



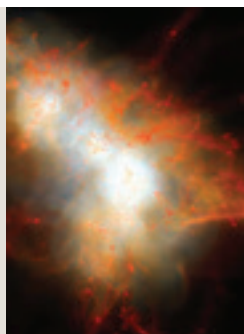
Teaching aids

Undergraduate students
get hands on at a
real construction site

●●● CENTRE PAGES



NEW BEAT
Luke Blair
on leading
Comms and
Public Affairs
PAGE 10



COSMIC NEWS
Giant space
blobs and a
directionless
universe
PAGES 6 & 7



STAR PLAYER
Chris Toumazou
marks
milestone in
innovative style
PAGES 2 & 14



EDITOR'S CORNER

Learning legacy

While the College's reputation is built on world-class research, there's **genuine ambition** for Imperial to become a byword for excellent teaching and student experience. Indeed, the College's Strategy pledges to "embed our educational experience in a vibrant, researched, entrepreneurial environment". In each issue of *Reporter*, going forward, we aim to cover at least one example of **innovative teaching**, including the perspective of both students and lecturers.

In this issue we look at the Constructionarium project (Centre pages), now in its 14th year – where students in the Department of Civil and Environmental Engineering get the chance to work on a **real construction site** and build scale versions of landmark infrastructure including the Gherkin tower. There are some great stories of students taking the module, securing a job in construction, then coming back to help with the module as part of the industry team. That's the legacy of great teaching.

ANDREW CZYZEWSKI, EDITOR

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



The Barrer Centre Leadership team with director, Professor Andrew Livingston (right)

Degrees of separation

A new centre at Imperial launched this month aiming to develop new technologies for reducing the energy cost of separation processes in industry.

Led by a team of chemical engineering academics at Imperial, the Barrer Centre will provide a focus for breakthrough research in separation technology.

Separation processes consume about 40 per cent of energy used in the refining and petrochemical industries. Current techniques often use costly separation

processes such as distillation and evaporation which now account for 10 to 15 percent of the world's annual energy use.

Using membranes for the separation of gases and chemicals provides an alternative, more efficient, non-thermal solution which has the potential to reduce energy consumption significantly, as well as reducing pollution and cutting carbon dioxide emissions. Industrial applications include water recovery, environmental protection, food technology and biomedical devices.

Professor Nick Jennings, Vice Provost (Research) at Imperial said: "Research excellence is at the heart of our academic mission at Imperial. Uniquely this Centre will bring together world-leading research capabilities, an innovative, interdisciplinary approach and new opportunities for lasting industrial partnerships."

Professor Andrew Livingston (see page 11), who will be the Barrer Centre's inaugural Director, said: "A key aim of the Centre is to stimulate, develop and deliver high quality research in all aspects of membrane and adsorption science and technology, ranging from the nanoscale to the macro-scale. Our aim is to elevate the Barrer Centre to international pre-eminence in the field of separation science and materials".

The Centre is named in honour of the late Richard Barrer, a former Head of the Department of Chemistry, who is credited with breakthrough research in polymer membranes. He lends his name to the 'Barrer', the unit of gas permeability which is still used today.

— ANGELA LONERGAN, MICHAEL PANAGOPULOS, DEPARTMENT OF CHEMICAL ENGINEERING

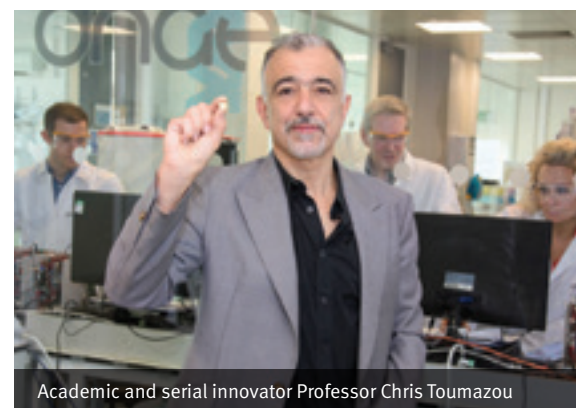
Diagnostic start-up secures major US contract

A device that uses DNA analysis to quickly detect flu and drug-resistant bugs has attracted multi-million dollar funding from a US agency.

The device, known as Genalysis®, is being developed by Imperial start-up company DNA Electronics (DNAe), which is based at the White City Campus. It has been awarded a contract worth up to \$51.9 million from the Biomedical Advanced Research and Development Authority (BARDA).

The collaboration will see DNAe working with BARDA to further develop Genalysis®, so that hospitals in the US can rapidly detect the early signs of drug-resistant bugs and influenza in patients to make treatments quick, personalised and more effective.

Professor Chris Toumazou, Chairman of DNAe and Chief Scientist at Imperial's Institute of Biomedical Engineering (see page 14), said: "The way we diagnose patients is undergoing a massive transformation. We are now moving away from gene sequencing being carried out in big laboratories. Instead, devices like



Academic and serial innovator Professor Chris Toumazou

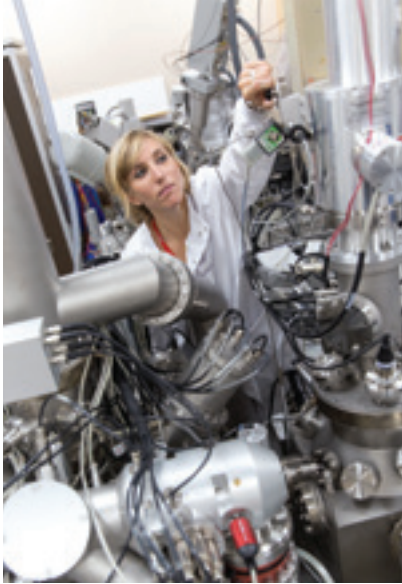
Genalysis will be able to do it more efficiently and quickly at the point of care, which we believe could lead to more effective treatments for patients."

Dr Sam Reed, an Imperial alumnus and DNAe's President, US Office, said: "If a new influenza pandemic arises, large numbers of symptomatic patients may arrive at healthcare facilities. The Genalysis® device could rapidly discriminate patients who have the newly-arising pandemic strain from those that have seasonal flu or other common viruses."

—COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS

Maintaining excellence

Imperial has renewed its Athena SWAN silver status in recognition of its ongoing support for women in science.



The institution-wide award, originally granted in April 2012, recognises Imperial’s successful development of employment practices that further and support the careers of women in science, technology, engineering, maths and medicine.

In renewing its status, Imperial was required to demonstrate evidence that it had delivered on promises made in the original submission as well as developing new plans and initiatives.

Indeed, Imperial is the first university to renew its silver status under

new criteria, which now includes gender equality in arts, humanities, social sciences, business and law departments (AHSSBL).

Imperial’s Provost, Professor James Stirling paid tribute to College staff across all departments and in the Human Resources Division who worked hard on the renewal submission.

He said: “At Imperial, we know that attracting, developing, promoting and retaining the very best female staff is key to our remaining one of the world’s great universities. This is why we are committed to removing barriers and ensuring gender equality at all levels across the College. Athena Swan plays an important part in this.

“The renewal of our existing silver award is by no means a formality; that we have managed to do this is a tremendous achievement, and reflects very positively on the progress we are making on gender equality and staff support.”

In addition to the College’s institution-wide award, Imperial College Business School was for the first time awarded a Bronze Athena SWAN Award, among the first university business schools to receive the award.

Stephen Hawking wows Imperial

Last week, Cambridge physicist Professor Stephen Hawking told a packed audience at Imperial that **black holes are not as dark and destructive as we think.**

Joining Professor Hawking at the special event were five of his former students, who are now all professors in the Department of Physics at Imperial – Jerome Gauntlett, Chris Hull, Jonathan Halliwell, Fay Dowker and Toby Wiseman.

Professor Hawking said earlier in the day: “I am very pleased to be here today to give this public lecture. Over the years I have developed close connections with the Theoretical Physics Group at Imperial, whose members have made important advances in our understanding of fundamental physics.

“Looking forward, Imperial continues to be one of the world’s leading centres for research in theoretical physics, string theory, cosmology,

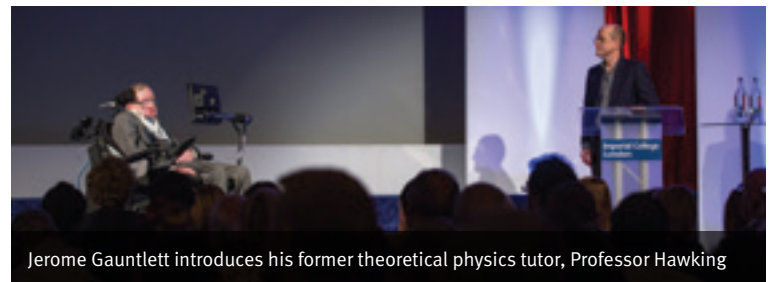
and quantum gravity, and the College should be very proud. I am confident that the Theoretical Physics Group, including five former members of my own Relativity Group in Cambridge, will continue the great tradition of fundamental physics research at Imperial.”

Following his talk on the nature of black holes, Professor Hawking answered questions from the audience, including whether artificial intelligence could ever take over.

Professor Jerome Gauntlett, Head of the Theoretical Physics Group at Imperial said of the event: “It was an honour and a privilege to host Stephen Hawking at Imperial.

“The campus was buzzing with excitement before his brilliant and inspirational lecture in the Great Hall, where the atmosphere was electric. It was a wonderful celebration of theoretical physics and an extraordinary event!”

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS



Jerome Gauntlett introduces his former theoretical physics tutor, Professor Hawking

in brief

Commemoration day 2016

More than 2,200 undergraduate students in front of some 6,800 guests took to the stage in the Royal Albert Hall to receive their degrees last week. For the first time the ceremonies were streamed live allowing family and friends around the world to join in with students’ celebrations. Congratulating graduands, Professor Alice Gast says: “Imperial is a European university and, in fact, a global



university. You have learned from academics who may have been born in one country, educated in another, and who collaborate globally in their research. You have shared classes and made lasting friendships with students from all over the world. The major problems facing the world extend beyond national borders and demand global cooperation and collaboration. I urge you to maintain your global outlook in your careers and personal life.”

Fintech future

Industry leaders, entrepreneurs and academics gathered this month to discuss the latest trends in financial technology at the Business School’s Fintech Conference 2016. The event was held in celebration of Imperial’s new Centre for Global Finance and Technology, which was launched with initial support from Citi. Researchers at the Centre aim to improve our understanding of the impact of technology on finance, business and society.

