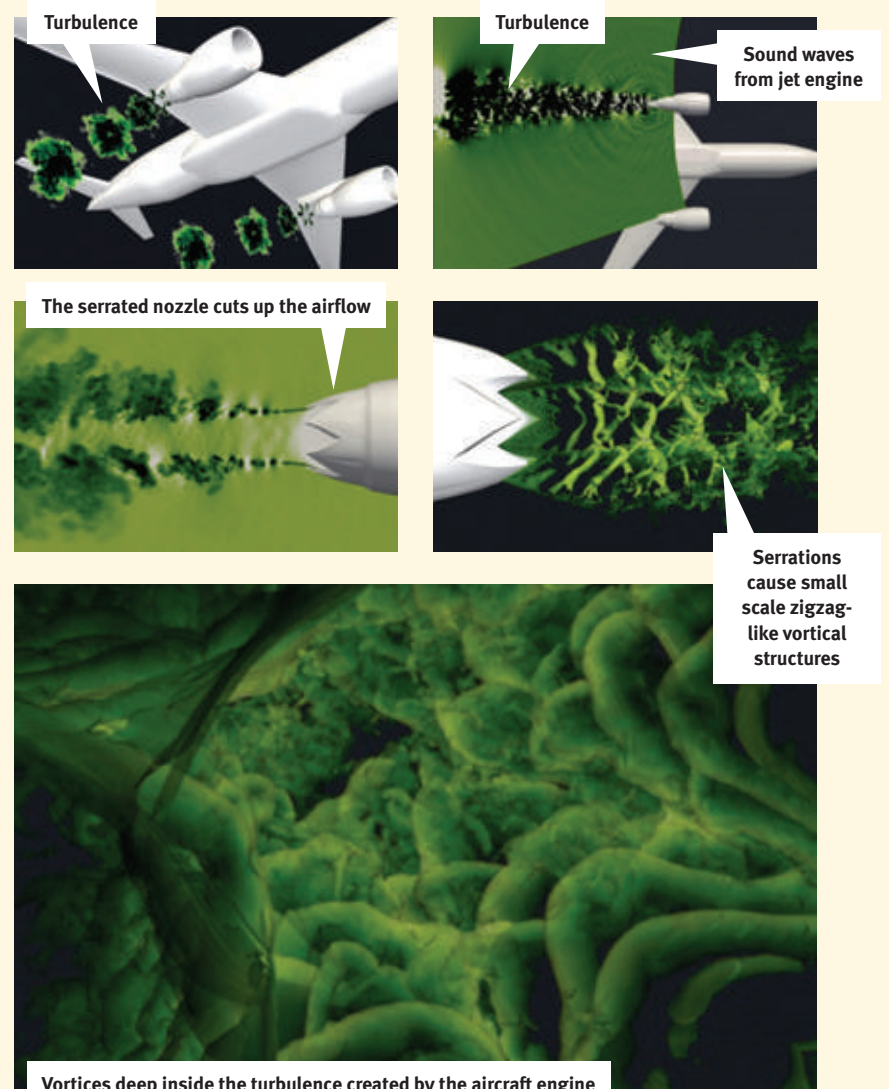
Researchers are attempting to reduce aircraft noise, by creating pictures of how air is forced through engines when planes are in flight.

Noise pollution from aircraft is a global policy and health issue. In fact, scientists from Imperial have previously found that risks of hospital admissions and deaths from stroke and heart disease were around 10 to 20 per cent higher in areas with highest levels of aircraft noise, compared with the areas with the least noise.

Much work has been done by the aviation industry to lessen the noise impact of aircraft, including the development of serrated engine jet nozzles, which feature in some of the latest passenger aircraft such as Boeing's 787 Dreamliner. The engine's serrated edges create small, unsteady pockets of air called vortical structures, which break up the larger air parcels being forced out of the jet engine. This process disrupts the engine noise, making the planes quieter.

Now researchers, led by Dr Peter Vincent (Aeronautics) have developed computer models, displayed below, which enable them to visualise the vortical structures created by the serrated jet nozzles in unprecedented detail. The models are helping the researchers and their industrial collaborators to interpret and analyse the results of very large aircraft engine simulations. Their work has the potential to accelerate new discoveries in the field, ultimately leading to the next generation of even quieter aircraft engines.

Have a look at the images below, which give a rare insight into the technology behind making your next long-haul flight quieter.



