



Theatre Royal

**HRH Prince of Wales
opens Imperial's Surgical
Innovation Centre**

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LOOK AND SEA
Translucent zebrafish show health impact of cholesterol in humans

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**THE EBOLA
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Army doctor and Imperial researcher in Sierra Leone

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College AI researcher's role advising sci-fi blockbuster

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EDITOR'S CORNER

Operational excellence

Anyone who has had surgery at some point in their lives or seen a loved one go 'under the knife,' will know the anxiety that often precedes an operation and the sometimes **protracted recovery** period. Even for relatively minor procedures, there's a constant reminder of the 'inherent risks' associated with all surgery.

Risk and recovery will probably never be entirely vanquished, but **new surgical techniques** could diminish them considerably. Not only that, but previously difficult to treat cancers and cardiovascular and gastrointestinal disorders could be brought within the scope of surgical intervention.

It requires a special kind of **research collaboration**, involving surgeons, medics and engineers working closely together – and that's the essence of the newly completed Surgical Innovation Centre at Imperial (page 3 and centre pages). In the not too distant future many types of surgery could become routine affairs with little lasting trace of the surgeon's (or indeed engineer's) skilful hand.

ANDREW CZYZEWSKI, EDITOR

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

Successful organ donation from newborn carried out in UK first

Doctors at Imperial College Healthcare NHS Trust have reported the first successful organ donation from a newborn to be carried out in the UK.

The baby's kidneys were transplanted into a patient with renal failure, and her liver cells were transfused into another recipient.

The donor was a girl born after an emergency caesarean section in the neonatal unit of Hammersmith Hospital; however, her brain had been starved of oxygen for a period during the pregnancy and it became clear that she would not survive.

Supported by the organ donation team, the nursing staff and the hospital's psychologist, the parents gave their consent for their daughter's kidneys and liver cells to be used for the benefit of other sick patients.

This was overseen by Dr Gaurav Atreja and Dr Sunit Godambe, neonatologists at the Trust, who report the transplant in the *Fetal and Neonatal Edition of Archives of Disease in Childhood*. Dr Godambe is also an Honorary Clinical Senior Lecturer in the Department of Medicine.

"It is due to the extreme generosity of the parents and wonderful professional collaboration between the neonatal team and the organ donation team that this process was successful," they write, adding that the case was a "milestone".

A significant proportion of newborns that die in



neonatal units could be potential organ donors, and could therefore save the lives of other sick patients.

New guidelines from the Royal College of Paediatrics and Child Health are due very soon, which should help to standardise an approach to organ donation among newborns, say Drs Atreja and Godambe.

ADAPTED FROM A NEWS RELEASE BY THE BRITISH MEDICAL JOURNAL

"The extreme generosity of the parents made this possible"

Sarah Porter Waterbury to lead Imperial's Advancement activities

The College has announced its first Vice President (Advancement) as Sarah Porter Waterbury, who will take responsibility for all aspects of alumni relations, events and development.

Imperial is one of the first UK universities to appoint an Advancement leader at this level, marking a step-change in Imperial's approach to development and the College's work to support and grow philanthropic and other investments.

Mrs Waterbury, who will take up her new role in April, is currently Vice President of Development and Campaigns at New York University. Before joining NYU in 2009, she held development appointments at Harvard Business School,



Tufts University, the American University of Beirut, and the Children's Hospital Boston.

Mrs Waterbury said: "It is an honour to join Imperial College London, one of the world's great universities. Above all, Imperial stands for academic excellence that has an impact on society – these two factors serve as a beacon for its supporters, and for me."

Welcoming Mrs Waterbury to the Imperial community, Professor Alice P. Gast, President of Imperial said: "We are very fortunate to have found someone with Sarah's experience, talent and vision. She is one of the outstanding advancement professionals in the world."

"The College already has some of the world's most exciting academic, corporate and philanthropic partnerships. We have the ambition to discover, lead and innovate on a grander scale. Sarah will play an integral role in this growth."

—TOM MILLER, COMMUNICATIONS AND PUBLIC AFFAIRS



Lord Darzi and Prince Charles with Drs Nisha Patel and George Mylonas (L-R)

HRH The Prince of Wales opens the Surgical Innovation Centre

A global centre for excellence in innovation and design in healthcare delivery was formally opened on 28 January by His Royal Highness The Prince of Wales.

The Surgical Innovation Centre, a joint initiative with Imperial College Healthcare NHS Trust, is a world leader in solving healthcare problems, aiming to develop new techniques such as “scarless surgery” and training surgeons to provide 21st century care to NHS patients throughout the UK (see centre pages).

On his first official visit to the College, hosted at the St Mary’s Campus, HRH The Prince of Wales met many of those realising the vision for the Surgical Innovation Centre including the donors who have supported its work, and also visited the Health Innovation Exchange (HELIX) pop-up studio.

The HELIX is unique in harnessing the power of design to transform approaches to key diseases in the NHS and prevent everyday healthcare problems.

Professor the Lord Darzi of Denham, who brings together the activities of HELIX and the Surgical Innovation Centre through his role as Director of the Institute of Global Health Innovation at Imperial, said:

“We are delighted that HRH The Prince of Wales has visited the Surgical Innovation Centre. The NHS is under considerable pressure

in meeting the challenge of shifting patient demographics, the burden of life style disease and financial constraints. Innovation through better technologies, processes and design can help address the challenges facing health care delivery globally. Surgery is one area which has thrived with innovation over the last two decades and the Surgical Innovation Centre will push these boundaries further.”

Designs for life

HELIX is a joint collaboration between the Royal College of Art and Imperial’s Institute of Global Health Innovation.

The HELIX pop-up studio, which opened in January, is uniquely embedded within a public hospital. In its innovative working space, scientists, engineers, designers, policy makers and psychologists work together with doctors, nurses and patients to explore and co-develop

“ My great, great, great grandfather Prince Albert would have been thrilled at this level of collaboration ”

The Prince of Wales opening Imperial’s Surgical Innovation Centre



Prince Charles visits the HELIX studio

new ideas into prototype products, processes and services.

In the studio HRH The Prince of Wales saw a smartphone app to encourage children with asthma to correctly monitor their condition and improve treatment compliance; a design intervention to improve patient cancer care; a design-led approach to improve uptake in bowel cancer screening; and a card game to promote physical activity.

Professor Alice Gast, President of Imperial said: “The College collaborates with partners all over the world, and the HELIX is a wonderful example of our partnership with our closest neighbour, the Royal College of Art. We excel at collaborating across disciplines and the Surgical Innovation Centre is proof of the positive impact this work can have on the healthcare outcomes of its patients.”

—MAXINE MYERS, COMMUNICATIONS AND PUBLIC AFFAIRS

Medical complaints procedures may risk harming patients

Doctors who go through complaints procedures experience high rates of serious depression, anxiety and suicidal thoughts, according to a new study.

Four out of five doctors also reported changing the way they treat their patients as a result of either complaints against themselves, or observing a colleague go through a complaints process.

The authors of the research say that by causing psychological ill health and encouraging defensive practice, the processes designed to hold doctors to account are having negative consequences for patients.

The findings come from a survey of 7,926 doctors published in *BMJ Open*, led by Professor Tom Bourne (Surgery and Cancer).

He said: "Of course it's essential that when things go wrong, the reasons are properly investigated. But this study suggests that the regulatory system we have in the UK has unintended consequences that are not just seriously damaging for doctors, but are also likely to lead to bad outcomes for patients. We think this needs to be looked at carefully by policy makers."

The General Medical Council regulates doctors in the UK and can stop or limit their rights to practise. In 2013 there were more than 8,500 complaints about doctors to the GMC, of which just over 3,000 went on to be investigated. About 80 doctors a year are suspended or erased from the medical register. Apart from those referred to the GMC, many other complaints are investigated through hospitals' internal enquiries.

—SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS



Imperial College Business School rockets up International MBA rankings



The Business School has leapt up the 2015 *Financial Times* MBA rankings to be placed the fourth best business school in the UK for its full-time MBA.

The 2015 *Financial Times* Global MBA rankings place Imperial College Business School in 34th place internationally.

Each year, the *Financial Times* ranks full-time MBAs on a number of key factors, including the weighted salary and salary increase experienced by graduates from business schools around the world. The rankings also take into account a number

of other factors such as: the percentage of the most recent graduating class who had found employment or accepted a job offer within three months of completing their studies; career progress; and the extent to which alumni fulfilled their stated goals or reasons for doing an MBA.

Professor G. 'Anand' Anandalingam, the Dean the Business School, said: "I am delighted by our performance in the *Financial Times* 2015 Global MBA rankings.

"This is down to the innovative approach and dedication of the entire team in the School. The rankings reflect the incredible progress we are making in creating tomorrow's business leaders.

