

Decade of discovery



Imperial celebrates
ten years of European
Research Council success

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JOINT HONOURS

Two 'pillars
of Imperial'
in Queen's
Birthday
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EDITOR'S CORNER

Fighting spirit

There's an academic research theme to this issue of Reporter. Academia is often seen as a labour of love and it's true that for a great many it is an overriding passion in life. But that perhaps belies some of the **existential challenges** of the profession. On page 10 is powerful interview with Dr Liz Elvidge, Head of the Postdoc Development Centre, who talks about the fraught path that lies ahead for anyone striving to become a full-time academic at a research university. In the centre pages we look at how ERC funding has **transformed the careers** of academics at different levels and had a major impact on their field of research. Clearly in the current political climate, research funding and in particular, ERC funding, is not something that can be taken for granted. When he visited Imperial, ERC President Jean-Pierre Bourguignon talked about 'fighting' to increase the ERC's budget. We may need more of that spirit in the future.

ANDREW CZYZEWSKI, EDITOR

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Royal honours go to 'pillars of the Imperial community'

An academic leader who has championed diversity at Imperial and a senior technician have both been recognised in the Queen's birthday honours list.

Professor Tom Welton, Dean of Imperial's Faculty of Natural Sciences (pictured top right) receives an OBE for his services to diversity in education, while Paul Brown, Mechanical Instrumentation Workshop Manager (pictured below), has been awarded an MBE for services to higher education.



Imperial's Provost, Professor James Stirling, paid tribute to the work of both staff members: "I'm delighted for Tom and Paul – they are both outstanding pillars of Imperial's community, whose work behind the scenes is absolutely crucial to our academic mission and, in particular, to improving the support for our staff.

As Head of the Department of Chemistry, Tom instituted a series of changes, perhaps most notably the initiatives led by Dr Tricia Hunt that gained the Department Imperial's first ever gold Athena SWAN award for promoting gender equality – which was also among the first gold to be awarded to any university department.

Upon learning of his award, Professor Welton commented: "I'm chuffed to bits, I didn't expect it at all. The recognition is all the more special because it



acknowledges diversity.

Paul Brown has been a technician at Imperial for 27 years and also served as a member of Imperial's Court between 2008 and 2016. He now leads a team of technicians to support the world-class research and education in the Department of Physics.

On receiving news of his award, Paul said: "I am truly honoured and humbled to have been recognised through the award of an MBE. In receiving this award I would like to acknowledge the team I work with in the Mechanical Instrumentation Workshop."

Imperial gives start-ups space to grow

The Duke of York opened Imperial's new technology incubator last month, providing a new home for early-stage science and technology companies.

The 18,000 sq ft incubator, based at the College's White City Campus, will provide state-of-the-art laboratories, office spaces and conferencing facilities, as well as an incubation programme, to help start-up and spin-out companies grow and develop.

It forms part of the Translation and Innovation Hub (I-HUB) – a flagship building which aims to drive forward commercialisation and translation of research and innovation for the benefit of society. The I-HUB is managed by Imperial College ThinkSpace, which specialises in the co-location of knowledge-intensive organisations with Imperial research groups.

At the launch event, The Duke of York met with several companies who are currently based in the incubator facility. This included Ooho, an Imperial student-founded start-up which has created the world's first 'edible water bottle'.

The Duke of York is a strong supporter of initiatives to encourage entrepreneurship and innovation. Pitch@Palace, his pitching competition for tech start-ups, is now in its 8th cycle, with Imperial students

enjoying previous success.

Professor David Gann, Vice President (Innovation) said: "This is an exciting time for Imperial. Our first incubator produced more than 60 companies, generated more than half a billion pounds worth of investment, and created countless jobs. We are scaling up at White City with a new, vibrant environment to incubate businesses started by our staff and students. We have opened our doors to our business partners and to support entrepreneurs in the wider community."