'Virtual dates' and DNA matching: the future of dating revealed

Virtual reality, wearable technology and DNA could be future of dating according to a student report from Imperial College Business School.

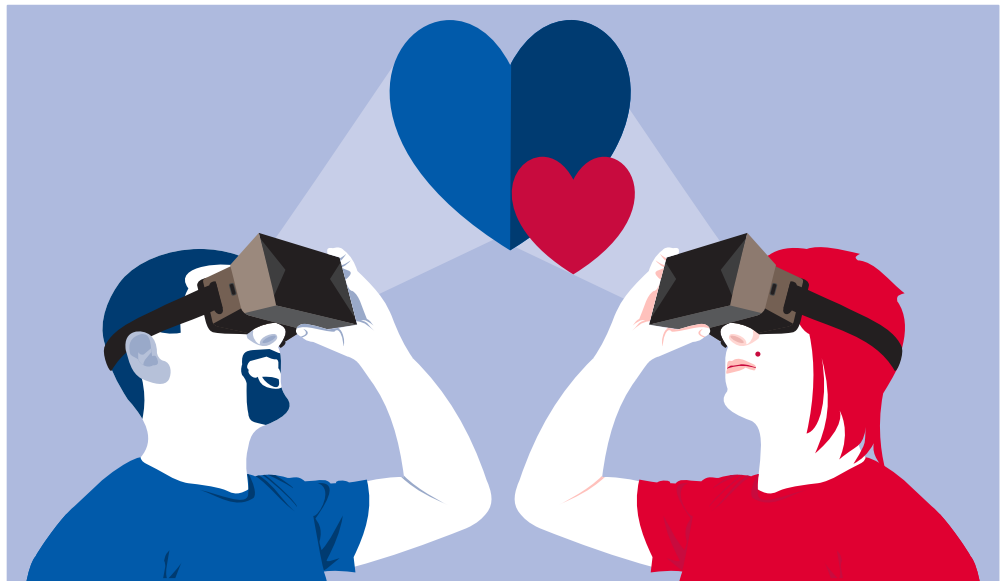
Students from the MSc Management programme were commissioned by relationship website eHarmony to produce a report on what online dating and relationships could look like by 2040 to help eHarmony gain insight into emerging trends. The report was part of their consulting project, where they are required to work on a real business brief by an external company as part of their degree.

Dr Sarah Wilsey, Programme Manager of the MSc Management programme at the Business School said: "This consulting project allows students to develop hands-on experience, preparing them for a wide range of careers in management, such as consultancy and financial services."

The students analysed how people's lifestyle habits have evolved over the past 100 years, drawing on interviews with experts across the fields of anthropology, sociology, technology and biomedicine.

eHarmony UK Manager, Romain Bertrand, said: "This report was compiled by some of the future's brightest minds, and reflects what we're already seeing in the online dating industry – that people want to be matched with quality people in the simplest and most efficient way possible. We're constantly improving our own algorithms with deep learning and we're already moving forward in line with some of the advances outlined in this report."

—LAURA SINGLETON, COMMUNICATIONS AND PUBLIC AFFAIRS



Vision of love: how dating might look in 2040

Virtual reality

In 25 years the rate at which data can be shared will be so fast that all five human senses could be digitally simulated to create a full-sensory virtual reality. A virtual date would be exactly like a real one, for example a person could hold someone's hand and even smell their fragrance – but from the comfort of their own home.

Biotechnology

With DNA sequencing services continuing to fall in price, by 2040 people may also have a clear understanding of the role our DNA plays in attraction, as part of the 'matching' process.

Big data

Devices could track peoples' actions and activities and find other singles that have a similar lifestyle pattern. Improved connectivity and artificial intelligence could also allow for greater 'deep learning' by processing of vast amounts of highly complex data from multiple sources. This would allow for real-time feedback and could improve the decision making process when it comes to people's love life.



Student blogger Lorna: Life as a final year medic

"Hello, my name's Lorna and I'm a final year medical student" – I confidently announced to my husband Sam whilst checking for the hundredth time I had my stethoscope packed, searching for Sam's smart work shoes and grabbing as many biro's as I could.

I imagine many of you may have had a slightly quieter, more relaxed start to term – perhaps more lie-ins, some sightseeing, making new friends, and all probably with less bodily fluids involved. However I wouldn't swap mine any day!