"An MBA from Imperial College Business School fosters entrepreneurial spirit and equips our students with sustainable business thinking and a research-led education from some of the world's best business minds."

Applications for the full-time MBA beginning in September 2015 are now open. Imperial also offers Executive MBAs and a Global MBA. Read more about the courses here: bit.ly/Imp-MBA

Imperial to create new opportunities for spin-outs and scale-ups at Babraham

Imperial is to invest in a new facility at the Babraham Research Campus in Cambridge to support spin-out and scale-up companies.

The move expands Imperial's capacity to support fast-growing science- and technology-based companies and maximise the impact of research from universities.

The Biotechnology and Biological Sciences Research Council (BBSRC), Babraham Bioscience Technologies Ltd (BBT) and Imperial have signed a long-term lease on BBSRC-owned land at the Babraham Research Campus.

The development is led by Imperial College ThinkSpace, a provider of high quality laboratory and office workspaces to support companies at every stage of their growth.

The first tenant will be Abzena plc, a biopharmaceutical firm which already

employs over 90 staff on the Babraham campus. Abzena comprises two wholly owned subsidiary businesses – PolyTherics and Antitope – which work together to create better antibodies and proteins with enhanced therapeutic benefits.

Professor David Gann CBE, Vice President (Development & Innovation) at Imperial College London, said: "Our move to invest in facilities at Babraham underlines Imperial's commitment to create value from ideas, wherever we and our partners are best-placed to thrive.

"We are determined to help technology spin-outs with specialist support, and the space to grow and scale-up. This collaboration strengthens our ability to create conditions for science-based ventures to flourish, opening-up new opportunities and revenue streams to support the College's academic mission."

—ANDREW SCHEUBER, COMMUNICATIONS AND PUBLIC AFFAIRS

media mentions



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Car smoking ban may cut passive smoking by a third

NEW SCIENTIST ▶ 11.02.2015

No butts. The UK government voted decisively on Monday to ban smoking in cars when children are present, *New Scientist* reports. Health specialists, led by Nicholas Hopkinson (NHLI), a senior lecturer in respiratory medicine, have been lobbying MPs for the ban for several years. Hopkinson says he is delighted by this week's decision. "This is an important step forward in protecting children from the harmful effects of tobacco smoke. The government must now move to implement this as quickly as possible."

Save the world? Give beef the chop

THE TIMES ▶ 28.01.2015

Britons should eat less beef and lamb and obtain more of their daily calories from vegetables to help to meet climate change targets, according to a government report covered in *The Times*. Overall consumption of meat per person must fall by 40 per cent by 2050 if Britain is to emit only its 'fair share' of global greenhouse gases. The department based its estimates on a 'global

calculator', a computer-based modelling tool it developed with Imperial, the Met Office, China's Energy Research Institute and several other scientific bodies. The department said the tool, which is available from today on the internet, would allow governments, businesses and campaign groups "to consider the options for cutting carbon emissions and the trade-offs for energy and land use to 2050".

Three-parent baby technique no more sinister than blood transfusion

DAILY TELEGRAPH ▶ 01.02.2015

The technique which allows babies to be born using the DNA of 'three parents' is no more sinister than a simple blood transfusion, fertility expert Professor Robert Winston (Professor of Science and Society) has claimed. The



Church of England said it could not support a change to legislation, arguing that scientists had not proved that the child would not inherit characteristics from the donor mother. "Transfusing mitochondria is not unlike transfusing red blood cells in a case of severe anaemia – the main difference being that the mitochondrial treatments last into future generations," Lord Winston told *The Telegraph*. [MPs ultimately voted to amend the Human Fertilisation and Embryology Act 2008 and legalise mitochondrial DNA transfer].

B-Schools Launch Data Analytics Degrees

BUSINESS BECAUSE ▶ 05.01.2015

Big data has driven new career prospects and given companies a competitive advantage, according to *Business Because*. Now it is getting a masters treatment at the world's top business schools, which are partnering with big business to deliver an education in innovation. London's Imperial College Business School recently announced a new MSc in Business Analytics, after receiving a £20 million investment from professional services firm KPMG to establish an analytics research centre in the UK.

awards and honours



ENGINEERING

Top student structural engineer

Postgraduate student Ishan Abeysekera has won the Institution of Structural Engineers MSc Research Grant scheme award. Ishan's work has been supported by one of four grants awarded across the country and his final submission was selected for the prize of £500 as the top submission by the panel. Ishan studied the behaviour of tall

timber buildings when subjected to strong winds as part of his MSc dissertation supervised by Dr Christian Málaga-Chuquitaype.

ENGINEERING

Foundry of the future gets financial boost

A synthetic biology 'foundry' for manufacturing biological devices has received a £1.3m funding boost from the BBSRC. Researchers at Imperial are creating the foundry to enable them to design and manufacture biological devices using a robotic assembly line. The latest grant is for computer software that will enable researchers to design and sequence synthetic DNA and brings the total funding for the foundry to £4.3m.

CO-CURRICULAR STUDIES

Innovative teaching recognised



Dr Elizabeth Hauke, Senior Teaching Fellow in the Centre for Co-Curricular Studies, has won the Global Dimension in Engineering Foundation's European Award for Best Practice for the Integration of Sustainable Human Development into Technical Engineering Education. The award recognises her innovative teaching on the Global Challenges courses and the Science and Communication for Development module on the Sci Comm MSc

ENGINEERING

Civil engineer recognised across the pond

Emeritus Professor David A Nethercot has been elected as New Foreign Member of the National Academy of Engineering in the USA. He was made a Member "for contributions to structural steel design and construction and for service to structural engineering worldwide." Professor Nethercot is the former Head of the Department of Civil and Environmental Engineering and former Deputy Principal (Teaching) of the Faculty of Engineering.

Cholesterol in food causes inflammation in gut lining

Scientists have discovered a possible way in which high fat diets might lead to inflammation in the gut.

Working with mice and zebrafish, researchers discovered that cholesterol, a component of fatty foods, triggers an inflammatory response in the cells lining the gut and impairs the movement of food through the gut.

Study lead Professor Maggie Dallman (Life Sciences) said: “In humans, inflammation in the gut is associated with a number of conditions that cause pain and discomfort, such as irritable bowel syndrome. The relationship between these conditions and diet is poorly understood, so we were interested in exploring how fatty diets might cause inflammation.”

The researchers found that feeding the animals cream or butter caused acute inflammation in the gut lining. They then showed that this was directly caused by cholesterol binding to a protein found on the epithelial cells that line the gut. The response also depended on signals from microbes in the gut.

After 10 days on a high cholesterol diet, the



waves of muscle contraction and relaxation that push food through the intestine were impaired. In humans, this effect is a common symptom of gastro-intestinal disorders, such as irritable bowel syndrome.

They plan to research these effects further and investigate their possible role in human disease.

—SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS

Professor Dallman will take part in a special Imperial Fringe event exploring animal research, alongside other scientists, vets and animal technicians on 24 February (see events listing on backpage for details).



Refining animal research

The mechanisms of gut inflammation are commonly studied in mice, but this study also used zebrafish as a model organism, thereby reducing and refining the use of animals in research. Because zebrafish are translucent, non-invasive techniques can be used to see inside their bodies. This also means that fewer procedures need to be carried out compared with similar studies in mice yet the information obtained remains equivalent or greater. Professor Maggie Dallman explains: “We studied zebrafish because they have similar immune systems to mammals, and their guts have a similar architecture. We also studied mice to confirm that the effects are similar in mammals.” The work was part funded by the National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs).



‘Systems genetics’ method hones in on target for epilepsy



“Systems genetics allows us to understand how multiple genes work together. It’s a bit like trying to tackle a rival football team – you can’t just target an individual player.”

A single gene that coordinates a network of about 400 genes involved in epilepsy could be a target for new treatments, according to research.

It is known that epilepsy has a strong genetic component, but the risk is related to multiple factors that are ‘spread’ over hundreds of genes. Now researchers from Imperial have developed novel computational and genetics techniques to systematically analyse the activity of genes in epilepsy.

They first studied samples of brain tissue donated by 129 patients following neurosurgery for their epilepsy. Analysis revealed a gene network that was highly active in the brains of these patients – and also an unconnected gene, *Sestrin 3* (*SESN3*), which acts as a major regulator of this epileptic gene network.

Co-senior author Dr Enrico Petretto (Institute of Clinical Science): “Systems genetics allows us to understand how multiple genes work together, which is far more

effective than looking at a gene in isolation. It’s a bit like trying to tackle a rival football team. If you want to stop the team from playing well, you can’t just target an individual player; you first need to understand how the team plays together and their strategy.