“I took my grandson to the Fringe, a really fantastic evening for both of us, we learnt a huge amount and can’t wait for the next event. Thanks to James Romero [Advancement] for his help and all the enthusiastic, knowledgeable and child-friendly students.”



IMPERIAL VISITOR SUE THORNTON COMMENTS ON IMPERIAL’S WATER-THEMED FRINGE EVENT EARLIER THIS MONTH

Pushing boundaries in teaching and research

Imperial's new £1 million Excellence Funds aim to promote courageous and innovative ideas in research and teaching.

First announced in the President's Address in March 2016, the new Excellence Funds will provide funding for staff to pursue the new and the risky, with £500k each allocated for the Excellence Fund for Learning and Teaching Innovation and the Excellence Fund for Frontier Research.

Professor Simone Buitendijk, Vice-Provost (Education), will oversee the teaching fund. The first year of the scheme will focus on supporting innovation in the use of technology enhanced learning and innovation in assessment and feedback.

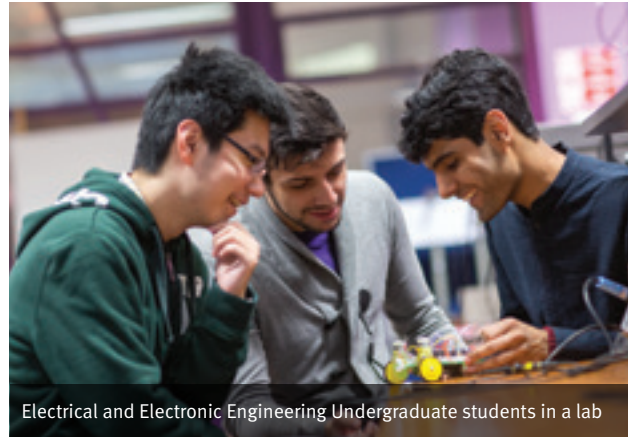
Professor Buitendijk said: "My priority is to bring academic rigour to our own teaching, to ensure it is challenging, student-centred, and outward looking. It should equip our students with the qualities modern society demands: questioning and deep knowledge coupled with collaboration skills and an entrepreneurial mindset. This funding will give our excellent teachers the time and space to be bold, to test new methods, and to learn."

Professor Nick Jennings, Vice-Provost (Research), who will oversee the research fund, said: "It will support individuals or research groups who are moving into new or underdeveloped research areas, or examining a well-established research question from a fundamentally new and disruptive angle."

—ELIZABETH NIXON, COMMUNICATIONS AND PUBLIC AFFAIRS



Broadening Perspectives



Electrical and Electronic Engineering Undergraduate students in a lab

A new pilot project has been launched in the Faculty of Engineering to deliver unconscious bias training to new undergraduate students.

The training, delivered last week with the Departments of Earth Sciences and Engineering and, Electrical and Electronic Engineering, has been introduced to better prepare students for the issues around bias as they develop their careers during and after their studies.

Unconscious bias is the result of a person's brain making an incredibly quick judgement or assessment of people and situations without them realising it. These biases are influenced by a person's background, cultural environment and personal experiences, often without a person being aware of their impact or implications.

Su Nandy, Senior Human Resources Manager for the Faculty of Engineering said: "With many of our students going into start-up organisations, often during their studies, and taking on leadership roles much quicker than before it's important to bring issues like unconscious bias to their attention.

"Hopefully by exploring these issues early on in their academic careers we can both better enhance the student experience here in the faculty and prepare them to become better managers and leaders in the future."

Second year student Roxana Radu, who took part in the session said: "It opens your eyes to bias around you. Even though we're not yet in a workplace I think it can be relevant to students who can be naive and easily influenced by others.

"I don't think you can change a person completely but the session means if I was to face one of those biases it would be easier to recognise it and act appropriately."

Further sessions for students from the Departments of Mechanical Engineering and Computing will take place later this academic year.

—JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS

Working balance

Imperial has been recognised as one of Britain's most family friendly workplaces.

The College is the only Russell Group institution and one of only four other universities to place in the top 30 in the Employers for Working Families ranking, which is based on benchmarking survey data from the charity Working Families. The survey, undertaken earlier this year, assessed all aspects of the College's workplace flexibility and how it supports the work-life balance of staff.

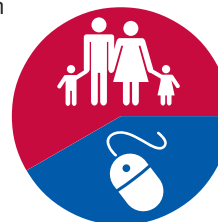
Louise Lindsay, Director of Human Resources, said: "I am delighted by the

award and how it further emphasises the College's continued commitment to building a supportive and inclusive staff community."

The survey data was compiled by Suzanne Christopher, Senior HR Manager (Staff Engagement) and Su Nandy, Senior HR Manager (Faculty of Engineering), who also picked up the award earlier this week at the National Work Life Week Conference, organised by Working Families.

Suzanne commented: "Being recognised in the Top 30 is a huge achievement and places Imperial firmly on the map as a workplace that supports its staff in having a healthy work life balance".

—MATTHEW JOWETT, HUMAN RESOURCES



media mentions



Keeping Britain's doors open to talent

WALL STREET JOURNAL ▶ 07.10.2016

Writing in the *Wall Street Journal*, Imperial's President, Professor Alice Gast sets out the challenges and opportunities of Brexit: "When the United Kingdom leaves the European Union, the country will regain control over its borders. But it's how Britain manages that control, including the inflow of immigrants, that will set the scene for its business and entrepreneurial success. At Imperial, we value our thousands of international students, not least for their entrepreneurial spirit and vibrancy. Britain must not let Brexit be misinterpreted as a closing of the country's doors. We must overcome this impression among bright entrepreneurial people, seize the opportunities and make the UK a destination for foreign talent."

awards and honours

ENGINEERING

Sustainable leadership

Dr Miao Guo (Chemical Engineering) has been awarded an Engineering and Physical Sciences Research Council (EPSRC) fellowship to work on engineering for sustainability



and resilience. Each year the EPSRC rewards outstanding individuals with a fellowship to establish themselves as a leader in the field. After coming to Imperial to complete a PhD in the Department of Life Sciences, Miao has been carrying out post-doctoral research in the Centre for Process Systems Engineering (CPSE) under the supervision of Professor Nilay Shah, focusing on UK bioenergy value chain design.

MEDICINE

Best of the best

James Best, Dean of LKCMedicine, has been appointed Officer of the Order of Australia in recognition of his service to medicine and medical education. The accolade,

UK's billions of takeaway cups could take 30 years to break down

THE GUARDIAN ▶ 05.10.2016

Coffee-addicted Britain is leaving a mountain of toxic waste for the next generation as scientists warn it could take decades for paper cups to decompose. While the paper can be recycled, the problem arises because recycling plants do not have the facility to remove the plastic lining which makes the cups impermeable. Speaking to *The Guardian*, Chris Cheeseman (Civil and Environmental Engineering), Professor of Materials Resources Engineering, says the polyethylene is resistant to degradation and could take around 30 years to break down. "Even then we don't know for sure, because nobody has looked at the cup specifically," added Cheeseman.

British scientists on brink of HIV cure

THE SUNDAY TIMES ▶ 02.10.2016

A British man with HIV hopes to become the first in the world to be cured of the disease by using a pioneering new therapy designed to eradicate the virus, *The Sunday Times* reports. The 44-year-

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old is the first of 50 people to complete a trial of the ambitious treatment – the result of an unprecedented collaboration between five top universities including Imperial. "This therapy is specifically designed to clear the body of all HIV viruses, including dormant ones," said Professor Sarah Fidler (Medicine). "It has worked in the laboratory and there is good evidence it will work in humans too but we must stress we are still a long way from any actual therapy."

Testosterone could help boost women's libido

BBC NEWS ▶ 8.10.2016

Women suffering from a loss of sexual desire should be offered testosterone on the NHS, a doctor has suggested. Nick Panay, from the Royal College of Obstetricians and Gynaecologists, told a GPs' conference that it could also improve women's energy and mood. Commenting on the matter to *BBC News*, Dr Channa Jayasena (Medicine), Clinical Senior Lecturer in Endocrinology, said testosterone can be given to women in much lower doses than men. He said: "It's mainly given in a patch. Women have both sex hormones – oestrogen but also testosterone – made by their adrenal glands and also the ovaries. It is a natural hormone but less is known about its effects."

conferred as part of this year's Birthday Honours, recognises individuals for their contributions to Australia or to wider humanity. The Lee Kong Chian School of Medicine in Singapore is a collaboration between Imperial and Nanyang Technological University. The School, which admitted its first students in 2013, aims to train doctors to meet Singapore's future healthcare needs.

NATURAL SCIENCES

Particle prize

Two Imperial physicists have shared a prize for experimental physics for their work masterminding the CMS and ATLAS

experiments. The W.K.H. Panofsky Prize in Experimental Particle Physics has been awarded to Professor Sir Tejinder (Jim) Virdee, and Dr Michel Della Negra (pictured, both Physics), as well as Dr Peter Jenni from CERN – "For distinguished leadership in the conception, design, and construction of the ATLAS and CMS detectors, which were instrumental in the discovery of the Higgs boson."



Gene therapy potential for Alzheimer's



Researchers have prevented the development of Alzheimer's disease in mice by using a virus to deliver a specific gene into the brain – opening avenues for potential new treatments for the disease.

The team used a type of modified virus vector to deliver a gene called PGC1-alpha to brain cells. Previous studies in the lab have suggested that this gene may prevent the formation of a protein called amyloid-beta peptide. Amyloid-beta peptide is the main component of amyloid plaques, the sticky clumps of protein found in the brains of people with Alzheimer's disease. These plaques are thought to trigger the death of brain cells.

Senior author of the research Dr Magdalena Sastre (Medicine) hopes the new findings may one day provide a method of preventing the disease, or halting it in the early stages.

She explained: "Although these findings are very early they suggest this gene therapy may have potential therapeutic use for patients. There are many hurdles to overcome, and at the moment the only way to deliver the gene is via an injection directly into the brain. However this proof of concept study shows this approach warrants further investigation."