In final year we rotate around a number of different placements – medicine, surgery, neurology, GP, A&E to name a few. The aim is to help you prepare to be a junior doctor; doing jobs such as writing in patient notes,

updating ward lists, bloods, ordering tests, writing drug charts, writing discharge letters and clerking patients.

Fortunately as the week went on, we slowly grew in confidence, discovered our team were very friendly, met lots of patients and dusted off our clinical medicine knowledge. Although unfortunately we still hadn't grasped the hospital layout – a little embarrassing when you later have to take blood from the patient who gave you directions! Number of pens lost: 3; number of lives saved, 2 (okay... so not by myself!); number of free lunches: 1.



More from Lorna and our other student bloggers:
www.imperial.ac.uk/utis/sites/studentblogs/

Students fight global poverty through entrepreneurship competition

The competition was organised by the Business School as part of a partnership with the charity, Global Action on Poverty (GAP). Students pitched their innovative and entrepreneurial ideas on how to eradicate poverty in the world to a panel of judges from Global Action on Poverty and the Business School.

One student from each of the four winning teams will have the opportunity to attend a three-day event in India in February 2016. During this event the students will get to meet other social entrepreneurs from all over the world and take part in workshops.

Dr Paolo Taticchi, one of the judges, said: “The Business School champions the use of innovation and entrepreneurship to address the major challenges facing society. All the students came up with proposals that demonstrate key business skills together with an awareness of the issues facing deprived communities around the world.”

Manisha Dahad, responsible for Partnership Engagement at Global Action on Poverty said: “I was impressed by the students’ incredible ideas and commitment to creating social change through entrepreneurship. The standard of entries was very high and I was moved by the presentations, which demonstrated real passion and confidence.”

—LAURA SINGLETON, COMMUNICATIONS AND PUBLIC AFFAIRS

Winning teams

Power to the people

Oorja aims to build and install decentralised, easy to operate power plants to co-produce clean electricity, household cooking gas and biochar from abundant rice husks, for off-grid villages in rural India. They would be managed by micro-entrepreneurs and women’s self-help groups.

Rural start-ups

Raahat aims to empower people in rural India with the practical skills needed to increase their income and provide better support for their families. The project will help citizens develop branded goods which could be sold online.

Business-savvy

Kappasc is a database and app that will help African farmers achieve a fairer price for their products at wholesale and ensure that customers get better value for their goods, by providing better information on pricing, suppliers and competitors.

New threads

Need for Clothing aims to provide deprived communities in India with better access to clothes with a web and mobile platform designed to connect NGOs, donors and volunteers to keep more efficient track of clothing collection and distributing operations.



General relativity anniversary: a celebration with Imperial physicists

Imperial physicists led a huge celebration of Einstein’s ground-breaking theory of general relativity, which turned 100 on 25 November.

In all, 700 people joined members of Imperial’s theoretical physics group to celebrate the theory of general relativity, which Professor Stephen Hawking said “revolutionised our understanding of the world, and our place in it”.

James Stirling also introduced an audio message from Professor Stephen Hawking, who was unfortunately unwell and unable to attend the event. Professor Hawking said: “I am very sorry that I cannot be there with you to celebrate 100 years of Einstein’s theory of general relativity.

Albert Einstein was the greatest physicist of the 20th century and his discoveries revolutionised our understanding of the world, and our place in it. Although I cannot be there, I know you will be in very good hands with students who trained in my relativity group – Professor Fay Dowker and Professor Jerome Gauntlett.

The theoretical physics group at Imperial College has a great tradition in carrying out research in fundamental physics since its founding by Abdus Salam, and I look forward to visiting on another occasion.”