“After understanding how the team plays together, a possible approach to beating a strong side is then to identify a major control point – say the captain or the coach – who co-ordinates the players. This is like *SESN3* our ‘master regulator gene’. If we can develop medication to target *SESN3* in the brain, then we could influence the whole epileptic gene network rather than individual parts.”

Existing epilepsy medications are symptomatic treatments only; that is they act to suppress the seizures but they don’t treat the underlying disease. Consequently, existing medications don’t work in about one-third of people with epilepsy.

The hope is that new therapies can be developed for the treatment of epilepsy itself.”

—FRANCESCA DAVENPORT, COMMUNICATIONS AND PUBLIC AFFAIRS

Simple model explains complex problems in an ageing heart

Scientists at Imperial have developed a model that helps explain why we are more likely to develop an abnormal heartbeat with age – and why current treatments for the condition are not always successful.

As we age our risk of atrial fibrillation, the most common abnormal heart rhythm and the single biggest cause of stroke, also increases. But the mechanism of how this develops is still not understood.

Professor Nicholas Peters (National Heart and Lung Institute) collaborated with researchers from the Department of Physics to create a model that mimics how heart muscle tissue changes as we get older.

Doctors know that over time connective tissue grows within the heart muscle cells that link together to pass electrical signals that create heartbeats. The model confirmed that fibrosis caused ‘uncoupling’ of these muscle cells – but crucially there seemed to be a threshold at which point atrial fibrillation would occur.

Professor Kim Christensen, (Physics) said: “The model we’ve created is a very simple representation, yet it is able to reproduce the behaviour of a very complex condition. This might offer a way in the future to assess the risk of developing the condition as well as inform possible treatments.”

One common treatment for atrial fibrillation is a technique called ablation, where areas of the heart are destroyed by radiofrequency energy to prevent abnormal heart rhythm starting. However, surgeons are often uncertain as to which areas should be targeted for ablation and the treatment is not always successful.

The new model suggested that if ablation was targeted at regions where the fibrosis had caused extensive uncoupling of the muscle cells, then the atrial fibrillation would stop. Nevertheless the group cautions that their hypothesis will need to be tested experimentally.

—LAURA GALLAGHER, COMMUNICATIONS AND PUBLIC AFFAIRS



Ethnic minorities and deprived communities hardest hit by air pollution

A new study has found big differences in air pollution across communities in England, with deprived and ethnic minority areas the worst affected.

Air pollution levels are linked to many forms of ill health, including higher risk of respiratory and cardiovascular diseases, especially for more vulnerable groups such as children and the elderly.

Researchers at Imperial and the Netherlands examined data on two types of air pollution: particulate matter (PM₁₀) and nitrogen dioxide (NO₂). They compared air pollution exposures with population characteristics including deprivation, ethnic makeup, and proportions of children and elderly people.

In England, the most deprived 20 per cent of neighbourhoods had higher air pollution levels than the least deprived neighbourhoods – 1.5 µg/m³ higher PM₁₀ and 4.4 µg/m³ NO₂ after adjusting for other factors – but this was not the case in the Netherlands.

The biggest differences in air pollution levels according to socioeconomic status were in London.

“Inequalities in exposure to air pollution are mainly an urban problem, suggesting that measures to reduce environmental air pollution inequality should focus on cutting vehicle emissions in deprived urban neighbourhoods,” said study lead Dr Daniela Fecht (School of Public Health).

The worst air pollution levels were seen in ethnically diverse neighbourhoods, defined as those where more than 20 per cent of the population are non-white. The reasons for the associations between ethnic minorities and air pollution are unclear.

Dr Fecht speculates: “England and the Netherlands have a long history of immigration. It’s possible that immigrants settled in particular areas may tolerate poorer air quality for the benefits of living close to friends and family.”

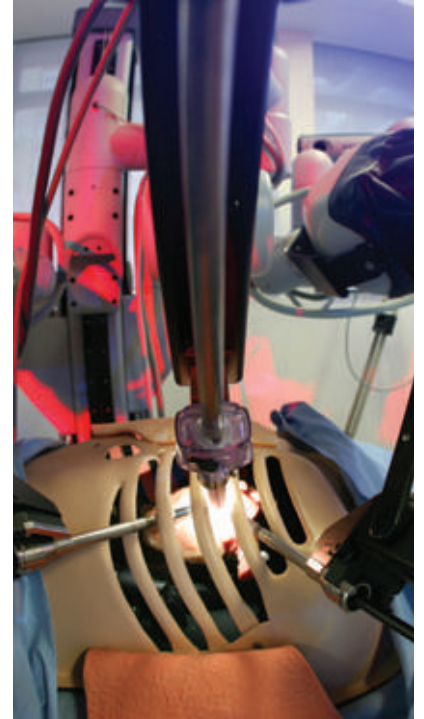
—SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS



5.4 million

people in England live in neighbourhoods where NO₂ concentration is above the EU’s limit of 40 µg/m³

This study was made possible by staff working at the UK Small Area Health Statistics Unit (SAHSU) at Imperial. SAHSU is part of the MRC-PHE Centre for Environment and Health, which is funded by the Medical Research Council and Public Health England.



Surgical sensation

A multidisciplinary centre at Imperial is pushing the boundaries of surgical innovation for the benefit of patients

Anyone who has visited the fascinating Hunterian Museum in Bloomsbury will know the central role that John Hunter and colleagues played in the birth of modern surgery – pioneering medical procedures and advances at hospitals across London in the 18th Century.

Imperial has made its own contributions to that continuing story, for example in the 1950s at the Royal Postgraduate Medical School, where the world's first heart-lung bypass machine was invented, built and then successfully used at Hammersmith Hospital.

Today Imperial's academics and collaborators are booking themselves space in the Hunterian's galleries of the future with advances that would astonish Hunter and his contemporaries. Within the Surgical Innovation Centre, spearheaded by Professor the Lord Darzi and formally opened by HRH The Prince of Wales last month, collaborative research, medical education and patient care flourish alongside each other as cutting-edge technology and multi-disciplinary teams combine to develop new surgical techniques.

Research

Dr Nisha Patel (Surgery and Cancer) is a gastroenterologist and Clinical Research Fellow at the Centre and is keen to emphasise the interdisciplinary nature of the innovation process and the diverse specialisms of the clinicians and

engineers who make up the team.

"I work together with surgeons from urology, orthopaedics and neurosurgery, as well as engineers focused on vision and imaging, kinematics and product design. We interact on a week-by-week basis and since we're all housed in the same unit, we come up with projects and devices in a shorter period of time than we would otherwise achieve separately."

The team has access to a number of 3D printers for making medical device prototypes, which they test out in an iterative process on the bench-top and with simulators.

Nisha is currently working with Imperial engineer Dr George Mylonas (Surgery & Cancer) on a robotic prototype device called CYCLOPS that attaches to a regular endoscope to facilitate the removal of colorectal polyps and early cancers. The unique aspect of CYCLOPS is the inclusion of an inflatable 'anchor' component that allows a greater level of manipulation and stability in tight spaces. Crucially this allows procedures to be performed through natural orifices, with no external incisions and therefore no scarring.

Advanced imaging methods are also playing an increasing important role in surgery. Nisha and team are currently building a surgical platform that displays endoscopic video feeds in 3D, with data from a patient's CT or MRI scans overlaid in augmented reality fashion, for example showing the outline of the

Firm foundations

The Surgical Innovation Centre is based around five units that have received generous philanthropic contributions along with funding from the National Institute for Health Research:

- The Hamlyn Centre for health care technology
- The Wolfson Laboratory for robot assisted microsurgery
- The Evelyn de Rothschild Clinical Skills Centre for undergraduate and postgraduate clinical skills training
- The Sigrid Rausing Trust contributions towards the creation of the Centre for Health Policy
- The Chitra Nimal Sethia Technology & Training Hub for advanced clinical training in key-hole and robotic surgery.



The Centre is spearheaded by Lord Darzi, Director of the Institute of Global Health Innovation at Imperial.

colon for use while performing rectal surgery.

“It’s like having sat nav for the body; you literally see where you are and where you are going which is really useful and improves your perception of how the tissues and surgeons are interacting,” says Nisha.

“I think convergence of technologies will play a big role in surgery in the future and do think there’ll come a time when I might be doing an endoscopy wearing something like Google Glass, with all the data and viewpoints displayed.”

Education

A key part of the Centre’s vision is in providing world class education and training to the next generation of surgeons – who will have more tools at their disposal than ever before.

The Centre has a suite of simulated clinical environments, including a ward, operating rooms and high-tech surgical theatre, allowing training and staff assessment across a range of professional disciplines.

Sarah Huf is a Clinical Research Fellow and Trainee in General Surgery at the Surgical Innovation Centre and lauds the benefit of this approach.