—KATE WIGHTON, COMMUNICATIONS AND PUBLIC AFFAIRS

HEALTH STATS

4.75 million people affected by dementia worldwide



Alzheimer's = most common form of dementia

520,000

people affected by Alzheimer's disease in the UK

Symptoms include:
memory loss
confusion
change of **mood**
or **personality**



Scientists confirm the universe has no direction

The universe is not spinning or stretched in any particular direction, according to the most stringent test yet.

Looking out into the night sky, we see a clumpy universe: planets orbit stars in solar systems and stars are grouped into galaxies, which in turn form enormous galaxy clusters. But cosmologists assume this effect is only local: that if we look on sufficiently large scales, the universe is actually uniform.

The vast majority of calculations made about our universe start with this assumption: that the universe is broadly the same, whatever your position and in whichever direction you look.

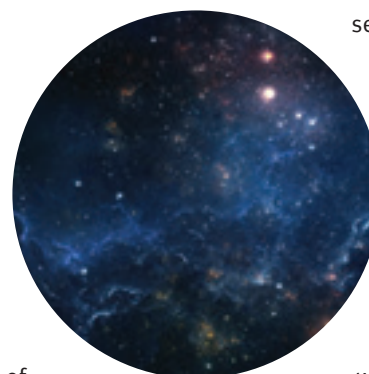
If, however, the universe was stretching preferentially in one direction, or spinning about an axis in a similar way to the Earth rotating, this

fundamental assumption, and all the calculations that hinge on it, would be wrong.

Now, scientists from UCL and Imperial have put this assumption through its most stringent test yet and found only a 1 in 121,000 chance that the universe is not the same in all directions.

To do this, they used maps of the cosmic microwave background (CMB) radiation – the oldest light in the universe created shortly after the Big Bang – taken between 2009 and 2013 by the European Space Agency's Planck satellite.

Dr Stephen Feeney (Physics) and team



searched for patterns in the observed CMB. The results, published in the journal *Physical Review Letters*, show that none were a match, and that the universe is most likely directionless.

Dr Feeney said:

"This work is important because it tests one of the fundamental assumptions on which almost all cosmological

calculations are based: that the universe is the same in every direction. If this assumption is wrong, and our universe spins or stretches in one direction more than another, we'd have to rethink our basic picture of the universe."

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS

Healing broken brains

Dr Sara De Simoni talks traumatic brain injury, its devastating after-effects, and the research being done at Imperial to help patients.

What is TBI and how many people are affected?

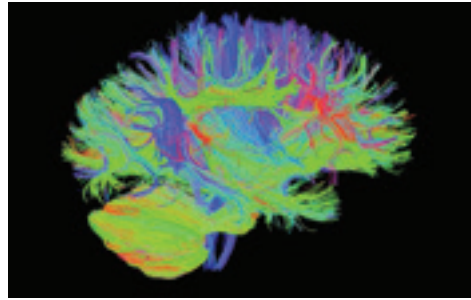
Traumatic brain injury, or TBI, is one of the commonest causes of death and disability worldwide in people under 40 years old. TBI is an injury to the brain caused by an external force such as in a car collision. The severity of the injury, ranging from mild to severe, determines the long-term effects on the patients.

What are the effects of TBI?

TBI can have devastating effects on health. In the short term, TBI can cause post-traumatic memory loss or amnesia. Longer term effects include cognitive problems such as difficulty thinking, memory problems, and trouble concentrating, which ultimately can lead to loss of employment and homelessness. Mental health problems, such as depression, can result in relationship breakdown. Many other problems can severely affect quality of life, such as disrupted sleep, hormonal problems and epilepsy.

What is your research team doing to treat TBI?

Imperial's TBI research group is taking a multi-faceted approach to TBI research. The studies range from trying to identify preventative



measures, such as improving helmet design, to tracking recovery following a TBI. Intervention studies are also a major focus. For example, at Imperial, we are testing the effectiveness of methylphenidate, or Ritalin, to help those suffering with TBI-related disorders. Methylphenidate is currently used to treat ADHD, but might be effective in improving cognitive function after TBI. However, the response to treatment can be highly variable between patients. Therefore, what is needed in the clinic is a way to target the use of these drugs to patients who are likely to respond.

What more needs to be done to help those suffering with the long term effects of TBI?

For a long time, TBI has been a neglected research area. An important goal for us is to understand why there is such a range in how people fare after TBI. This involves research studies which track recovery over time, starting with the injury and following people up over years. These large, comprehensive and long-term studies require huge amounts of manpower and funding. However, given the huge personal, societal and financial cost of TBI, these studies represent an important investment.

—CAROLINE BROGAN, COMMUNICATIONS AND PUBLIC AFFAIRS

Dr Simoni (bottom row, third from right) with her colleagues in the TBI research group



Giant hydrogen space blob reveals galaxy formation secrets

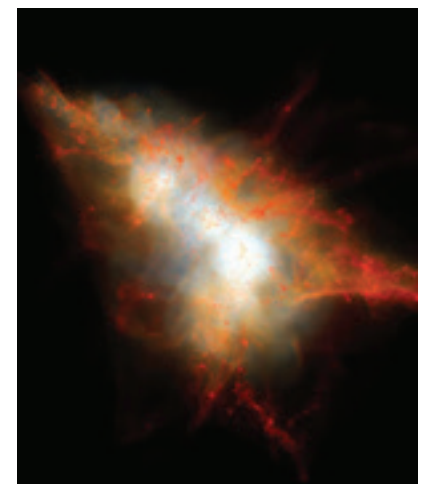
Scientists have witnessed galaxies forming inside a mysterious giant space blob, which will one day form the heart of a giant galaxy cluster.

Lyman-alpha Blobs (LABs) are gigantic clouds of hydrogen gas that can span hundreds of thousands of light years. Their structure looks relatively simple, but they glow far more brightly than might be expected.

What causes the bright glow has been a mystery for 15 years, but now scientists have confirmed that two galaxies are forming within the largest ever Lyman-alpha Blob yet discovered – LAB-1. Using advanced telescopes, the researchers peered deeply into LAB-1 through the dust clouds to pinpoint several sources of radiation and light within the space blob, where they spotted the two young, growing elliptical galaxies. They deduced that the blob is creating stars over 100 times faster than the Milky Way. It is this frenzy of star formation that lights up the surrounding blob.

Study co-author Dr Dave Clements (Physics) said: "These blobs have been a mystery for a long time, but thanks to this large collaboration between experts and a variety of telescopes, we think we have solved a 15-year-old mystery: Lyman-alpha Blob-1 is the site of formation of a massive elliptical galaxy that will one day be the heart of a giant cluster. We are seeing a snapshot of the assembly of that galaxy 11.5 billion years ago."

—CAROLINE BROGAN, COMMUNICATIONS AND PUBLIC AFFAIRS



Constructing

the engineers of the future

Undergraduate civil engineers translate their knowledge into concrete and steel during Imperial's ground-breaking Constructionarium course

This summer, 84 second year undergraduate students made the journey to the National Construction College, in Bircham Newton in Norfolk, to take part in Imperial's hugely successful Constructionarium module.

Pioneered by industry partners and Civil Engineering staff, Constructionarium is a radical design course, allowing students to manage and build real engineering projects at a bespoke construction site provided and supported by the Construction Industry Training Board (CITB).

Currently in its 14th year, this project has been adopted by over 20 UK universities, owing to its unique project-based learning.

Alison Ahearn, Principal Teaching Fellow



in the Educational Development Unit, and one of Constructionarium's founders, said: "We have evolved from a classroom module, in which we asked students to make structural members out of rolled-up paper, into a multi-million pound outdoor learning environment with steel and concrete."

With the support of Imperial staff, technicians and Graduate Teaching Assistants, four teams of 21 students were challenged to form their own construction companies and complete their project within a week, as well as manage their budget and materials. This year's projects included scaled-down versions of Kingsgate Footbridge, the Gherkin skyscraper, Don Valley Stadium, and Ravenspurn Oil Rig.

Over the years, Constructionarium has strengthened relations between Imperial and industry partners. Students were joined on site by several senior engineers from contracting and consultancy practices, including Morrisroe, Expedition Engineering, Godber and Co. and CH2M.

Most of the students had never set foot on a working site before, but after receiving health and safety briefings and professional training with power tools, they were soon coordinating and directing excavators, cranes and concrete trucks.

Hak Nazerali, a Health and Safety Engineer from Morrisroe, said: "Constructionarium is a great transition from theory to a hands-on, practical-learning experience. It helps the students to really understand time-frames and the process behind all the planning in construction."

The physical nature of Constructionarium was a new concept for many of the students, who discussed the challenges they had envisaged for the week.

Student Alice Jackson said of the experience:

"I never thought that contracting would be something I would be interested in, but this has been a once in a lifetime opportunity. I've had such a good time. The fact that you're starting from scratch and you're seeing all this being brought together, I can now truly understand why people would want to be a part of construction."

Fellow student Jean Marc Feghali added: "It's been like nothing we've encountered before. There are so many more things to think about when it's real, particularly executing the project and keeping everyone safe on site."

The students were joined by Imperial's Stefan Algar, Laboratory and Concrete Operations Manager at the Structures Lab. He said: "The students are in a very challenging situation, but they've had a great attitude towards their work throughout the week. As technicians, we're here to bring a practical element, but the students have done all the thinking, all the learning, and all the doing."

“The fact that you're starting from scratch and you're seeing all this being brought together, I can now truly understand why people would want to be a part of construction.”

Hak Nazerali, from Morrisroe, added: "Everyone here deserves to feel a great sense of achievement. They've learned so many key skills, and they've improved hugely over the week. Their health and safety standards are phenomenal."

Dr Sunday Popo-Ola, Research and Teaching Fellow and coordinator of the day said: "Constructionarium allows every student to taste the responsibilities of practical engineering, which converts students of engineering into student engineers. We are very proud of the success of this year's students and of our teaching team. We could not do it without our industry partners."

—MELANIE HARGREAVES, CIVIL AND ENVIRONMENTAL ENGINEERING

Training ground

Two students on the Don Valley team were offered summer internships with the on-site contractors, based on their outstanding performance during Constructionarium. One of them, Benjamin Mantell, spent the summer with Morrisroe, first working for a month in their head office on design and planning, then a month on site. "I realised how much additional design must be done in order to actually build the plans provided by an engineering consultancy," he said, adding: "Then on site I learned that not everything goes exactly as planned and how forward thinking from the whole team on site can prevent time-costly mistakes."