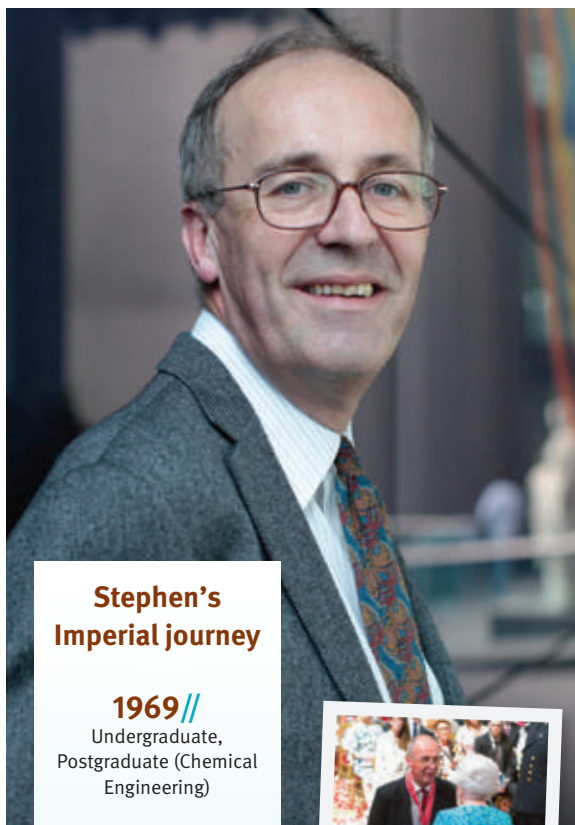
The lectures kicked off with Professor Fay Dowker explaining how we all know, from our own experience, that Newton’s views of gravity are wrong. Then came Professor Jerome Gauntlett (pictured above), describing how black holes are the best labs for testing the limits of general relativity.

A lively question and answer session at the end had Professors Dowker and Gauntlett trying to prove there has been recent progress in theoretical physics.

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS



Clementine Chambon in a rural Indian community that could benefit from her business idea, Oorja



Stephen's Imperial journey

1969//

Undergraduate, Postgraduate (Chemical Engineering)

1978//

Lecturer (Chemical Engineering)

1994//

Professor (Chemical Engineering)

2001//

Head of Department (Chemical Engineering)

2008//

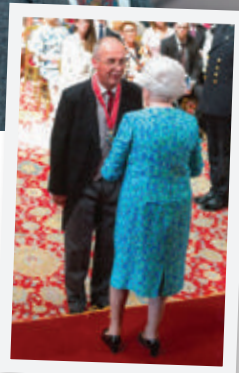
Faculty Principal (Faculty of Engineering)

2009//

Deputy Rector

2013//

Associate Provost (Institutional Affairs)



“I think teaching is as important as research in terms of our reputation and what we do for the world.”

A fond farewell: Richardson retires

Following 40 years at Imperial, Professor Stephen Richardson, Associate Provost (Institutional Affairs), retired at the end of December.

You were awarded a CBE this year for ‘services to chemical engineering education and safety’ in July. How did that go?

It was a delightful occasion; Her Majesty the Queen conducted the investiture and she was excellent. I don’t always get tongue-tied but I certainly did when it came to my turn.

What are your key personal highlights and achievements at Imperial?

I’m most proud of recently getting teaching back into academic promotions – although there is more work to do. I still think teaching is as important as research in terms of our reputation and what we do for the world.

Can you recall any bizarre or humorous moments in your 40 years here?

I remember when 12 fire engines turned up outside Chemical Engineering. There was a waste bin outside in an enclosed courtyard which had a long list of things which we were permitted to dispose of within. However, the waste company had never tried mixing x, y and z together – and it produced a small amount of hydrogen cyanide gas. The problem was that everyone in the surrounding buildings was sticking their heads out of the windows to see what was going on – but I had to yell in very colourful language to shut those ‘darn’ windows immediately. In the end the fire service used it as a practice for a chemical attack in London. A good outcome, sort of!

Have you had any notable mentors?

Certainly. I was lucky to work with Professor Anthony Pearson – and former Deputy Rector Sir Bill Wakeham, both of whom worked in Chemical Engineering. They really taught me what it’s all about.

Any students that you’re particularly proud of?

All of them! Some 3,500 undergraduates by my rough count. If I have to name names, then Toru Sato, now a Professor and Head of Department at the University of Tokyo, is unique in many ways. He came to Imperial to study a PhD and his English was very poor – yet after 3 years he wrote the best PhD thesis I have ever seen. He and his wife came here from Japan and just knuckled down and learned English.

Any regrets?

I’m sorry I am going early. Following my heart operation I just get tired too quickly now – and I’ve always done things fast. I’ll still be doing some teaching in Chemical Engineering and getting more involved in education through the Royal Academy of Engineering.

What else will you be doing?