“Often at work you have to negotiate a busy ward with many interruptions, all whilst trying to keep focused on the task at hand. Replicating these distractions in the simulated ward can help us practice prioritisation and maintaining focus, as well as helping us to prepare for stressful situations we encounter for real,” she says.

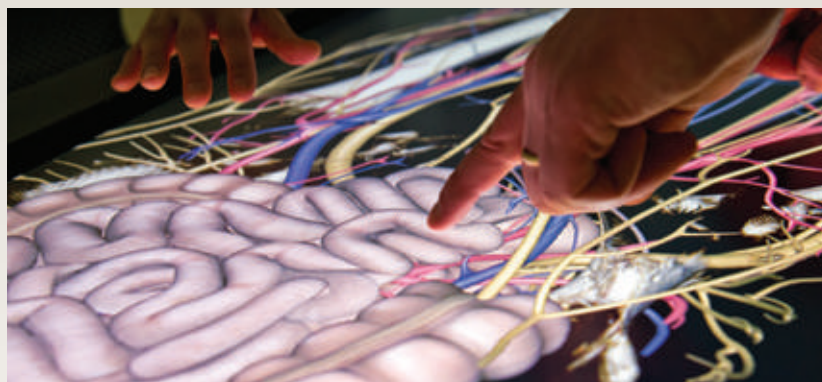
“Surgery is one area which has thrived with innovation over the last two decades and the Surgical Innovation Centre will push these boundaries further.

Professor the Lord Darzi of Denham,
Director of the Institute of Global Health Innovation

The centre also contains a facility called ORCAMP, a simulation tool for training and assessment in a highly realistic operative environment, with hybrid operating room functionality. By simulating real equipment in combination with life-like medical scenarios, the goal is to rehearse realistic operation behaviour, both for the team and the individual operator.

One key advantage is that many of the simulation models are actually manufactured within the Centre and there is a close working relationship between the trainees and the model designers.

“Ultimately it’s about the opportunity to practise in a safe environment – whether you are a beginner practising basic skills in laparoscopic dexterity or fine tuning a specific surgical step,” says Sarah. “So when it comes to performing in the operating theatre you are prepared, which is better for us and more importantly safer for the patients.”



Patient-focused

The work of the Surgical Innovation Centre is a beacon within the Imperial College Academic Health Science Centre, a joint initiative of Imperial College London and Imperial College Healthcare NHS Trust. This partnership aims to improve the quality of life of patients and populations by taking new discoveries and translating them into new therapies as quickly as possible. Over the past year, nearly 2,000 patients have been treated at the Surgical Innovation Centre, including those receiving pioneering gastrointestinal interventions, highlighted below.

CASE 1 // Bariatric surgery in the Surgical Innovation Centre

Gastric bypass surgery, a treatment for morbid obesity, reduces the size of the stomach to that of an egg and connects it to the small intestine. This changes chemical messengers from the intestines to the brain so that the patients feel less hungry, eat less and regain a healthy weight.

One patient who has benefited at the SIC is Allyson Frost, a mother of two. “This is the best thing I’ve ever done,” she said. “I finally have my life back. I had tried all of the diets available and while they worked for short periods of time the weight always crept back on. My doctor suggested that a gastric bypass was the best option for me. My operation went well and with the help of the staff, who really made me feel like an individual rather than a number, I was home within two days. Within five months I have hit my target weight, which I am so pleased about.”

CASE 2 // Scarless cancer surgery at the Surgical Innovation Centre

Julia Lonsdale, a nurse, had her bowel tumour removed through a small incision in the belly button using a technique called Single Incision Laparoscopic Surgery (SILS).

Julia said: “I was sent a bowel cancer testing kit through the post by my local GP surgery just after my 60th birthday. I sent off my sample and was asked to attend for a colonoscopy. The colonoscopy revealed a very small, cancerous polyp. I was quickly offered the SILS operation which was marvellous. They removed all of the cancer through a tiny incision in my belly button. This meant that I didn’t have a huge open wound which takes a long time to heal and is susceptible to infection. I was able to go home after three nights with no scar, very little pain and a very short recovery time, which was brilliant.”





Members of 22 Field Hospital are briefed before going to Sierra Leone

Leading the Ebola fight back

Lucy Lamb is a researcher at Imperial and a Specialist Registrar in the British Army and has recently served in Ebola-stricken Sierra Leone.

The Ebola epidemic that has infected over 22,000 people across West Africa and killed 8,795 finally appears to be abating. The World Health Organization has stated that it has entered a 'second phase' with its focus shifting to ending the epidemic.

It's clear that the massive drive to set up treatment centres to support native healthcare systems in the region has been crucial in getting the epidemic under control.

One facet of that was 22 Field Hospital, part of the Army Medical Services. Among those delivering its work was Major Lucy Lamb, a Specialist Registrar in Infectious Diseases and General Internal Medicine for 22 Field Hospital and also an Honorary Clinical Research Fellow in the Department of Medicine. She was deployed to Sierra Leone in mid-October to a site called Kerry Town.

"The military has had a very different role compared with workers from the NHS and other volunteer organisations, who have come out in large numbers to treat as many patients as they can. Our job was to support and treat them in the event they became infected," Lucy explains.

The other side of the military's involvement was in logistics and

infrastructure – engineers working to get treatment centres up and running and rolling out public health measures such as correct burial practices.

"That has improved significantly and hopefully we're seeing the tip of the curve of the epidemic now," she says.

Test of nerve

Chatting with Lucy over coffee in South Kensington it's difficult to fully comprehend the challenging conditions which she and other workers faced in Sierra Leone. There was the debilitating humidity and heat, worsened by operating in personal protective equipment; spartan hospital facilities that needed kitting out on arrival; nerve-wracking blood samples to take; and long shifts through the night trying to save patients.

"We had a bad couple of weeks where we were seeing a lot of referrals that were just too late for us to do much about, which was a low point for the doctors and nurses, because frankly you just get fed up of seeing people die. But we had some good results as well; some people recovered fully who we were not necessarily expecting to do so well."

Lucy studied medicine at The University of Cambridge under an officer cadetship with the Royal Army Medical Corps. After graduating, she then specialised in infectious diseases.

"That encompasses the whole

body and so lent itself to armed forces medicine, opening up the potential for deployment – something I was keen to experience," she says.

It turned out to be a prescient choice as Lucy experienced tours of duty to Belfast as a Regimental Medical Officer in 2003; Iraq in 2005 as a Senior House Officer; and most recently to Sierra Leone as a Specialist Registrar.

Juggling act

Lucy is currently finishing a PhD at the College under the supervision of Professor Shiranee Sriskandan (Medicine) focusing on infections caused by different strains of gram positive bacteria including streptococcus pyogenes and staphylococcal aureus. These can cause skin and soft tissue infections which are a particular problem in serving personnel so the work ties in well with her military involvement.

I ask how Lucy manages to wear all three hats – military, clinical and research – and transition easily between them.

"Well it's four really!" Lucy corrects. "I had two children during my research phase, Freya who's now five, and Poppy, three. To be honest I quite enjoy juggling all the different facets of my life; it's somewhat stressful at times, but it also keeps things entertaining, and I'm not one to sit still and do just one thing."

“ Hopefully we're seeing the tip of the curve of the epidemic now.”

2,975

Ebola confirmed deaths in Sierra Leone alone



The average case fatality rate is around 50%

Figures published by World Health Organisation – 11.02.15

inside*

story

mini profile



Murray Shanahan

Murray Shanahan is Professor of Cognitive Robotics in the Department of Computing, specialising in the field of artificial intelligence (AI). He also recently served as a scientific advisor for the science fiction film *Ex-Machina*, a psychological thriller about AI.

What are you currently working on in your research?

I am interested in trying to understand how cognition is realised in the brain. To do this I build computer models, which are typically simulations of large numbers of neurons organised in a complex network. Understanding the rich dynamics that result is, in my view, key to understanding the remarkable cognitive abilities of the human brain.

What was your role in *Ex-Machina*?

It seems my main influence was before the screenplay was written, through my book (see below). Director Alex Garland and I met several times while the film was being made, but apart from a few tiny changes

to the script, I don't think I had much effect at that stage. More recently I've been involved in the publicity surrounding the film's release, with special screenings, panel discussions and numerous media interviews, where I get to discuss AI and robotics. These are a great chance to engage the public in some important issues in my field.

What are the benefits of scientists collaborating with directors on film projects?

Aside from the fact that it's great fun, I think public engagement is an important aspect of a scientist's job. Many of us are funded by the taxpayer and ultimately answerable to the public. I'm lucky to be in a field that attracts a lot of interest from the public and gets plenty of media attention. You have to be careful not to let it take up too much time of your time though!

— COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS

Embodiment and the inner life: Cognition and Consciousness in the Space of Possible Minds, by Murray Shanahan is available here: bit.ly/murray-book

Wall street wannabes

A competition to find the most promising financial trader among students has been launched by Imperial College Business School.

The Alpha Trading Challenge is a six-week trading competition being run in partnership with Alpha Capital Markets and open to students of Imperial College Business School, Cass Business School, London Business School, LSE and UCL.

Contestants will receive a trading account credited with US\$100,000 in demo funds and will have access to trade in a large choice of markets. They will be judged on their risk-adjusted performance.

The top three winners will be awarded one month's paid internship in the trading and sales department at

Alpha Capital Markets and the top trader will receive a trophy.

The competition is the brainchild of two current Imperial Business School students studying MSc Investment & Wealth Management: Jean-Francois Leon Pernet and Elie Afram.

Elie, who also works part-time as a Client Relationship Manager at Alpha Capital Markets, said: "Taking on this unique challenge will empower students to experience trading first hand and inspire them to explore the complexities of commerce and finance in a global context."

For more info visit: acapmarkets.com/competition



▶ SCIENCE FROM SCRATCH

As explained by Rebecca René, MSc Science Media Production

The cause of motion sickness

How balanced are you? It's not a trick question, so no need to reflect too deeply. Luckily our body position in three-dimensional space is taken care of by a suite of biological sensors and systems so we rarely need to consciously think about it.

Firstly, in the depths of the inner ear lies a maze of bony chambers that make up the vestibular system – which senses head motion in the horizontal plane (forward-backward and left-right); vertical movements (up-down); as well as rotations. They simultaneously fire impulses along the vestibular nerve to the brain, relaying information about movement.

Balance doesn't just rely only on the sensory organs in the inner ear though. Our eyes and visual system are another obvious source of information regarding our relative motion. Meanwhile proprioceptors in the limbs provide information about the position of the limb in space.

Problems can arise when these systems don't agree with each other, sometimes leading to motion sickness. For example when in a windowless cabin in a ship, the vestibular system might be telling the brain there is movement but the visual system can't see anything wrong, creating a conflict. Conversely, some people get a type of motion sickness when using virtual reality headsets since the brain is receiving very convincing signals of relative motion from the visual system with no accompanying information about movement from the inner ear.



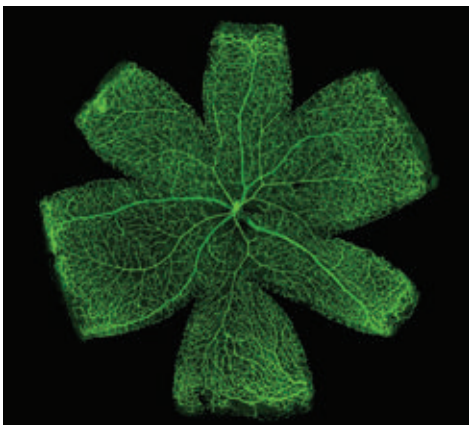
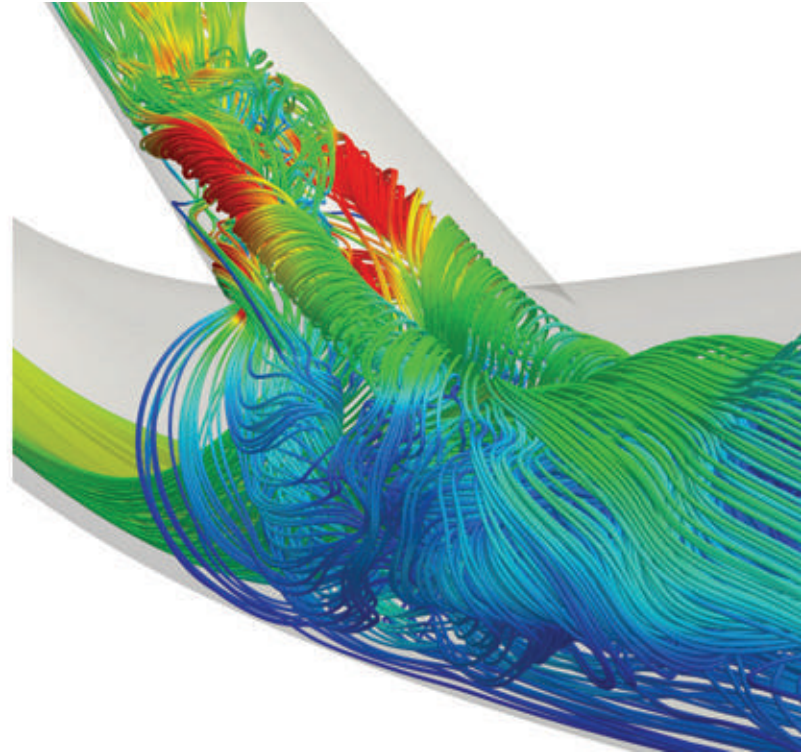
Insider's view: the British Heart Foundation image competition

An image showing a computer model of blood flow has been voted the British Heart Foundation supporters' favourite in a science image competition. 'Lifelines' by Francesco Iori (Aeronautics) was one of four images from Imperial shortlisted for 'Reflections of Research', which showcases images produced by BHF-funded researchers.

Francesco's work used the same computer modelling programmes that engineers use to design aeroplanes to precisely model the blood flow in our blood vessels. These models can be used to design better techniques for dialysis that limit the disruption to a patient's natural blood flow.

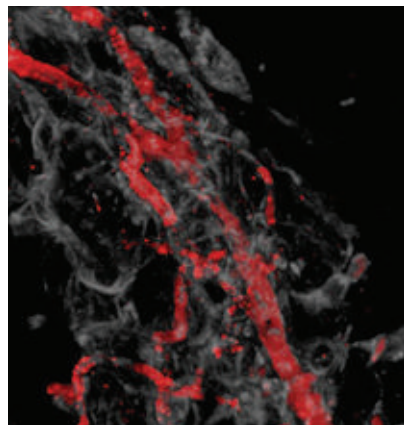
"Public engagement is an important part of modern-day academia, and hence we are delighted to have won the supporters' choice vote! Hopefully the image gives a flavour of the highly cross-disciplinary research undertaken at Imperial."

→ [Other Imperial images shortlisted](#)



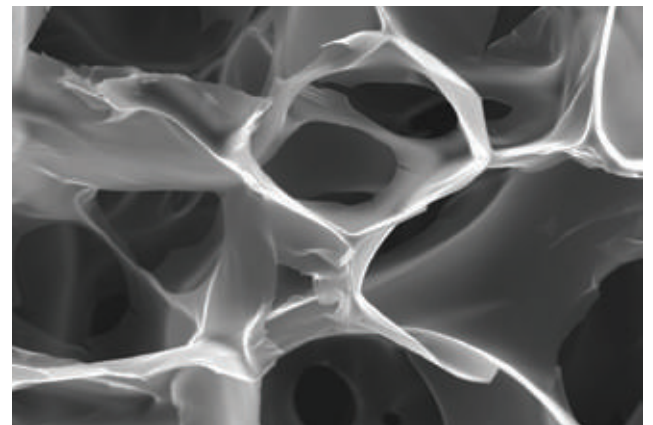
Seeing is believing
Dr Graeme Birdsey (NHLI)

The intricate network of newly-formed blood vessels in the retina of a mouse eye. Understanding how blood vessels grow is an important part of understanding cardiovascular disease.



No smoke without fire
Dr Neil Dufton (NHLI)

Shows a blood vessel (in red) that doesn't work properly and is leaking (grey area).



Scaffolding
Dr Anne Géraldine Guex (NHLI)

Shows synthetic scaffolds containing microscopic holes to grow healthy heart cells that could potentially be implanted into a patient's damaged heart after a heart attack.

New app helps sickle cell patients keep better records

Researchers at Imperial have designed a new app to help sickle cell anaemia patients keep track of their condition.

Sickle cell anaemia (SCA) is an inherited blood disorder, in which the oxygen-carrying blood cells develop abnormally, leading to lethargy and breathlessness and sometimes episodes of severe pain caused by blood vessels blockages.

SCA patients have to take medication many times a day and regulate their hydration as well as undergoing blood transfusions and blood tests. Most patients record all their procedures, check-ups and appointments on paper records.

The new app, SiKL, allows patients to manage their medical records better, keeping track of and engaging actively in their own treatment using a smartphone.

"Most people have smartphones and always carry them," says Dr Kit Huckvale (School of Public Health), one of the creators of the app. They will never run out of space and there are lots of potential things you could do with that information, for example, exchanging, sending it by email or printing it."