Professor Nick Buenfeld, Head of Civil and Environmental Engineering noted the Department's international reputation for producing world-class graduates with excellent career prospects: "With its strong links with industry, employers, and professional institutions, the Department's Undergraduate programme has been designed to equip students with real-world engineering expertise through field courses such as Constructionarium and surveying, creative design courses and project-work. Extending students' technical knowledge with hands-on experiences, and exploiting valuable networking opportunities with employers is key to rapid mastery of the transferable skills necessary for a successful career in engineering."



The Gherkin

With 40 storeys reaching 180 metres into the sky, the Gherkin is one of the most recognisable skyscrapers in London. One team was challenged to build a 1 in 10 scale, four storey, 12 metre high replica of the tower, using prefabricated steel members connected in a diagrid form to a ringed concrete foundation. The students used over 1000 bolts to connect the steel shell-structure.

The team needed to perfect the calculations, surveying, and setting-out, or the building would be distorted.

Speaking on site, student Alice Jackson said: "Fitting the curved timber formwork for the concrete ring foundation, and getting the steel reinforcement inside to fit was quite a challenge."

The team impressed with their improvising skills when their vibrating poker (used to compact wet concrete) broke down, forcing them to manually churn the concrete with sticks. When the formwork was removed there were only a few minor blemishes on the concrete's surface.

"The team's concrete was of outstanding quality, considering they were unable to use a poker," said Graham Hardwick, of Morrisroe.

The final tasks on Friday morning were to lift the preassembled steelwork on to the structure, using a 35-tonne crane, fit the floor slabs in at each level, and bolt them together.

Speaking from the summit of the completed Gherkin, student project manager Azhar Ali said: "We may not be on top of a real skyscraper, but this is the highest we've ever felt. Would I do all this again? Every day!"



The team of staff on hand, including Imperial lecturers and technicians as well as engineers from industrial partners

Ravenspurn Oil Rig

Ravenspurn is a 28,000 tonne oil platform in the North Sea, installed 80km off Britain. Developed by Arup Energy in 1989, the rig has a unique design which allows it to have two decks, whereas previously only one has been possible.

The Constructionarium students' re-creation took place in a drydock separated from a lake by a dam and included a 4 metre square concrete base attached to a steel superstructure.

During construction some students had to sail into the 2 metre-deep lake and level the designated sinking location with gravel. The test of success was to fill the drydock with water before the dam was opened, so that the structure could float from the drydock to the prepared sinking location.

"We were casting the concrete for the base of the rig, which was going perfectly, but we then managed to pour too much concrete," said student Teddy Taleongpong. "Our team project managers, Claudia Caravello and Christina Trigle, immediately set the whole team to work removing the excess concrete with buckets, which saved the project."

On the final morning of the Constructionarium week the team successfully flooded the drydock, and towed the oil rig to the centre of the lake, where, after a tense wait, the structure sank into position.

"I have loved the hands-on experience of Constructionarium," Teddy said. "It's helped to confirm even more that I want to be in engineering, and that I want to be working on site with macro-projects."



“Brexit is going to put Imperial and the sector in a very challenging, sometimes uncomfortable position.”

Luke's CV

- Vice-President, Communications and Public Affairs, Imperial College London
- Board Director, London Communications Agency
- Associate Director, Fishburn Hedges
- Media Relations Manager, The Design Council
- Political Correspondent, Evening Standard
- Reporter, Reading Chronicle



New beat

Luke Blair joined the College in September as Imperial's first ever Vice-President (Communications and Public Affairs), responsible for leading and driving communications across the College to strengthen and enhance its position as one of the world's top universities

As a 'cub reporter' on the Reading Chronicle, did you ever believe you'd find yourself at the top table at one of the world's best universities?

I don't think I really had any proper career plan at that stage, and in fact I only started on the newspaper two weeks after my finals. It was a classic local newspaper experience with typewriters, carbon paper and offset printing press – it was all printed onsite and you could see the paper going round the building on these huge rollers. I also remember my first front page splash, with the headline: “Thug rule in aggro square” and the intro: “Hordes of youths have been terrorising Coronation Square, Southcote, in an orgy of night-time violence.” I have no idea why I remember that, but it's still in there.

You were a political correspondent at the Evening Standard, at the heart of Westminster – did you learn any valuable lessons about the machinations of power there?

Yes, I worked in the Press Gallery of the Houses of Parliament. There used to be a very small elevator that connected it to the Lobby, so you used to get in with all sorts of people. They tended to fall into two camps: those who were pleasant and would talk with you and others who simply ignored any attempts at conversation, seeing it as beneath them. And you'd be surprised by the people who fell into each camp. Tony Blair's rather infamous Director of Communications, Alastair Campbell, was always very friendly, and a formidable talent. He once looked at my upside-down notepad, full of shorthand notes, and said: “That's a great story, and a good quote.”

It seems like you had a fascinating and varied 13 years at London Communications Agency including various external directorships – tell me about some of the highlights.

There was certainly huge variety and I've probably done more of those kinds of jobs than many of my peers – I've run comms for a London Borough, two hospital trusts, Transport for London, National Car Parks, various bits

of the NHS, and did a review of a government department's comms. They were all large complex projects and it's a bit of a truism to say, but all so different and so similar at the same time.

And you were given a fairly special send-off by the sounds of things?

Yes. Sir Peter Hendy, Chairman of Network Rail and former Transport Commissioner, is a good friend and former colleague and has this hobby where he drives a vintage routemaster bus around for charity, sometimes auctioning his services to corporate partners. He did a special commission for my LCA leaving do, which was very kind of him and of LCA.



Obviously your strengths in transport and health play well to Imperial, but what made you make that leap?

I felt that I'd probably learned as much as I could at LCA – I wanted a new challenge, to learn something really different and I'm starting to appreciate just what a challenge that will be. Between accepting the job and arriving here something rather monumental has happened. Brexit is going to put Imperial and the sector in a very challenging, sometimes uncomfortable position. Of course we do have this amazing position in the sector and in London, and we've got a great reputation – but it doesn't mean we're not exposed.

I understand music has played a big part in your life?

I've got a friend who says it's good for the soul and I think that's very true. My three children are also very much into music so clearly it's in the family. I've often played in bands, from my teenage days in the 1970s to more recently for a cover band. I also organised student union gigs at my alma mater Reading University and managed to book some quite big 1980s bands like The Smiths and Motörhead.

Luke's love of the 1970s music and art scene features in a Museum of London exhibition called Punk, celebrating 40 years of the movement. Visit: bit.ly/punk-show

inside*

story

mini profile

Andrew Livingstone

Professor Andrew Livingstone stepped down as Head of the Department of Chemical Engineering on 1 October, after eight years at the helm. He now becomes the inaugural Director of the new Barrer Centre (see page 2).



What inspired you to study chemical engineering?

Ever since I was little I've really liked engineering. As a kid, I remember I would take my father's old tobacco tins and put a hole in them with a screw and then light a fire underneath them and it would start making steam. Then I would undo the screw and it started to release the steam. Eventually if the pressure got too high it would blow the top off the tobacco tin. So I have always had this fascination with thermodynamics and steam and how steam could drive things.

What does being a HoD involve?

I think it involves two things really. There's the strategic leadership of the department: ensuring that the department is heading in the right direction and that vision is shared by others. And then there is the day-to-day operations, making sure that we provide quality teaching and research, and take care of students

and staff. As a HoD I've been surrounded by outstanding administrators and people who've supported me, so I haven't had to worry about the detail of many of those things because the quality of the professional staff is equal to the quality of the academic staff. Which means that the department runs in a highly efficient way and you can focus on high level strategic objectives.

What is your happiest memory about being a HoD?

I think the most pleasant job I have or the thing I like the most is when I get to go around telling staff that they've been promoted. I have the privilege of going and telling staff that "Guess what, you're a Reader/Professor/Senior Lecturer!" They're always really happy and I'm really happy that we've got through the promotions process. That gave me a buzz eight years ago and still gives me a buzz now.

—DORA OLAH, CHEMICAL ENGINEERING

Supporting Imperial's great teachers

As part of Imperial's commitment to delivering world class teaching, the Education Development Unit is supporting excellent teachers to lead the way.

Imperial has a number of Higher Education Academy (HEA) Fellows who have been supported in developing their practice and now demonstrate excellence in their teaching.

The HEA Fellowship programme recognises commitment to best practice in teaching and learning. There are currently around 65,000 HEA Fellows across the higher education sector.

Imperial has its own in-house programme to support staff in applying for HEA Fellowship. Open to academic and non-academic staff who are engaged in teaching work at the College, the STAR framework run is by Imperial's Education Development Unit (EDU).

Dr Martyn Kingsbury, Director of Education Development said: "With the introduction of the Teaching Excellence Framework (TEF) professional recognition with HEA fellowship is increasingly valuable across the HE sector and useful more widely as evidence of good technical communication skills."

We spoke to three of Imperial's Fellows about why they applied for their HEA Fellowship.

Dr Parsapour Shaddeh – Locum Consultant Vascular Surgeon (HEA Associate Fellow)

In my role I regularly teach medical students, junior doctors and nursing staff. I have a very busy schedule working within the NHS but the EDU has always been accommodating for one to one meetings and guiding me through the application. The Fellowship scheme teaches the teacher the most effective teaching methods, guides them on how to assess their students and also how to assess the effectiveness of their own teaching methods.

Dr Andrew McKinley – Principal Teaching Fellow, Department of Chemistry (HEA Senior Fellow)

I became a Teaching Fellow at Imperial because I really enjoyed the curriculum development side of things and I decided I wanted to make education my career focus. I attended the STAR workshops which were useful as they allowed me to bounce ideas of other people going through the same process. Becoming a fellow has given me confidence as an education professional in a research focussed institution. It provides you with a sense of validation of your skills and professional knowledge which has given me the confidence to support colleagues to develop their teaching too.



Georgina Wildman – Senior Library Assistant (NHS Support) (HEA Fellow)

My role at Imperial as a Senior Library Assistant means I offer teaching and training to NHS staff on library and research skills. I was encouraged to apply for an HEA Fellowship by my manager. The process was quite easy and the help from the EDU was invaluable.



—JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS

If you are interested in applying for HEA Fellowship contact the Education Development Unit. You can also find out more about the STAR introductory workshop online or contact them by email: bit.ly/Star-teachers

Imperial success at Inaugural Cybathlon

A team from Imperial competed in the world's first ever "bionic Olympics" this month – securing a silver medal in one event.