Much to my wife’s delight I’ll be busy and out of her hair with consulting work. I also intend to do more gardening and walking.

long service

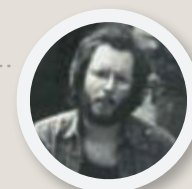
Staff featured in this column have given many years of service to the College. Staff listed celebrate anniversaries during the period 1 November – 31 December 2015. The data are supplied by HR and correct at the time of going to press.

20 years

- Professor Charles Bangham, Chair of Immunology, Medicine
- Dr Laura Barter, Royal Society University Research Fellow, Chemistry
- Professor Stephen Curry, Professor of Structural Biology, Life Sciences
- Dr Bucker Dangor, Emeritus Reader in Plasma Physics, Physics
- Professor Louise Donnelly, Professor of Respiratory Cell Biology, National Heart & Lung Institute
- Professor Larry Hench, Emeritus Professor of Ceramic Materials, Materials
- Dr Justine Reise, Head of Operations, School of Public Health

30 years

- Professor Jim Hardie, Emeritus Professor of Insect Physiology, Life Sciences (Silwood Park)
- Professor Jane Sommerville, Emeritus Professor of Cardiology, National Heart & Lung Institute



Welcome

new starters

Mr Walid Abou El Joud, Public Health
 Dr Saima Afaq, Public Health
 Mr Jesse Alter, Communications and Public Affairs
 Mr Ross Baker, Security Services
 Dr Michal Barski, Medicine
 Miss Huneisha Beckford, Estates Division
 Dr Francesco Belardinelli, Computing
 Mr Davide Benedetti, Grantham Institute
 Mr Henry Bennie, Faculty of Medicine Centre
 Dr Anna Bielinska, Surgery & Cancer
 Miss Paula Burak, NHLI
 Miss Alexandra Calverley, Catering Services
 Dr Prakash Chatlani, Public Health
 Mr Boli Chen, EEE
 Miss Suzanna Chojnacki, Public Health
 Miss Daniela Ciccarello, Registry
 Mr Warren Coborne, Security Services
 Miss Rebecca Cockburn, Public Health
 Dr Angela Cooper, Faculty of Medicine Centre
 Mr Alexander Coupland, Surgery & Cancer
 Mr Charles Craddock, Surgery & Cancer
 Dr Catherine Cunningham, Finance
 Mr Pedro da Rocha Pinto, Computing
 Miss Angela de Manzanos Guinot, Chemistry
 Ms Katie Dias, Education Office
 Ms Angela Doerr, Medicine
 Mrs Marina Fedorova, Chemistry
 Ms Lynette Fleur, Student Recruitment & Outreach
 Miss Katy Freeman, Surgery & Cancer
 Dr Leiming Gao, Aeronautics
 Dr Carolina Gemma, Surgery & Cancer
 Miss Simren Gill, Medicine
 Mr Steve Godfrey, School of Professional Development
 Mr Phil Goulter, Business School
 Mrs Batia Gourin, Medicine
 Mrs Eunice Haining, Faculty of Medicine Centre
 Ms Julia Halder, Public Health
 Miss Nyla Haque, Public Health
 Mr Edward Harding, Life Sciences
 Miss Elanor Henry, ICU
 Mr Darran Hickey, Finance
 Mr David Holton, Security Services
 Mr Stanislav Ivanov, Catering Services
 Miss Rhian Jones, Life Sciences
 Dr Irina Kabakova, Physics
 Dr Hoda Karooni, Surgery & Cancer
 Mr Zack Khalifah, ICT
 Dr Amina Khalil, NHLI
 Dr Jonathan Krell, Surgery & Cancer
 Dr Grit Kuhne, Public Health
 Dr Ivan Laponogov, Surgery & Cancer