—DEBORAH EVANSON, COMMUNICATIONS AND PUBLIC AFFAIRS





President Jean-Pierre Bourguignon with Professor Tom Coates

Decade of discovery

Imperial welcomed Jean-Pierre Bourguignon, President of the ERC, as part of the 10th anniversary celebrations for the EU’s research council.

On Friday 16 June Professor Bourguignon met scores of Imperial researchers who have benefited from ERC grants, alongside the Provost James Stirling and Vice Provost (Research) Nick Jennings.

Over the past decade, the ERC has supported more than 100 grants across all four faculties of the College, investing €160 million, making Imperial one of Europe’s top beneficiaries of the ERC’s excellence-based funding.

Speaking at the event Professor Bourguignon said: “This is a great opportunity to look back and analyse why the ERC has been a success; but it’s also very important that we prepare for the future. Without the support of the scientific community the ERC cannot exist, so we are absolutely

open to suggestions, comments and remarks.”

Professor Bourguignon went on to share some plans for the ERC’s next framework programme, FP9, which will commence in 2021.

“Our current budget is 1.8 billion. For the next framework programme, the target we are giving ourselves is 4 billion by 2027. To achieve that we will need even more support – from the scientific community and also the European Commission and European Parliament.”

Speaking at the event was Imperial’s Provost James Stirling, who said: “Over the past 10 years, the ERC has had a truly profound impact on science, not just in Europe but across the globe. If you speak to any leading European researcher, whether they’re a rising star or an eminent scholar, you will likely find that the ERC has helped them on their way. Imperial’s strong ties to Europe and specifically the ERC underpin our success.”

in brief

Target Malaria

An international consortium led by Imperial, has received a \$17.5 million grant to help develop ways to control the spread of disease. Led by Austin Burt, Professor of Evolutionary Genetics at Imperial, Target Malaria aims to tackle malaria at the source. The project’s approach is malaria control by mosquito control – by reducing the numbers of malaria mosquitoes, the aim is to reduce the transmission of the disease. The grant comes from the Open Philanthropy Project and will run over four years.



Ground breaker

Professor Mike Duff FRS has been awarded the Paul Dirac Medal by the Institute of Physics (IOP) for ‘sustained groundbreaking contributions to theoretical physics’. Professor Duff joins an esteemed group of previous medallists including Stephen Hawking, Sir Roger Penrose, Sir John Pendry and Sir Peter Higgs. Professor Duff gained his PhD in theoretical physics in 1972 at Imperial, under Nobel Laureate Abdus Salam, before returning to the College in 2005. The award recognises Professor Duff’s discovery of Weyl anomalies, for having pioneered Kaluza-Klein supergravity, and for work in superstrings.

Sustainable growth

Combining growth strategies with climate agendas could have a positive impact on economic activity, according to a new report by the Organisation for Economic Co-Operation and Development (OECD) involving Imperial researchers. The key finding of the report is that policymakers need to integrate measures to tackle climate change into regular economic policy. This could generate long-term economic growth and improve productivity. Dr Tamaryn Napp, Mitigation Research Associate from the Grantham Institute led Imperial’s involvement in the report.

Imperial will deliver “innovative, agile and world-leading” teaching

The Provost underlines Imperial’s commitment to excellence in education, as the College receives a Gold Award in the Teaching Excellence Framework.

The Gold Award – the highest available under the framework – means that Imperial is judged to deliver consistently outstanding teaching, and outcomes for its students, and is of the highest quality found in the UK.

The Teaching Excellence Framework (TEF) is a new scheme, developed by the Department for Education in England, for recognising excellent teaching.

In the statement of findings, the TEF panel pointed to Imperial’s exceptionally stimulating and stretching academic, vocational and professional education, as well as its embedded culture of student engagement and philosophy of students as partners. They also noted that Imperial is prioritising improving student satisfaction with assessment and feedback.

The news follows the launch of Imperial’s Learning and Teaching Strategy (see page 4).