The Cybathlon enables people living with severe disabilities to compete in sports, where they have previously been unable to take part, with the help of assistive technologies.

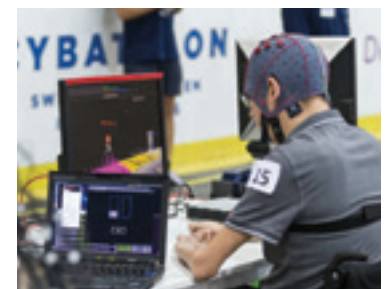
A team of academics and students from the College and their volunteer athletes, called pilots, competing in the Cybathlon, held for one day in Zurich Switzerland on 8 October 2016. Amongst the technology in the competition is a wheelchair that the user can control via eye movements, developed by Dr Aldo Faisal and his team from the Departments of Bioengineering and Computing.

At the Cybathlon, team Imperial competed against 58 teams from 29 countries in the Swiss Stadium in Zurich in front a crowd of thousands including family, friends and supporters.

Altogether, the Cybathlon comprises six sporting disciplines and the Imperial team competed in three of them including the



Team Imperial practice ahead of the main event



powered wheelchair race, the brain-computer interface race, the powered arm prosthetic (PAP) race and the functional electrical stimulation bike race – making the final in each event and securing a silver in the bike race.

In this event, pilots whose legs are paralysed cycle around an indoor racetrack on specially configured bikes. An on board

computer stimulates their leg muscles electrically, which means that they can pump the pedals. For this race, team Imperial has formed a partnership with Berkel Bikes UK, which is an athletic team of cyclists supported by manufacturers Berkel Bikes.

Imperial team leader Dr Aldo Faisal (Bioengineering) said: "It was tremendously inspiring

to see how the technology could empower our pilots. The Imperial team was the only one to involve students in the lead up to the competition and it is a testament to their efforts that we did so well. With this success we are now planning for the next event in two years-time. Watch this space!"

—COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS

Calling enterprising female students

The hunt is on for the College's brightest entrepreneurial women, as this year's Althea-Imperial Programme launches.

The programme, now in its third year, is a pioneering initiative to inspire women in science, technology and business to pursue their entrepreneurial ambitions.

A collaboration between Imperial and the Althea Foundation, the programme consists of workshops with high-profile speakers, business coaching, one-to-one mentoring, performance training and networking opportunities to help students develop their innovative ideas into an enterprising project.

At the end of the programme, selected finalists can compete for a total of £20,000



Gabriella Santosa and Florence Gschwend, winner and runner up of the Althea-Imperial Prize 2016

to put towards the development of their idea.

Last year Life Sciences student Gabriella Santosa took home the prize for CustoMem – a new membrane technology to filter hazardous micropollutants from industrial waste water.

The team use a specially engineered bacteria to produce the membranes, meaning that the

manufacturing process is sustainable, low cost, low energy, and doesn't rely on or produce any hazardous chemicals – unlike current methods.

Since winning the Althea-Imperial prize, Gabriella and her co-founder Henrik Hagemann have gone on to recruit two full time members of staff and have been meeting with suppliers and manufacturers to take their product forward.

Speaking at last year's final, Professor Alice Gast said: "If you give women an opportunity, they seize it. Women by their very nature are entrepreneurial, they just need the confidence to make the leap into an uncertain future and pursue their idea.

"Althea-Imperial women do not just produce a product in search of a market. They produce a solution to a problem."

—DEBORAH EVANSON, COMMUNICATIONS AND PUBLIC AFFAIRS

Find out more about the Althea-Imperial programme: bit.ly/Imperial-Althea

Advanced Hackspace holds 2016 Demo Day

Imperial's Advanced Hackspace (ICAH) held its annual Demo Day this month, showcasing some of the innovative projects made by its members.

The annual Demo Day is a showcase of projects and innovations created by ICAH members and was open to students, staff and the general public.

There were a range of innovations on show including Growframe – the collapsible hydroponic farm – and Gyro Gear.

Created by Imperial graduates Faii Ong and Paul de Panisse, Gyro Gear is a glove that utilises the power of gyroscope technology to stabilise hand tremors in Parkinson's patients. The glove aims to significantly improve the day to day living conditions of sufferers of the disease making it easier to complete tasks such as eating and drinking.

Jing Ping, a PhD student in the Department of Materials and Strategy Coordinator for ICAH, said: "Some people aren't sure what a hackspace is or what it can offer them. The Demo Day is a chance to show what the hackspace does, and what its users have created, to the College and the public.

"Whether you're already developing a new idea or want to learn more about how to prototype your idea, ICAH can provide the support and equipment to help you make it a reality."

Established in September 2014, the ICAH gives Imperial students and staff access to a variety of workshops and labs around the College.

Membership is free, and as well as providing access to equipment, ICAH offers a range of opportunities for collaboration with designers and makers from across the Imperial community. Alongside the facilities they host a range of events and workshops throughout the year, including hack-a-thons and the I3 series of talks.

—JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS



Towards a cure for colds

Dr Ross Walton, Professor Sebastian Johnston and Dr Michael Edwards from the National Heart and Lung Institute are a co-founders of Therapeutic Frontiers, a new Imperial spinout which aims to work with drug developers on new treatments for infections such as the common cold.

How are clinical trials run now?

With the common cold, for example, current trials are large scale studies. You recruit hundreds of volunteers, distribute the medication to be trialled and ask participants to keep a diary, noting whenever they have a cold. These typically run for a year or longer.

How different is your system?

The Therapeutic Frontiers model standardises as much of a trial as possible: all participants are infected with the same virus strain in the clinic at a known time point, then we, as clinicians and scientists, can characterise the volunteers' response throughout the trial and if and how a potential treatment works. We also sample and analyse tissue in the respiratory tract, the area where the response is elicited. Because the information is so much more detailed, we are able to recruit fewer volunteers and, dependent on the trial, include asthma and COPD patients.

Why are patients with asthma and COPD important?

If you are generally healthy, the cold is a mild disease. For patients with COPD and asthma, such infections cause a worsening of their disease and can prove life threatening. Current treatments are ineffective against treating these virally induced attacks of disease and thus asthma and COPD patients are some of those who would benefit the most from new medicines.

Our trial volunteers with COPD and asthma generally appreciate the opportunity to contribute towards something that can further our knowledge and treatment of their conditions for fellow sufferers.

What are other issues faced by these patients?

The big issues with asthma and COPD is the lack of new medication to treat attacks of disease. For the past 50 years or so, corticosteroids have been used to treat disease with little progress. The hope is that the knowledge we generate through Therapeutic Frontiers will lead to new medication to effectively treat these patients when they fall ill; perhaps even develop a new regular treatment that provides them with the same resilience to infection as healthy individuals.

—DAVID BARRETO IAN, IMPERIAL INNOVATIONS

long
service

Staff featured in this column have given many years of service to the College. Staff listed celebrate anniversaries during the period 1 August–31 September 2016. The data are supplied by HR and correct at the time of going to press.

30 years

- Mark Curley, Technical Plumber, Estates Division (Silwood Park)
- Jon Fear, Radiation Protection Officer, Health and Safety Services
- Margaret Hall, Senior PA to HoD and DOM, Computing
- Dr Ken MacLeod, Reader in Cardiac Physiology, National Heart & Lung Institute
- Professor Petros Nihoyannopoulos, Professor of Cardiology, National Heart & Lung Institute
- Sarah Payne, Academic Administrator, Chemical Engineering
- Pat Soutter, Honorary Clinical Senior Lecturer, Surgery and Cancer
- Professor Christofer Toumazou, Winston Wong Chair, Biomedical Circuits, Electrical and Electronic Engineering
- Professor Jeffrey Waage, Visiting Professor, Centre for Environmental Policy

40 years

- Professor Anne Bishop, Emeritus Reader in Tissue Engineering & Regenerative Medicine, Medicine
- Professor Roger Greenhalgh, Emeritus Professor in Surgery, Surgery & Cancer
- Professor Sir Anthony Newman CBE, President's Envoy for Health, Medicine
- Gary Senior, Technician, Aeronautics
- Professor Alan Williams, Honorary Professorial Research Fellow, National Heart & Lung Institute

SPOTLIGHT

Professor Chris Toumazou,
Department of Electrical and Electronic Engineering
30 years

This summer Professor Chris Toumazou, one of Imperial's most innovative and respected academics, celebrated 30 years of service at the College – an incredible milestone on what has been a remarkable career journey.

Uninspired by school, Chris finished without any formal qualifications, but later enrolled on a City and Guilds College course, finding he had a natural talent for electronics. He then took a two-year ordinary national diploma followed by a degree in engineering at Oxford Polytechnic, now Oxford Brookes University, and then a PhD.

"I was told I had written a good thesis, so I applied to Imperial College to do a post-doc and, to my disbelief, I was accepted," Chris told the *Guardian* in a recent interview.

Starting as Research Fellow on 1 August 1986, Chris rose to Lecturer in 1987, Reader in 1992 and then Professor in 1994 at the age of 33 – one of the youngest academics to hold the position.

Chris raised over £40 million to create the Institute of Biomedical Engineering at Imperial, aimed at cultivating medical innovation across multiple scientific disciplines – which was opened by Her Majesty the Queen in 2007. In 2013 he became Regius Professor of Engineering – conferred to Imperial during the Queen's Diamond Jubilee.