Dr Adam Lewis, NHLI
 Dr Suman Majumdar, Physics
 Dr Petar Maksimovic, Computing
 Dr Christine Manoharan, Medicine
 Miss Evgenia Markvardt, Public Health
 Mrs Nanthini Mayouran, Finance
 Dr David McClymont, Medicine
 Miss Elizabeth McCormack, Estates Division
 Dr Kirsten Mcewen, Life Sciences
 Ms Fiona McLean, NHLI
 Miss Feryal Mehraban Pour Behbahani, Computing
 Mrs Marianna Micallef, Civil and Environmental Engineering
 Mr Jordan Minnell, Medicine
 Mr Roberto Moreira, EEE
 Miss Cristina Morera Albert, Surgery & Cancer
 Ms Madiha Muhammad, Surgery & Cancer
 Professor Ralph Nicholls, Surgery & Cancer
 Mr Gian Ntzik, Computing
 Mr Robert Oliver, NHLI
 Mr Elijah Omisore, ICT
 Mrs Mary O'Sullivan, Clinical Science
 Dr Douglas Overholser, Mathematics
 Mr Mark Pearce, Estates Division
 Dr Minh-Son Pham, Materials
 Mrs Joanne Pinto, Surgery & Cancer
 Dr Andia Redpath, NHLI
 Mr Saymon Rodrigues Madeira, Surgery & Cancer
 Miss Kathryn Rose, Finance
 Ms Lauren Salisbury, Advancement
 Mr Alberto Scaccabarozzi, Materials
 Dr Eva Sevigne Itoiz, Centre for Environmental Policy
 Miss Vedia Shahin, Surgery & Cancer
 Dr Niamh Shanahan, Public Health
 Dr Velia Siciliano, Medicine
 Ms Nathalie Simpson, Finance
 Miss Leigh Sims, College Headquarters
 Dr Caroline Small, Medicine
 Miss Si Sou, Chemical Engineering
 Mr Paul Sparks, Security Services
 Dr Katelyn Spillane, Medicine
 Ms Roisin Staunton, Public Health
 Mr Jack Stewart, Public Health
 Miss Sophie Tapp, Surgery & Cancer
 Mr Steven To, Security Services
 Miss Yiota Tornaritis, Registry
 Mr Davide Trovato, ICU
 Mr David Uygun, Life Sciences
 Miss Renee van Diemen, Centre for Environmental Policy
 Mrs Daisy Wiley, Surgery & Cancer
 Mrs Frances Wood, NHLI
 Mr Robert Woodward, Physics
 Ms Yufei Wu, Computing
 Professor George Yip, Business School

Farewell

moving on

Mr Mark Abel, Surgery & Cancer
 Dr Saif Al Ghafri, Chemical Engineering
 Dr Alister Bates, Aeronautics
 Dr Mariano Beguerisse Diaz, Mathematics
 Miss Johanna Bishop, Campus Services
 Dr Neville Boon, Bioengineering
 Dr Eoin Butler, Physics
 Dr James Collins, Life Sciences (6 years)
 Dr Mark Collins, EEE
 Miss Katherine Collum, Medicine (7 years)
 Dr Nathaniel Dahan, Mechanical Engineering
 Mr Mitchell D'Arcy, ESE
 Dr Konstantinos Daskalakis, Physics
 Mr Liam Dempsey, Mathematics
 Mr Gionatan Di Consoli, Catering Services
 Dr Simon Dufal, Chemical Engineering
 Dr Cheryll Duncan, Education Office
 Dr Diogo Geraldès, Mechanical Engineering
 Dr Shahzad Gishkori, EEE
 Mr Anthony Godfrey, Surgery & Cancer
 Dr Tibebu Habtewold, Life Sciences (10 years)
 Mr Peter Hambly, Public Health (13 years)
 Miss Sarah Harman, Medicine
 Miss Cynthia Hu, Chemistry
 Miss Catherine Hughes, Physics
 Professor Debra Humphris, College Headquarters
 Professor Peter Jeffery, NHLI (8 years)
 Miss Shannon Jewell, Sport and Leisure
 Dr Loukia Katsouri, Clinical Science (5 years)
 Miss Fahima Kausar, NHLI
 Mrs Beril Kavukcuoglu, Aeronautics
 Mr Andrew Keegan, Business School
 Dr Roulin Khondoker, ESE
 Dr Kiyoung Kim, Computing
 Mr Maik Kleinschmidt, Catering Services
 Dr Gemma Knowles, Public Health
 Dr Poppy Lambertson, Public Health (7 years)
 Mr Rhoobin Langeveldt, Catering Services
 Mr Xiang Liu, Civil and Environmental Engineering (12 years)
 Dr Horst-Moritz Maus, Bioengineering
 Miss Rebecca McKone, Graduate School
 Mrs Carlyne Megan, ICT
 Mr Gianmarco Mengaldo, Aeronautics
 Miss Lucy Minks, Business School
 Ms Caroline Minor, ICT
 Dr Angeles Mondragon Jaramillo, Medicine
 Dr Miguel Navarro-Cia, EEE
 Mr Fritz Panaligan, Estates Division
 Dr Panagiotis Papanthanasidou, Materials