To test the app, the team

worked with the Sickle Cell Society, patients from Imperial College Healthcare NHS Trust clinics and participants from the TalkLab Initiative.

SiKL should also be useful in developing countries, where sickle cell anaemia is prevalent. "The app is available globally right now, so anyone who has an interest could pick it up and use it," Dr Huckvale adds.

A ‘flipping’ good effort at RAG Week 2015

Imperial RAG Week took place last week with students and staff taking part in activities to raise funds for charity.

The RAG Week Launch featured live music and speeches from Imperial’s President Alice Gast and RAG Chair Ben Fernando to officially begin the week’s activities on Monday 9 February.

Speaking at the event RAG Chair Ben Fernando (Physics) said: “We are absolutely delighted at how successful the RAG Week launch was and we’re really excited for our plans for the week ahead. It’s great to have so much student and staff support for all of the events.”

This year’s RAG bungee challenge ran for two days from Monday to Tuesday providing more opportunities to take the 175ft plunge.



Lucy Willets-White (Physics) was one of Monday’s first jumpers. “It was awesome. I’m a member of the Sky Diving Society and jumping forwards on the bungee is definitely scarier. You can see the people on the ground and it feels a bit close.”

For the first time RAG Week featured a Firewalk event on Thursday 12 February where participants walked along a path of hot embers. Other highlights included the Valentines Ball on Thursday evening and the annual Jailbreak event, held on the 28 February, in which student teams are given 36 hours to get as far away from the College as possible without spending any money.

At the time of going to press RAG week’s efforts raised £5,960 which will go to nominated charities: MAG – The Mines Advisory Group, St Mungo’s Broadway and Tiny Tickers adding to the £20,000 already raised by RAG since the beginning of term.

—JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS

£5,960

Total raised by RAG Week at time of going to press



Above: Muir Sanderson the College’s CFO and President Alice Gast cooked pancakes which were available to buy in exchange for a small donation to the RAG Week fund.

Below: Dean of Natural Sciences, Professor Tom Welton tackles the firewalk.

Student blogger Mala

Second Year Hospital Placements



I have spent the final few weeks of term at Chelsea and Westminster hospital completing my first clinical attachment at med school.

Being in a hospital when you are in second year tends to make you feel a bit useless. You can’t help with any practical stuff ‘cause you can’t even take blood, and you can’t help with any of the medical diagnosis stuff ‘cause you really don’t know much about that yet either.

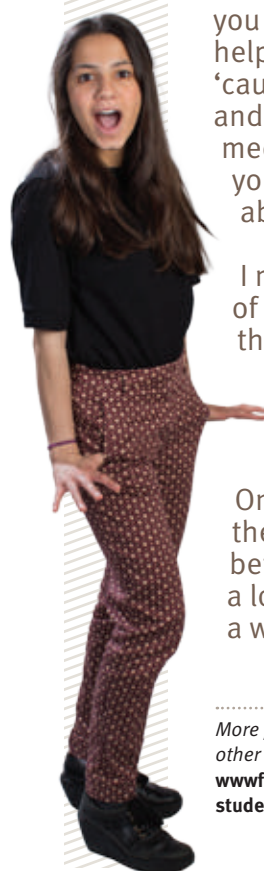
I made so many blunders, one of my most embarrassing thinking a patient had a tumour in her xray... when it was her heart. Well done Mala.



Once we had accepted we were there to “ask questions and befriend the patients” it became a lot more enjoyable and I learnt a whole lot more.



More from Mala and our other student bloggers: wwwf.imperial.ac.uk/utills/sites/studentblogs/



Imperial celebrates LGBT History Month

Imperial hosted a series of events throughout February to mark LGBT History Month – which saw social activities, inclusivity training courses, and a keynote lecture, as well the launch of Imperial’s new policy to support trans staff.

Celebrated nationally, the month aims to promote lesbian, gay, bisexual and trans (LGBT) history and raise awareness of issues

affecting the LGBT community.

On 10 February, Tony Fenwick, CEO of Schools Out UK, delivered Imperial’s LGBT History Month keynote lecture. Schools Out UK is a charity which campaigns for the rights of LGBT people in education.

Tony said: “As LGBT people, we are in a unique situation because much of our history has been hidden due to the discrimination

and persecution that we have faced. It is important that we now make this history visible, and get across the message that LGBT people have been around throughout all ages.”

LGBT History Month also sees the launch of Imperial’s new trans policy – the result of ongoing work with charity GIRES.

Louise Lindsay, Director of HR, said: “Imperial is committed to ensuring a supportive and inclusive

working environment; however, we know that there is still much work to be done and there is a need for better understanding and support for trans people in the workplace. I am very proud that Imperial is leading good practice in the sector in the development of this policy.”

—DEBORAH EVANSON, COMMUNICATIONS AND PUBLIC AFFAIRS

An LGBT Staff Network Lunch takes place on 27 February, 12:30–14:00, The Union Bar & Grill, St Marys Campus. Contact Victor Abah at v.abah@imperial.ac.uk



Next step for decommissioning the College's reactor

The College's Reactor Centre has entered the next stage in its decommissioning, as Imperial submits a formal application to the regulator.

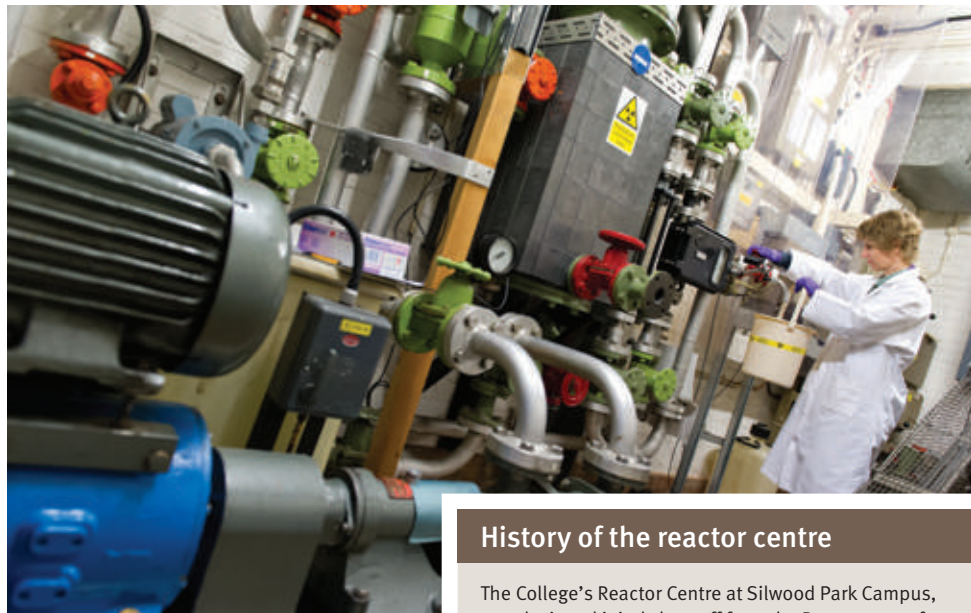
Last year the Reactor Centre staff worked closely with the nuclear and environmental regulators to ensure the safe removal of the fuel. The next step in the administration of the process is an application to the Office for Nuclear Regulation (ONR) for formal approval for decommissioning, to allow work to continue.

David Forbes, project director for decommissioning, said: "Even with such a small reactor, decommissioning is complex. Our progress is down to the diligent work of the staff on the ground and the combined efforts of the various organisations who are supporting the process.

Hopefully disruption on campus has been kept to a minimum but we're grateful to the community for their patience."

The College has submitted an environmental statement to ONR available for the community to view in local libraries and on ONR's website, with consultation concluding on 28 April 2015: onr.org.uk/consultations/2015/imperial-college

—JOHN-PAUL JONES, COMMUNICATIONS AND PUBLIC AFFAIRS



History of the reactor centre

The College's Reactor Centre at Silwood Park Campus, was designed jointly by staff from the Department of Mechanical Engineering and General Electric Limited, and commenced operation in April 1965, providing facilities for teaching and research in a number of fields of nuclear science and technology. The 100 kW CONSORT Reactor Mark II is 10,000 times smaller than a nuclear power station.

From the mid-1990s the volume of research conducted in this field declined dramatically. Despite extensive canvassing of academia, industry and business no substantial research, education, training or commercial uses for the reactor were forthcoming.

The College's Council therefore concluded in 2011 that the substantial funds required to continue operation of the Reactor Centre could no longer be justified and directed that the reactor be decommissioned.

long
service

Staff featured in this column have given many years of service to

the College. Staff listed celebrate anniversaries during the period 1 February–28 February 2015. The data are supplied by HR and correct at the time of going to press.