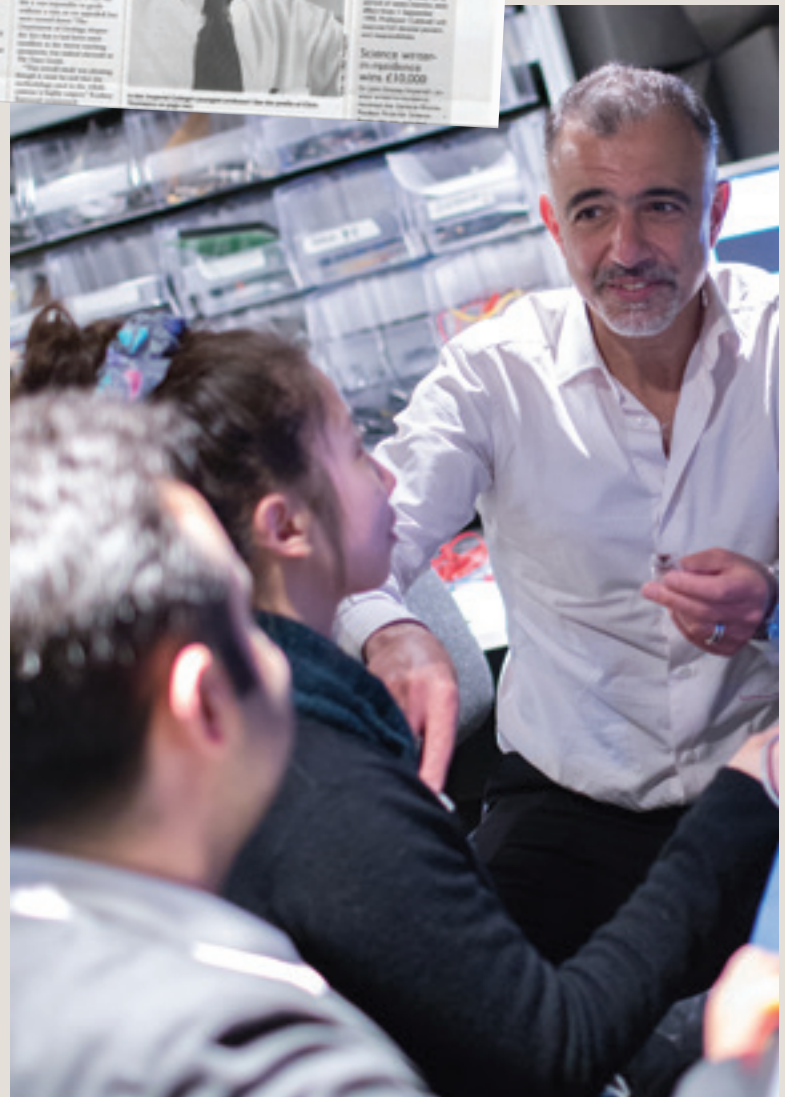
Chris holds more than 50 patents for medical devices and has founded two successful companies (see page 2). Among his many accolades, is his European Inventor of the Year award in 2014, granted by the European Patent Office.

Speaking to *Reporter*, Chris said: "It's been an incredibly exciting 30 years. I have seen the College become an international brand. I have witnessed the conception and formation of institutes to solve global problems in environment energy and healthcare. I have also seen the great merge between medical science, engineering and business.

"The greatest joy is when some of my students become professors but I remain, effectively, a full time student! That's why I love academia. From using the good old 'chalk and talk' to an iPad – the satisfaction of teaching remains."



Professor Toumazou with students in the The Institute of Biomedical Engineering's Acoustic Chamber and (inset) in a 1995 edition of Reporter.



Welcome

new starters

Dr Timothy Adamo, Physics
 Dr Yousif Ahmad, NHLI
 Dr Blerina Ahmetaj-Shala, NHLI
 Dr Judith Alazraque-Cherni, Centre for Environmental Policy
 Miss Ala Amgheib, Surgery & Cancer
 Ms Sinthuka Anantharaja, Medicine
 Dr Athanasios Angeloudis, ESE
 Dr Stefano Angioletti-Uberti, Materials
 Dr Hussain Anwar, Physics
 Miss Krisztina Aslam, Catering Services
 Mr Roberto Banfi, Catering Services
 Ms Nadia Barbu, Mechanical Engineering
 Dr Richard Barlow, Faculty of Medicine Centre
 Mr Joseph Barritt, Life Sciences
 Miss Carrie-Amber Battersby, Catering Services
 Mrs Lavina Bellaramani, Medicine
 Mr Fortune Belletty, Aeronautics
 Mr Ollie Bennett, Advancement
 Mr Fabrizio Bianchi, Mathematics
 Mr Martin Billman, Medicine
 Mr Luke Blair, Communications and Public Affairs
 Dr Rafi Blumenfeld, ESE
 Mr Mathieu Bousquet, Life Sciences
 Miss Ellen Bowler, Life Sciences (Silwood Park)
 Dr Andrea Brini, Mathematics
 Mr Sanaullah Brohi, Catering Services
 Dr Andreas Bruckbauer, NHLI
 Dr Angela Brueggemann, Medicine
 Dr Michael Bruyns-Haylett, Bioengineering
 Miss Kayon Burke, EYEC
 Dr James Butterworth, Surgery & Cancer
 Mr Feipeng Cai, Computing
 Ms Rebecca Callingham, Medicine
 Mr Robert Cashman, HR
 Ms Valentina Cattane, Graduate School
 Mr Diego Ceballos Alcedo, School of Professional Development
 Professor David Chadwick, Chemical Engineering
 Mr Geraint Chaffey, EEE
 Dr Maria Chatzimichailidou, Civil and Environmental Engineering
 Ms Melissa Chee, Materials
 Miss Hannah Cheeseman, Medicine
 Mr Michael Clarke, Estates Division
 Mr George Cleaver, EEE
 Dr Françoise Cluzeau, Surgery & Cancer
 Dr Daniel Coles, ESE
 Mr Paul Corbett, Chemical Engineering
 Miss Suzie Cro, Public Health
 Mr Javier Cudeiro, Bioengineering
 Dr Oscar Dahlsten, Physics
 Mr Andrew Davies, ThinkSpace
 Mr Robbie Davis, Faculty of Engineering
 Mr Leon de Boer, NHLI
 Dr Claudia de Rham, Physics
 Miss Célia Demarchi, Medicine
 Mrs Yvonna Derpsch, Public Health
 Dr Aimee Di Marco, Surgery & Cancer
 Dr Anastasia Dimakopoulou, Medicine
 Dr Dounia-Zede Djeghloul, Clinical Science
 Dr Netan Dogra, Mathematics
 Mrs Daniela Dora, School of Professional Development
 Dr Francois dos Santos, Surgery & Cancer
 Professor Stuart Elborn, NHLI
 Miss Julie Etheridge, Life Sciences (Silwood Park)
 Dr Hugues Evrard, Computing
 Professor Dario Farina, Bioengineering
 Dr Marta Farras Mane, Surgery & Cancer
 Dr Genival Fernandes Da Silva Jr, Mathematics

Mr Fernando Fernandez Alvarez, Faculty of Natural Sciences
 Dr Michael Field, Mathematics
 Miss Katherine Fieldgate, HR
 Ms Jasmine Finer, Physics
 Mr Geraldo Fiorini Neto, ESE
 Ms Silvia Fischer, School of Professional Development
 Dr Matthew Foreman, Physics
 Ms Claire Fox, Education Office
 Mr Jacob Fry, Chemistry
 Dr Adrian Gainar, Chemistry
 Mr Dejan Gajic, Mathematics
 Mr Haoxiang Gao, Mechanical Engineering
 Ms Beregere Genest, School of Professional Development
 Ms Julaiha Gent, Public Health
 Mr Petros Giataganas, Computing
 Mrs Rachel Gibson, Medicine
 Miss Sara Gonzalez Anton, Life Sciences
 Miss Leonie Gough, Life Sciences (Silwood Park)
 Mr Alastair Gregory, Mathematics
 Miss Kathryn Greyst, School of Professional Development
 Ms Emma Griffiths, Campus Services
 Mr Jean Grizet, Computing
 Dr Edward Gynsperdt, Physics
 Dr Sadia Haider, Medicine
 Dr Corinne Hanlon, Student Recruitment & Outreach
 Dr Joao Harb Carraro, Civil and Environmental Engineering
 Dr Sevan Harput, Bioengineering
 Ms Brenda Hart, Public Health
 Ms Yuko Hashimoto, School of Professional Development
 Dr Thomas Haworth, Physics
 Ms Sian Haynes, Medicine
 Dr Emilia Herrera Moyano, Clinical Science
 Mr Sam Hesketh, Computing
 Dr Mokter Hossain, Surgery & Cancer
 Dr Kirsty Houston, Medicine
 Dr Lauri Ihanntola, Physics
 Dr Richard Jabbour, NHLI
 Ms Puja Jadav, Public Health
 Miss Rebecca Jeffers, Mechanical Engineering
 Mr Benjamin Jeffrey, Public Health
 Miss Rosie Jenkins, Public Health
 Mrs Lee Jenner, College Headquarters
 Dr David Jennings, Physics
 Miss Wen Jing, Computing
 Mr Inacio Joao, Catering Services
 Miss Meera Joshi, Surgery & Cancer
 Dr Andreas Kafizas, Chemistry
 Mr Shri Kanagasabapathy, EEE
 Mr Matthew Kasoar, Grantham Institute
 Mr Benjamin Kidd, Civil and Environmental Engineering
 Dr Chun Kim, Design Engineering
 Dr Min Kim, NHLI
 Mr Hongil Kim, EEE
 Mrs Peta-Ann King, Faculty of Medicine Centre
 Miss Ekaterina Kinnear, Medicine
 Mr Savvas Kleanthous, Faculty of Medicine Centre
 Dr Katalin Kondas, Clinical Science
 Dr Jean-Steffan Koskivirta, Mathematics
 Dr Robert Kurinczuk, Mathematics
 Dr Amel Lachichi, EEE
 Miss Lies Lanckman, School of Professional Development
 Miss Millie Langton, Faculty of Medicine Centre
 Miss Anna Lawrence-Jones, Surgery & Cancer
 Mr James Lawson, ESE
 Mr Robert Leech, Finance
 Mr Mario Lemmer, Chemistry
 Mr Ian Letts, Library
 Mr Zuwei Li, Computing
 Mr Zukang Liao, Computing
 Mr Jianyu Lin, Surgery & Cancer