Dr Angelo Pommella, Chemical Engineering
 Dr Constandina Pospori, NHLI
 Mr James Robinson, Finance
 Ms Catherine Robinson, Faculty of Medicine Centre (7 years)
 Miss Jessica Rowley, NHLI
 Dr Agnieszka Rutkowska, Chemistry
 Miss Sinead Savage, Surgery & Cancer
 Miss Sophie Sayers, Medicine
 Dr Shira Schnitzer, Advancement
 Dr James Schofield, EEE
 Miss Navneet Sian, Surgery & Cancer
 Dr Mark Smith, Clinical Science (6 years)
 Dr Erica Smyth, NHLI
 Mr Christopher Studd, Clinical Science
 Miss Anastasia Sylaidi, Bioengineering
 Mrs Neeraja Thirunavukkarasu, NHLI (7 years)
 Mr Andreas Thomik, Bioengineering
 Dr David Trevelyan, Mechanical Engineering
 Dr Jan Vinogradov, ESE (8 years)
 Ms Xiaoyao Wei, EEE
 Dr Thomas White, Physics
 Dr Siyang Zuo, Computing

retirement

Professor Philip Hall, Mathematics (19 years)

This data is supplied by HR and covers staff joining the College during the period 23 November – 23 December 2015. This data was correct at the time of going to press.

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

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

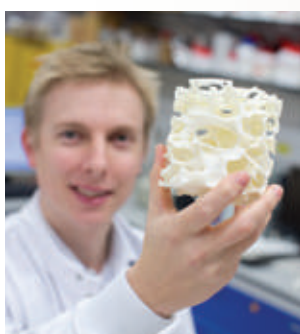


19 JANUARY, 17.30

Can we feed the world sustainably?

Every individual across the globe should have the right and ability to access adequate, safe, and nutritional food at all times. But achieving worldwide food security is not going to be easy. We face growing populations, changing diets, lack of good

water and land, and the impact, already being felt, of climate change. Sir Gordon Conway, one of the world's foremost experts on global food needs presents the 28th annual Schrodinger lecture describing the challenges we face and the tools we need to overcome them.



20 JANUARY, 17.30

Hi-tech glass: from smart phones to clever bones

Glass has not conventionally been seen as a high tech material. However through understanding and manipulating the composition and arrangement of its atoms, today's glasses can not only be scratch resistant for our smart

phone screens, but also self-cleaning and thermo-regulating in order to cover our buildings. In his inaugural lecture Professor Julian Jones will discuss 4th generation 'bouncy' bio-glasses and their ability to restore damaged bone and cartilage.

Imperial College London

Is your password secure?

Your College password gives you privileged access to systems and information. That's a privilege you need to protect.

What to do:

- Make your password long and strong
- Use letters, numbers and symbols
- Never share your password

Make sure you are protected.
Visit www.imperial.ac.uk/be-secure

Be Secure

14 JANUARY, 12.45

Landsliding in the 2015 Nepal earthquakes

Professor Alexander Densmore from Durham University discusses the role of science in earthquake risk reduction

19 JANUARY, 18.00

Dynamic Music: An Overview by Yuli Levtoy

A lecture from the co-founder of Reactify who specialise in interactive, reactive and generative music in the form of installations, web-based experiences and mobiles apps



20 JANUARY, 16.00

NHLI Athena SWAN Lecture 2016

Fiona Watt, Director of the Centre for Stem Cells and Regenerative Medicine, King's College London discusses her research in the regulation of epidermal stem cells

21 JANUARY, 16.00

Case studies of drug discovery in academia

The University of Nottingham's Peter Fischer describes the processes behind drug discovery in oncology, and cardiovascular and respiratory disease



25 JANUARY, 17.00

Make-A-Difference Competition Launch

Hear from previous winners of the Faculty of Natural Sciences competition to develop solutions that could bring real benefits in healthcare and well-being

28 JANUARY, 18.45

The A&E Crisis

Industry speakers debate whether A&E ward struggles are failures of leadership, a media molehill or a symptom of a creaking NHS?



28 JANUARY, 12.30

Research showcase on bioinspired design and evolution

Enjoy four interactive presentations on how these engineering principles evolved in nature over time

09 FEBRUARY, 17.15

Can London survive?

Mile Ashley, Construction Programme Director for London Underground looks at the City's dependence on its metro



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