Imperial’s Provost, Professor James Stirling, said: “Excellence in education is at the very heart of our mission. Our teaching must be as innovative, agile, and world-leading as our research. That’s why our new Learning and Teaching Strategy introduces significant new investment in education. This will support new, innovative, evidence-based teaching and learning methods across the College, drawing on the great work that is already taking place.”

Nas Andriopoulos, Imperial College Union President, said: “Imperial College Union have worked tirelessly with the College to help establish a world-leading teaching experience for our members. Whilst we welcome the Gold Award, we know improvements can still be made.”



The Grenfell Tragedy: Imperial thanks volunteers

The President and Provost have thanked volunteers from the community for their efforts in response to the Grenfell fire tragedy.

The residents of Grenfell are neighbours of the College and are part of the same local community in North Kensington. Staff, students and alumni have been deeply saddened by the incident.

Since news of the terrible incident emerged on the morning of Wednesday 14 June, Imperial staff, students and neighbours have provided clothing, bedding and other essentials and worked with volunteers to distribute supplies to those in need.

Imperial's President Professor Alice Gast and Provost Professor James Stirling said in a joint statement:

"We would like to take this opportunity to express our heartfelt appreciation for your incredible efforts in the aftermath of the Grenfell Tower fire tragedy last week.

"We have heard many stories of members of the Imperial College community coming together to support the victims of the tragedy in a multitude of ways, and the fact that so many people from all across College mobilised so quickly is testament to the empathy, generosity and kindness of the community of which we are all part."

While collection banks now have sufficient supplies, volunteers continue to work to distribute these in coordination with the affected community and local authorities, as required.

The Borough of Kensington and Chelsea has a dedicated website with information on the incident and emergency contacts. The British Red Cross, The Evening Standard and Kensington and Chelsea Foundation continue to raise funds for those affected.



Volunteers sorting donations at Stadium House

Imperial launches new Learning and Teaching Strategy

The new strategy launched this month will build on Imperial's existing strengths and establish the College as a centre for world-class learning.

The strategy lays out the principles of an Imperial education – namely a world-leading, rigorous, evidence-based, inclusive educational experience embedded in a vibrant research environment.

Building on Imperial's existing strengths the strategy focuses on four main areas: A review of our curricula and assessment; an evidence-based transformation of our pedagogy, to make teaching more interactive; the fostering of an inclusive and diverse culture; and the development of online and digital tools to enhance curricula, pedagogy and community.

Professor Simone Buitendijk, Vice Provost (Education) said: "Over the past few months I've had the pleasure to work with staff and students from all over the College in the development of



this new Learning and Teaching Strategy. I've continually been moved by the passion and enthusiasm for Imperial and the exciting and innovative teaching that takes place here. This strategy takes that energy, innovation and dedication to learning and teaching and sets out how we hope to build on these strengths for the future."

The strategy development process consulted widely with staff and students from across the College with an online consultation open to all staff and students being used to help shape its direction as well as working closely with Imperial College Union and the Officer Trustees.

—JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS

Technical Support

Imperial is a founding signatory of the Science Council's Technician Commitment – a sector-wide initiative to help address key challenges facing technical staff working in universities.

Imperial is among over 35 universities and research institutions from across the UK to have backed the pledge to support their technicians.

The Technician Commitment identifies five target areas which universities and institutions will work to improve to safeguard vital technical skills. It will ensure greater visibility, recognition, career development and sustainability of technical skills for technicians across all disciplines. It also asks organisations to regularly assess the impact of actions taken to ensure their effectiveness.

Imperial's Provost, Professor James Stirling, said: "I am proud that Imperial is a founder signatory to the Technician Commitment. Imperial's technical staff play an essential role in our community across both teaching and research, and their loyalty and commitment to the College is greatly valued. This important initiative will help the College grow our existing provision to look at what more we can do to support



our technicians and help them develop their careers."