Dr Hu Liu, Surgery & Cancer
 Mr Robert Lukierski, Computing
 Mr Alastair Magness, NHLI
 Mr Vincent Maioli, Clinical Science
 Ms Linda Makhlof, Life Sciences
 Mr Spiros Makris, NHLI
 Mrs Georgia Mannion, Public Health
 Mr Yuki Mano, School of Professional Development
 Mr Salvatore Maraniello, Aeronautics
 Dr Luc Marechal, Surgery & Cancer
 Dr Laura Margheri, Aeronautics
 Mr Arthur Mariaud, Chemical Engineering
 Miss Aldara Martin Alonso, NHLI
 Ms Isabel Martin, Surgery & Cancer
 Miss Madeleine Maxwell, Surgery & Cancer
 Ms Philippa May, Medicine
 Dr Claire McBrien, NHLI
 Mr Francisco Moreno Belmonte, Catering Services
 Dr Laetitia Mottet, ESE
 Mr Fergal Nally, Registry
 Dr Jui Namjoshi, School of Professional Development
 Miss Consolata Ndungu, HR
 Mr Dan Nicholls, Faculty of Medicine Centre
 Dr Akemi Nogiwa Valdez, Materials
 Miss Lidyane Nunes De Lima, Catering Services
 Dr Steven Okoli, Medicine
 Dr Malak Olamaie, Physics
 Professor Nick Oliver, Medicine
 Dr Ceris Owen, Clinical Science
 Mr Mehmet Ozfatura, EEE
 Mr Javier Pardo Gendre, School of Professional Development
 Dr Simon Parker, Civil and Environmental Engineering
 Dr Ahu Parry, Materials
 Dr Lorenzo Pasculli, School of Professional Development
 Miss Alexandra Paterson, Physics
 Dr Angela Pathiraja, Surgery & Cancer
 Dr Michele Paulatto, ESE
 Ms Brigitte Pfender, School of Professional Development
 Dr Nicola Pickering, School of Professional Development
 Miss Loretta Pinige, Catering Services
 Mr Giacomo Pizzotta, Mathematics
 Miss Laura Potts, NHLI
 Mr Paul Poudevigne-Durance, Medicine
 Dr Vivek Prasad, Public Health
 Miss Beth Prescott, Advancement
 Ms Maeliss Preux, School of Professional Development
 Dr Darinka Primc, Materials
 Mr Jie Pu, Computing
 Miss Laura Pugh, Business School
 Miss Vania Raposo De Oliveira, Medicine
 Miss Nikita Rathod, Institute of Global Health
 Dr Rachid Rebiha, Business School
 Mr Siamak Redhai, Clinical Science
 Ms Katharina Reeh, Chemistry
 Dr Eleonore Resongles, ESE
 Dr Carl Reynolds, NHLI
 Mr Samuel Risquez Aguado, School of Professional Development
 Dr Andrew Ritchie, NHLI
 Dr Pakatip Ruenraoengsak, Materials
 Mr Oliver Runswick, School of Professional Development
 Mr Saikat Saha, Chemical Engineering
 Dr Sharfaraz Salam, Medicine
 Dr Aarash Saleh, NHLI
 Ms Rabiah Saleh, Medicine
 Ms Honey Salvadori, School of Professional Development
 Ms Margarita Sandoval Muelas, School of Professional Development
 Ms Allinta Sara, School of Professional Development
 Ms Tubah Sarwar, Medicine
 Mrs Iris Scherwitzl, Medicine

Mr Michael Schmutzer, Life Sciences (Silwood Park)
 Mr Carlo Seneci, Computing
 Dr Harsha Shah, Surgery & Cancer
 Mr Syed Shah, Estates Division
 Dr Lesley Sheach, Medicine
 Miss Annalisa Sheehan, Public Health
 Dr Louise Shelley, Faculty of Medicine Centre
 Ms Sandra Silva Guedes, Medicine
 Dr Pietro Siorpaes, Mathematics
 Ms Charmaine Smart, Registry
 Mrs Mariko Smith, School of Professional Development
 Miss Cynthia So, HR
 Ms Stephanie Somerville, Surgery & Cancer
 Dr Gehan Soosaipillai, Surgery & Cancer
 Ms Sujata Sridharan, Medicine
 Miss Andra Stanica, Catering Services
 Dr Laura Stevenson, HR
 Mr Mark Stewart, Surgery & Cancer
 Dr Emilie Stolarczyk, Medicine
 Miss Helen Stubberfield, Estates Division
 Ms Olivia Swann, Life Sciences
 Miss Kitti Szabados, Catering Services
 Dr Cristina Taddai, Public Health
 Mr Rinat Tagirov, Physics
 Dr Pamela Tempone, ESE
 Dr Eno Therska, Computing
 Dr Karl Thorley, Chemistry
 Dr Andrew Tolley, Physics
 Ms Jaspreet Toor, Public Health
 Miss Dieu Tran, Computing
 Dr Argyro Tsipa, Bioengineering
 Dr Helen Tyrer, Medicine
 Mr Seng Ung, Medicine
 Dr Antonio Valido, Physics
 Ms Anita Varga, Catering Services
 Dr David Vickers, Medicine
 Dr Manuela von Papen, School of Professional Development
 Mr Tai Wada, Aeronautics
 Dr Jocelyn Walbridge, Clinical Science
 Professor Aron Walsh, Materials
 Dr Carl Wang Erickson, Mathematics
 Miss Jie Wang, Civil and Environmental Engineering
 Mr Dan Warren, Advancement
 Mr Christopher Webber, Catering Services
 Mr Dan West, HR
 Miss Nicole Westrupp, NHLI
 Dr Christopher Williams, Mathematics
 Miss Lucy Wilson, Chemistry
 Mr Thomas Wood, Computing
 Dr Georgia Woodfield, Surgery & Cancer
 Mr James Wright, Public Health
 Dr Yunlei Xianyu, Materials
 Dr Dunhui Xiao, ESE
 Dr Shejiao Xu, School of Professional Development
 Miss Seema Yalamanchili, Surgery & Cancer
 Dr Huaiyu Yang, Chemical Engineering
 Mr Joseph Yao, Chemical Engineering
 Mr Andrew Youngson, Communications and Public Affairs
 Miss Ling-Shan Yu, EEE
 Ms Marta Zagorowska, Chemical Engineering
 Dr Giulia Zazzeri, Physics
 Dr Di Zhang, Centre for Environmental Policy
 Dr Dongda Zhang, Chemical Engineering
 Ms Xiaolei Zhang, NHLI
 Miss Aubrianna Zhu, Public Health

✉ 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.

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

This data was correct at the time of going to press. For Moving On, visit the online supplement at www.imperial.ac.uk/reporter

Farewell

moving on

Miss Nihaad Abbass, Faculty of Medicine Centre
 Mrs Iris Adamov, Centre for Environmental Policy
 Dr Michael Albro, Materials
 Dr Christoforos Anagnostopoulos, Mathematics (5 years)
 Dr Jordan Ang, Bioengineering
 Mrs Mazna Anjum, Medicine
 Mr Stefan Antonowicz, Surgery & Cancer
 Dr Sonal Arora, Surgery & Cancer (5 years)
 Dr James Arpino, Life Sciences
 Mr James Arthurs, School of Professional Development
 Dr Arbel Artzy-Schnirman, Materials
 Mr Azhaar Ashraf, Medicine
 Miss Olamide Awe, Residential Services
 Miss Fiyeenfoluwa Ayo, Residential Services
 Dr Hella Baumann, Life Sciences
 Ms Louise Beach, Student Recruitment & Outreach
 Ms Janette Beetham, HR
 Mr Yury Beltrikov, ICT
 Dr Maxwell Benjamin, Public Health
 Ms Melissa Berthelot, Computing
 Dr Giaime Berti, Business School
 Mr Yash Bhasin, Surgery & Cancer (35 years)
 Miss Tejal Bhatt, Medicine
 Mr Sanjay Bilakhia, Computing
 Dr Gabor Borgulya, Public Health
 Dr Riccardo Borsato, Physics
 Dr Maxime Boulet-Audet, Life Sciences
 Mr Niall Bourke, Medicine
 Mr Luke Brady, Residential Services
 Miss Rebecca Bristow, Surgery & Cancer
 Ms Natalie Browne, Life Sciences
 Miss Lauren Bryan, Medicine
 Mrs Isabel Caldas, Medicine
 Emeritus Professor Peter Cargill, Physics (8 years)
 Dr Ioana-Cristina Carlson, Computing
 Dr Richard Carmichael, EEE (5 years)
 Miss Danielle Carson, Life Sciences
 Professor Jeff Cash, Mathematics
 Mr Matthew Cauldwell, Surgery & Cancer
 Dr Rama Chinnam, Materials
 Miss Suzanna Chojnacki, Public Health
 Miss Shanas Choudhury, Bioengineering
 Dr Ridwana Chowdhury, NHLI
 Mr Athanasios Christodoulis, Mechanical Engineering
 Miss Daniela Ciccarello, Registry
 Dr Alexander Cominos, Medicine
 Mr Chris Cook, Faculty of Medicine Centre (5 years)
 Dr Alethea Cope, Medicine (5 years)
 Dr Sarai Cordoba Terreros, Medicine
 Professor Steven Cowley, Physics (15 years)
 Dr Colin Crick, Chemistry
 Mrs Christelle Dalle, Catering Services
 Dr Bucker Dangor, Physics (12 years)
 Mr David Davis, Public Health
 Mrs Caroline Davis, Communications and Public Affairs (13 years)
 Dr Philip De Grouchy, Physics
 Miss Sian Devlin, NHLI
 Dr Sarah Dodd, ESE
 Miss Sabrina Dodds, Advancement
 Miss Ana dos Ramos Rodrigues, Life Sciences (Silwood Park)
 Dr Frances Doyle, Medicine
 Dr Emily Drabek-Maunders, Physics
 Dr Anne Ducout, Physics
 Miss Kerri-Anne Ellis, Business School
 Professor Roger Evans, Physics