20 years

- Tom Ryan, Technician, Electrical and Electronic Engineering
- Ann O'Mahony, Editorial Secretary, Department of Medicine

30 years

- Tina Moloney, Head of Early Years Education Centre, Early Years Education Centre

obituaries

STEFAN GRIMM



Stefan Grimm, Professor of Toxicology in the Department of Medicine died in September 2014 aged 51.

Colleagues who worked in the Apoptosis Group at Imperial have shared the following tribute, reproduced with permission from the Nature Publishing Group.

Stefan dedicated his entire career to deciphering the molecular mechanisms involved in apoptotic cell death.

He completed his PhD in biology at Eberhard-Karls University of Tübingen in Germany, before going onto positions at the Department of Genetics at Harvard Medical School and the Department of Biochemistry at the Max-Planck Institute.

Since 2004, he has been Professor of Toxicology at Imperial and contributed towards fundamental insights into the molecular and

cellular mechanisms underlying apoptotic cell death and how the dysregulation of this process can promote cancers. He notably revealed a novel class of genes with the ability to specifically target human cancers, and these he named the anti-cancer genes.

Well beyond these contributions, he succeeded to manage a team of highly motivated and enthusiastic people coming from 14 different countries of origin to create a very cohesive group that shared his love for science.

He was a terrific mentor, deeply committed to all the projects running in his lab. He provided strong recommendation letters and never hesitated to make phone calls to help his trainees to get good jobs afterwards or to advance their careers. Despite his discreet and reserved personality, Stefan was a very gentle and caring person, a man of his word, working tirelessly for his students and postdoctoral scientists.

Stefan will be greatly missed by his current and former lab members, colleagues and collaborators around the world.

Welcome new starters

Dr Alexander Adam, ESE
Miss Ionela Adam, Catering Services
Mr Mian Ahmad, Surgery & Cancer
Dr Katinka Apagyí, Public Health
Mr Keith Ardrón, Mechanical Engineering
Dr Paolo Baesso, Life Sciences
Dr Alexey Bak, Physics
Mrs Jennifer Bennett, Life Sciences
Dr Amelia Bercusson, NHLI
Miss Alexandra Berditchevskaia, Bioengineering
Dr Yasser Bhatti, Surgery & Cancer
Ms Taruna Bhushan, ICT
Miss Rachael Boddy, Physics
Dr Simone Borsci, Surgery & Cancer
Mr Jose Calvo, EEE
Professor John Camm, NHLI
Dr Sophie Camp, Medicine
Mr Stefano Casasso, Physics
Mr Matthew Clough, Chemistry
Miss Laura Collingridge, Business School
Dr Andrea Colombi, Mathematics
Dr Violeta Cordon Preciado, Life Sciences
Dr Michael Dallaston, Chemical Engineering
Miss Elisa Dominguez Huttinger, Bioengineering
Mr Andy Durban, Business School
Mr Jan-Christoph Edelmán, NHLI
Mr Alex Fletcher, Security Services
Miss Sarah Fort, Registry
Dr Amanda Foust, Bioengineering
Dr Katherine Foxwell, Public Health
Dr Laia Francas Forcada, Chemistry
Dr Alice French, Life Sciences
Dr Mark Friddin, Chemistry
Dr Julian Gardiner, Public Health
Dr Louise Gildea, Surgery & Cancer
Ms Jasmin Goettler, Materials
Dr Rafael Gonzalez, Medicine
Mr Joseph Goodwin, Physics
Miss Katrin Gotsch, Clinical Science
Ms Marta Guzzon, Mathematics
Dr Mojgan Hadi Mosleh, ESE
Miss Rachael Harrison, Materials
Ms Michelle Heron, Catering Services
Miss Rosi Hirst, Public Health
Mr Christopher Hong, Mechanical Engineering
Dr Shady Hosny, Surgery & Cancer
Mr Gordon Inggs, EEE
Dr Diana Iruretagoyena Ferrer, Chemical Engineering
Dr Pooyan Jamshidi Dermani, Computing
Miss Maud Jenart, Chemistry
Mr Callum Johnston, NHLI
Dr Glenn Jones, Mechanical Engineering

Dr Lyes Kahouadji, Chemical Engineering
Mrs Anju Kanda, Surgery & Cancer
Mr Dionysios Kontarínis Quintana, Computing
Dr Jens-Oliver Koopmann, NHLI
Dr Nina Kovalchuk, Mathematics
Mr Juan Kuntz Nussio, Mathematics
Dr Lampros Lamprinos, Computing
Dr Nan Lin, Public Health
Dr Yong Ling, Medicine
Dr Adam MacLean, Life Sciences
Mr Anthony Marchant, Faculty of Natural Sciences
Miss Alice Marks, Centre for Environmental Policy
Mr Alex Marsh, Design Engineering
Ms Inma Martínez Sanz, EEE
Dr Sergio Martins Lima, Chemical Engineering
Mr Liam McHale, Outreach
Dr Michal Mielcarek, Life Sciences
Dr Aurelie Millet, Medicine
Dr Sara Mohtashami, EEE
Dr Christina Morris, EEE
Ms Giulia Morselli, Life Sciences
Mr Simon Mouradian, ESE
Mr Leonard Naar, Surgery & Cancer
Ms Nichola Naylor, Medicine
Dr Liam Nestor, Medicine
Miss Anna Nichol, Public Health
Mr Owen Nicholson, Computing
Ms Glenda Nicholson, Medicine
Dr Josephine Ocloo, Surgery & Cancer
Dr Marta Oliveira De Freitas, Medicine
Dr Ana Ortega Prieto, Medicine
Ms Nienke Pannekoek, Medicine
Miss Virginie Papadopoulou, Bioengineering
Dr Kay Penicud, Development
Dr Federico Pesci, Materials
Dr Matthias Pfeifer, Surgery & Cancer
Miss Rosa Porreca, Clinical Science
Mr Christopher Price, Physics
Miss Lynette Quartly, Business School
Miss Andia Redpath, NHLI
Mr Guy Reynolds, Library
Mr Paulo Ribeiro Faria, Accommodation
Dr Janosch Rieger, Mathematics
Miss Abigail Robb, NHLI
Ms Lisa Rose, Business School
Ms Merja Rossi, Surgery & Cancer
Ms Valentina Ruffini, Mechanical Engineering
Dr Salvatore Santamaria, Medicine
Dr Christopher Schuster, Medicine
Mr Phillip Seaton, Public Health
Dr Shivshankar Seechurn, Medicine
Dr Kelly Sheehan-Rooney, Faculty of Medicine Centre
Dr Thomas Shire, Civil and Environmental Engineering
Professor Morris Sloman, Computing
Dr Luc St-Pierre, Aeronautics

Mr Andrew Strang, Materials
Dr Tzoulíana Stylianou, Medicine
Professor Timothy Sumner, Physics
Dr Sinbad Sweeney, NHLI
Ms Marta Szajna, Medicine
Dr Petros Takousis, Public Health
Miss Rebecca Tanner, NHLI
Dr Stephen Tate, Chemical Engineering
Ms Sophie Thompson, Business School
Mr Vincenzo Trovato, EEE
Mr Stelios Tzello, Medicine
Ms Hiromi Uzu, NHLI
Dr Yasaman Vali, Public Health
Dr Christos Vasilakos Konstantínidis, EEE
Dr Juan Vesga Gaviria, Public Health
Dr Vladislav Vysotskiy, Mathematics
Dr Sarah Wagstaffe, Faculty of Medicine Centre
Mrs Ibi Wallbank, Life Sciences (Silwood Park)
Mr Tobias Wehrkamp-Richter, Aeronautics
Mrs Katie Welch, Centre for Environmental Policy
Dr Sue Wilson, Medicine
Mr Udo Wittmann, Public Health
Dr Luke Yates, Medicine
Miss Yesna Yildiz, Bioengineering
Mr Tom Zhang, Business School