Professor Roger Fenner, Mechanical Engineering (12 years)
 Mrs Daniela Ford, School of Professional Development (14 years)
 Dr Raffaella Gadaleta, Surgery & Cancer
 Mr John Geeson, Business School
 Dr Steffen Gielen, Physics
 Ms Rachael Glasgow, Business School
 Miss Marilia Graca Avelar Camarinha, Aeronautics
 Mr Samuele Grandi, Physics
 Miss Seona Granville, Public Health
 Mr Alastair Gregory, Mathematics
 Dr Michael Groechnig, Mathematics
 Dr Gaurav Gupta, Mechanical Engineering
 Mr Matthew Haddrill, School of Professional Development
 Mr Moritz Hambach, Physics
 Ms Adele Hamid, School of Professional Development
 Miss Claude Hamon, School of Professional Development (7 years)
 Miss Miriam Harniess, Business School
 Mrs Ru-Hua Hele, School of Professional Development (8 years)
 Dr Matt Hennessy, Chemical Engineering
 Dr Francisco Hernandez Heras, Bioengineering
 Dr Edward Hill, Physics (5 years)
 Ms Louise Hill, ICT
 Miss Jessica Hobby, Sport and Leisure
 Dr Brian Hollis, Life Sciences (Silwood Park)
 Miss Cynthia Hu, Chemistry
 Dr Kit Huckvale, Enterprise
 Mr Jeremy Huddy, Surgery & Cancer
 Mr Ricky Humphries, Catering Services
 Mr Paul Huxley, School of Professional Development
 Miss Yvette Ighorue, Medicine
 Dr Sagar Jilka, Surgery & Cancer
 Mr Chavez Johnson, Residential Services
 Dr Ben Jones, Medicine
 Dr Miland Joshi, NHLI
 Ms Emma Joy, Faculty of Engineering
 Emeritus Professor Bruce Joyce, Physics (16 years)
 Dr Agnieszka Jozwik, NHLI
 Dr Oliver Keown, Surgery & Cancer
 Dr Amina Khalil, NHLI
 Dr Lisa Kleiminger, Chemical Engineering
 Dr Nadja Kobold, Public Health
 Mr Dimitrios Kontopoulos, Life Sciences (Silwood Park)
 Mr Benjamin Krikler, Physics
 Dr Kwasi Kwakwa, Physics
 Dr Jagjeet Lally, School of Professional Development
 Dr Romain Lambert, Chemical Engineering (7 years)
 Mr Frank Lehmann, Life Sciences
 Dr Aija Leiponen, Business School (7 years)
 Dr Jing Li, Design Engineering
 Dr Yevgeniy Liokumovich, Mathematics
 Dr Victoria Lopez Morales, Computing
 Miss Elena Louca, Mathematics
 Dr Adam Loveridge, NHLI
 Mr Robert MacFarlane, Chemical Engineering
 Mr David Mann, School of Professional Development
 Dr Jose Marin Beloqui, Chemistry
 Mr Sean Markus, Aeronautics
 Dr Manu Mazo Vega, Materials
 Dr Rama McCrorie, Life Sciences
 Mr Dominic McDonagh, Computing
 Miss Gillian McKenna, School of Professional Development
 Mr Mohammad Mobasheri, Surgery & Cancer
 Ms Yasmin Mohseni, NHLI
 Ms Grace Nakate, NHLI (14 years)
 Mr Ammar Nasif, Physics
 Ms Marga Navarrete Ramirez-Montesinos, School of Professional Development (18 years)
 Mr Andy Navedo, School of Professional Development
 Professor David Newbery, EEE
 Dr Julian Newman, Mathematics
 Dr Lei Nie, Computing

Mr Bartosz Nocun, ICU
 Dr Martin Obligado, Aeronautics
 Miss Anne Ogunbiyi, Residential Services
 Miss Esther Oroge, Residential Services
 Dr Ritsuko Ozaki, Business School (13 years)
 Dr Jacob Page, Mechanical Engineering
 Mr Leekeem Palmer, Residential Services
 Mr Wei Pan, Computing
 Mr Samuel Park, Mechanical Engineering
 Dr Javier Pereda Torres, EEE
 Ms Samara Phillips-Hines, Residential Services
 Ms Savannah Phillips-Hines, Residential Services
 Ms Anna Polowetzky, School of Professional Development
 Professor Hugh Possingham, Life Sciences (Silwood Park)
 Dr Mahim Qureshi, Surgery & Cancer
 Miss Raveena Ravikumar, Surgery & Cancer
 Dr Huw Rees, School of Professional Development
 Dr Torsten Reimer, Research Office
 Ms Sophie Rena, ICT
 Dr Ilya Reshetouski, Computing
 Dr Janosch Rieger, Mathematics
 Dr Ed Roberts, Medicine
 Mr Paul Rogers, Medicine (5 years)
 Dr David Rojinsky, School of Professional Development
 Dr Ognjen Rudovic, Computing (7 years)
 Dr Arnaud Ruellan du Crehu, Mechanical Engineering
 Dr Julian Rycroft, Medicine
 Mr Griff Ryder, Registry (5 years)
 Dr Jane Saffell, Medicine (16 years)
 Dr Sarvesh Saini, Public Health (9 years)
 Mrs Laura Selema, Public Health
 Mr Vivek Senthivel, Life Sciences
 Dr Daniele Sgandurra, Computing
 Mr Sam Sheppard, Life Sciences
 Mr James Sholto-Douglas, School of Professional Development
 Miss Kate Shotayo, Residential Services
 Miss Namrita Shukla, ThinkSpace
 Dr Themistoklis Sidiropoulos, Physics
 Dr Robert Simpson, Aeronautics
 Professor Roderick Smith, Mechanical Engineering (5 years)
 Mr Patrick Snape, Computing
 Dr Johannes Spinneken, Civil and Environmental Engineering (7 years)
 Mr Ecco Staller, Medicine
 Dr Stavros Stavrakos, Design Engineering
 Mr Jack Steadman, ICU
 Mr Clement Stevens, School of Professional Development
 Dr Minwon Suh, Physics
 Mr Richard Surgenor, NHLI
 Miss Ieva Survilaite, Catering Services
 Mr David Swieboda, NHLI (5 years)
 Mr Nicholas Synan, Estates Division
 Mr Rohan Takhar, Public Health
 Miss Alexis Thomas, Surgery & Cancer
 Mr Nikolaos Trasanidis, Medicine
 Miss Rita Trombin, Public Health
 Miss Jenny Troy, Surgery & Cancer
 Mr Rohan Uppal, Residential Services
 Mr Morteza Varasteh, EEE
 Ms Gayle Verdi, School of Professional Development
 Dr Valentina Vitiello, Computing (5 years)
 Dr Isabel Wagner, School of Professional Development
 Dr Shicai Wang, Computing
 Dr Yinan Wang, Aeronautics
 Mr Yujiang Wang, Computing
 Dr Helena Watts, Surgery & Cancer (6 years)
 Ms Carly Welton, Advancement
 Dr Ashley Whittington, Medicine
 Mr Tom Wiggins, Surgery & Cancer
 Dr Thilo Wrona, ESE
 Dr Yang Yang, EEE

Dr Japheth Yates, Physics
 Dr Wan Yue, Chemistry
 Mr Giovanni Zaninotto, Surgery & Cancer
 Dr Jan Zika, Physics

Retirement

Miss Lorna Bailey, NHLI (39 years)
 Miss Jondene Cottrill, ICU (7 years)
 Mr Lee Dennis, Surgery & Cancer (6 years)
 Dr John Gibbons, Mathematics
 Dr Dan Moore, Mathematics
 Professor Raymond Murray, Physics (27 years)
 Mr Tony Ryan, Mechanical Engineering (8 years)
 Dr Julian Rycroft, Medicine (3 years)
 Dr Teresa Sergot, Faculty of Engineering (22 years)
 Professor Alexander Wolf, Computing (9 years)



03 NOVEMBER, 17.00

Imperial Fringe: Criminal Investigations

Imperial Fringe takes on and takes down crime at this evening exhibition of exciting science and interactive research demonstrations. Meet our teams pioneering new fingerprint imaging, building crime scene scanning robots and analysing human hairs to link deaths to illegal drug use. Criminal

Investigations is the latest in Imperial College's Fringe series of public evening events exploring the livelier side of science. Based on the College's ground-breaking research, the Fringe programme runs throughout the year to give our friends and supporters an opportunity to meet our researchers and find out more about our work.



09 NOVEMBER, 17.30

60 Years of Nuclear Nonproliferation

In the past several decades the end of the Cold War signalled the possibility of a more peaceful world order and the expectation that a steady reduction in both overall numbers and threat from nuclear weapons might be at hand. However, this order is increasingly challenged

by multiple pressures including a resurgence in East/West tensions, continued instability in the Middle East, and the danger of nuclear proliferation to non-state actors. Eminent U.S. nuclear non-proliferation leader, Anne Harrington asks who's the adversary now for the Institute for Security Science and Technology's 2016 Vincent Briscoe Lecture.

take note

Imperial Girls Can

Imperial Girls Can is a week of free sessions and activities for all staff and students to celebrate and promote women's sport and fitness, running from 31 October – 6 November. The week is run in conjunction with Sport England's This Girl Can campaign and includes spinning, tennis, zumba and pilates amongst other activities.

Find out more:
bit.ly/ICgirlsCan



27–28 OCTOBER, 09.00

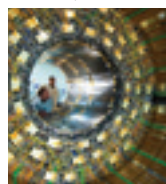
Imperial Global Challenges Showcase

Explore the College's research, education and commercialisation activities tackling challenges in the Data Revolution and Health and Well-being.

28–30 OCTOBER, 18.00 (FRI), 12.00 (SAT–SUN)

Monopoles: an exhibition about art and physics

Imperial physicists take part in a weekend of exhibitions bringing the search for the magnetic monopole at the Large Hadron Collider (CERN) into a Bermondsey art space.



02 NOVEMBER, 17.00

Climate change: Dealing with complexity

American engineer and author Frank P Incropera delivers this year's Sir Hugh Ford Lecture.

03 NOVEMBER, 17.30

White collar crime: How to spot an insider trader

Professor Marcin Kacperczyk unmasks the illegal traders making billions of pounds on dodgy deals and gives tips on catching them out.



09 NOVEMBER, 18.00

The Art of the Start

Yonatan Raz-Fridman from Kano Computing describes how he took an idea and became one of Kickstarter's most successful campaigns ever.

10 NOVEMBER, 18.00

The CMB: A universe scale laboratory

Professor Carlo Contaldi takes a look back on 20 years of discoveries in the most important data set in cosmology for his inaugural lecture.



15 NOVEMBER, 10.00

The Centre for Blast Injury Studies' 2016 annual networking event

Join us for an inspiring multidisciplinary programme of presentations delving into regenerative and rehabilitative medicine.



16 NOVEMBER, 17.15

Patient Zero to PrEP: HIV past, present & future

Professor Mark Nelson describes the lessons for tackling HIV that the developing world can learn from the developed world.

17 NOVEMBER, 17.30

On Human-Agent Collectives

Imperial's Vice-Provost for Research, Professor Nick Jennings explore the science of Human-Agent Collectives in real-world applications including smart grids, disaster response and citizen science.

17 NOVEMBER, 17.30

The equations at the heart of science

Explore differential equations, which underpin modern scientific inquiry, at the inaugural lecture of Professor Dimitry Turaev.



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