Farewell moving on

Mr Yashodhan Agalgaonkar, EEE
Ms Jessica Alchin, Registry
Ms Camille Ambroise, Business School
Dr Tryfon Antonakakis, Mathematics
Dr Matthew Aylott, Faculty of Engineering
Dr Sam Azadi, Physics
Ms Qian Bai, Mechanical Engineering
Dr Anjali Balasanthiran, Medicine
Ms Peggy Blossie, Medicine
Dr Michael Bodnarchuk, Mechanical Engineering
Ms Wendy Bowman, College Headquarters (7 years)
Miss Carrie Bridgwood, Faculty of Engineering
Ms Christine Buicke, Faculty of Medicine Centre
Dr Cristina Caldelas Molina, ESE
Professor John Camm, NHLI
Mr Huang Chong, Mechanical Engineering
Dr Carlos Correia Braga, Chemical Engineering
Dr Ioana Cotlarciuc, Medicine
Mr Daniel Crane, Library
Miss Jocelyne Cuenco, Medicine (9 years)
Dr Roxana Danger Mercaderes, Public Health
Mr Miguel De Braganca Miranda, Public Health
Dr Luke Dickens, Computing (5 years)
Dr Sean Donnellan, Physics
Mr Isaac Eslava Saiz, ICU
Mr Uche Ezichi, Business School
Dr Clark Fenton, Civil and Environmental Engineering (10 years)
Mr Nicholas Findlay, Civil and Environmental Engineering (9 years)
Dr Andreas Forster, Life Sciences (7 years)
Dr James Garnett, Life Sciences (7 years)
Dr Fatemeh Geranmayeh, Medicine
Dr Daniel Gibbons, Public Health
Mrs Laura Gnata, ESE
Ms Fernanda Goncalves, Estates Division (18 years)
Dr Ajay Gupta, NHLI (9 years)
Ms Patricia Ho, Chemistry
Dr Thomas Hopkins, Surgery & Cancer
Ms Rosemary Howe, Surgery & Cancer (5 years)
Mr Adam Huffman, Physics
Ms Charlotte Jordan, Public Health
Mr Karolis Kabokas, Catering Services
Dr Andrew Kalusa, Surgery & Cancer
Dr Sebastian Lambert, Life Sciences
Dr Katrin Layer-Dobra, Life Sciences (Silwood Park)
Mr Andrew Learner, Business School (6 years)
Dr Xin Li, Medicine
Dr Artem Lysenko, NHLI
Dr John MacDonald, ESE
Mr Andrew MacLachlan, Chemistry
Mr Jiten Manji, Medicine
Mr Luigi Marongiu, NHLI
Mr Pedro Michelli Corradi, Faculty of Medicine Centre
Miss Sara Mohtashami, EEE
Dr Geev Mokryani, EEE
Dr Gareth Morris, ESE
Dr Salomon Narodden, Clinical Science
Miss Ioana Nascu, Chemical Engineering
Miss Philippa Northcott, Catering Services
Mr Richard Oberdieck, Chemical Engineering
Dr Renuka Palanicawandar, Medicine
Dr Harriet Palfreyman, Surgery & Cancer
Mr Michele Palladino, EEE

Mr Nikolaos Papachristou, Public Health
Dr Stergios Papanonís, Physics
Mr Christos Papatakis, Catering Services
Miss Maria Papathanasiou, Chemical Engineering
Mr Allan Paras, NHLI
Mr Jason Perry, Estates Division (9 years)
Miss Nicole Pettigrew, Faculty of Engineering
Dr Ilse-Sanet Pienaar, Medicine
Dr Iain Pierce, NHLI
Dr John Porter, Surgery & Cancer
Dr Boling Qiao, Medicine
Dr Gopal Ramadas Dhondalay, NHLI
Mr Md Mamunur Rashid, Physics
Mr William Rimington, Life Sciences (Silwood Park)
Ms Katherine Rogers, Medicine (5 years)
Ms Marianna Sanna, Public Health
Dr Nick Sevdalis, Surgery & Cancer (10 years)
Dr Nazneen Siddiqui, NHLI
Mr Rayner Simpson, Chemical Engineering (9 years)
Dr Nishant Singh, Mechanical Engineering
Dr Eirini Siougkrou, Chemical Engineering
Dr William Spinner, EEE
Ms Sian Stanfield, Library
Mrs Teodora-Bianca Suciú, Catering Services
Ms Mihaela Sutu, Medicine
Mr Thayne Thanthawarithsai, EEE
Mr Murray Thompson, Life Sciences (Silwood Park)
Dr Vladimir Turek, Chemistry
Dr Maria Van Kerkhove, Public Health (5 years)
Ms Vidhya Varghese, Surgery & Cancer
Mr Michail Vavouras, EEE
Dr Jules Villard, Computing
Dr Sanjay Vivekanandan, ICT (6 years)
Mrs Zhao Wang, Chemical Engineering
Dr Haibao Wen, ESE
Dr Kathrin Witmer, Life Sciences
Ms Rachel Wood, Medicine (5 years)
Mr Geoffrey Wu, Surgery & Cancer
Dr Mingyang Yang, Mechanical Engineering
Dr Rong Ye, EEE
Mr Andrianos Yiorakas, Medicine
Dr Kaiyu Zhang, Bioengineering (5 years)

This data is supplied by HR and covers staff joining the College during the period 15 January – 13 February 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.



24 FEBRUARY, 18.00-20.00

Animals & Research Imperial Fringe

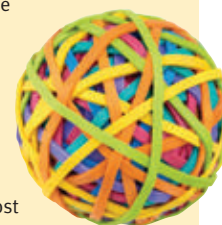
Come and talk to our scientists, vets and animal technicians about their work with animals in biomedical research at this unique event. Step inside a replica of an animal research facility and discover more about the ground-breaking work going on to develop new treatments

to improve human and animal health. Also learn about the College's work to reduce the number of animals in research by developing and using alternatives. Attendance at the Animals & Research Imperial Fringe is by registration only. Book your place at bit.ly/animals-fringe

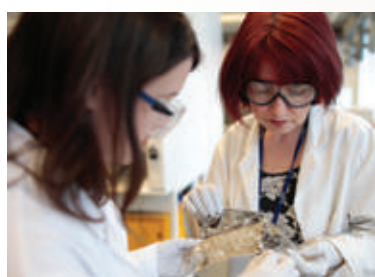
take note

Join a celebration of Imperial diversity

Staff, students and alumni are invited to contribute to photos, pictures or other objects which represent their culture for an exhibition at the Blyth Gallery from 17 March – 23 April. 'Walk around the World' is organised by Imperial as One, the College's race equality network and aims to celebrate the diversity of the Imperial community. The exhibit will be made into an e-book and the department which submits the most entries will win a prize.



For more information visit:
bit.ly/staff-exhib



9-13 MARCH

Women at Imperial Exhibition

Visit this public exhibition of photographs and archive material celebrating the work of female staff and students at Imperial past and present. Find out about some of the College's leading female researchers, travel along a timeline of women who have held notable posts at Imperial

for the first time, and explore some the College's schemes to bring about more equal representation of women as students, as faculty members, as entrepreneurs and as leaders. This exhibition forms part of a wider Women@Imperial celebration, which runs February – June 2015.

25 FEBRUARY, 14.00

Biophysics and bioengineering across scales – from molecules to tissues



Professor Peter Weinberg (Bioengineering) speaks at this Francis Crick Institute symposium focusing on the increasing overlap between biology and the physical sciences.

25 FEBRUARY, 12.30

Public engagement workshops: impact evaluation

Imperial Festival evaluator Sarah Jenkins discusses how to design and assess public engagement activities at a lunchtime workshop.

26 FEBRUARY, 13.45

Lunchtime concert

Gina McCormack and Nigel Clayton perform works by Prokofiev, Weinberg and Wieniawski on the violin and piano.

26 FEBRUARY, 18.00

UK energy policy: full steam ahead, but to where?

Ian Marchant, former Chief Executive of SSE looks at the current state of the UK's energy policy at the Energy Future Lab's annual Dennis Anderson lecture.



26 FEBRUARY, 19.00

Blue green dream for bright future cities

Professor Cedo Maksimovic (Civil and Environmental Engineering) discusses the EU-wide project to improve environmental sustainability in cities at this Friends of Imperial ticketed event



4 MARCH, 18.30

Resilience: a systems engineering perspective

Chief Systems Engineer at Dstl, Professor David Oxenham, presents the third Laing O'Rourke Centre for Systems Engineering and Innovation lecture.

5 MARCH, 12.00 – 15.00

Open day: health protection research units at Imperial

Researchers, professionals and members of the public are invited to find out more about the work of the health protection units at this interactive open day.

5 MARCH, 13.00

Lunchtime concert

Noriko Ogawa performs works on the piano by Ravel and Rachmaninoff

11 MARCH, 13.00 – 17.00

Education day 2015: students as partners

Staff and students share experiences of working in partnership, with a keynote talk by higher education consultant Professor Mick Healey.

11 MARCH, 16.00

Challenges and opportunities in the automotive industry

The Department of Mechanical Engineering annual research showcase features a keynote lecture by the CEO of Group Lotus, Jean-Marc Gales.

11 MARCH, 17.30

Driven by mobile autonomy: an enabling technology of the future

Professor Paul Newman, University of Oxford, looks at the questions society needs to discuss about robotics science at the Peter Lindsay memorial lecture.

12 MARCH, 13.00

Lunchtime concert

The Schubert Ensemble of London perform Chausson's Piano Quartet in A major.



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