Imperial already has a range of dedicated support in place for technical staff – including a Technicians' Network, support for professional registration, and access to external networking and specialist training courses through membership of HEaTED.

The College also runs its own Technician Apprenticeship Scheme, which is designed to train the future technicians who go on to work in Imperial's world-class workshops and laboratories.

—ELIZABETH NIXON, COMMUNICATIONS AND PUBLIC AFFAIRS

media mentions

Plight of Grenfell Tower fire victims inspires wave of giving

THE GUARDIAN ▶ 15.07.2017

Offers of help for those affected by the Grenfell Tower fire in west London have poured in from around the country, with businesses, schools and universities providing assistance and shelter, the *Guardian* reports. Organisations and people from around the UK offered up their homes on social media. Imperial College London offered four flats to those affected by Wednesday's fire, and said it had a hall with bedding for 10 people.

Gluten? We're more likely to be allergic to fruit and veg!

DAILY MAIL ▶ 09.07.2017

Despite many people choosing to cut out wheat from their diet because they believe it makes them ill, only 1 per cent of the population actually have a reaction to gluten, the *Daily Mail* reports. However, Dr Isabel Skypala (Medicine), has found around 2 per cent of people have an allergy triggered by fresh produce. The little-known condition, known as Pollen Food

Syndrome, is often triggered by apples, peaches, celery and carrots, which contain allergens like the one found in birch pollen. Dr Skypala, said: "Three-quarters of people come to my clinic convinced they have a problem with wheat and dairy, and have already cut them out. In fact allergies linked to fruit and vegetables are far more prevalent. I have seen a man who went into anaphylactic shock after drinking carrot juice. It is raw produce which causes the problem, but people simply have no awareness of this type of allergy, because wheat allergies are seen as so much more fashionable".

Business school: IT woes, 21st century work skills and Goldman

FINANCIAL TIMES ▶ 05.07.2017

In the Professor's Picks section of the *FT*, Dr Catherine Mulligan (Business School) writes: "The ransomware attack in May 2017, which crippled more than 230,000 computers worldwide including the UK's National Health Service, has brought the issue of cybersecurity to the forefront of corporate leadership. Cybersecurity is a board-level topic not just

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an issue for technical teams. Developing secure IT systems and networks requires continuous attention, and will outlive current executives. All business school students should be developing a strong awareness of cybercrime and how industries can defend themselves from it."

A Quick Refresher: The Truth About Water Making You Gay

VICE ▶ 08.07.2017

Some politicians seem to be hung up on the idea that H₂O can change your sexuality, *Vice* writes. Liberal Democrat parliamentary candidate Susan King is quoted as saying: "There are a lot of feminising hormones getting into the environment and that has to be taken into consideration; it's affecting people's sexuality, basically." I spoke to eight scientists in total, and not one of them gave King's views a drop of credence. "It's a very long way from saying chemicals in the water are changing people's DNA and changing their sexuality," adds Stuart Haylock (Chemistry), a biochemist at Imperial College London. "There is absolutely no evidence that this is the case."

awards and honours



MEDICINE

High point

Irene Miguel-Aliaga has been elected as a member of the European Molecular Biology Organisation (EMBO) in recognition of her high quality research. "This is a highlight of my career and I'm really pleased. It's a community vote of recognition on my

laboratory's research from across the whole EMBO community," said Dr Miguel-Aliaga, who was nominated by a fellow researcher then voted in by current members. "Everyone in my laboratory, past and present, should be proud because this represents all of their contributions throughout the years." Dr Miguel-Aliaga leads the Gut Signalling and Metabolism group at Imperial's MRC London Institute of Medical Sciences (LMS). The group uses fruit flies to explore how our brains and guts communicate.

ENGINEERING

Robotics scholar

PhD student Martina Zambelli has been awarded the Institution of Engineering and Technology's (IET) Hudswell International Research Scholarship in

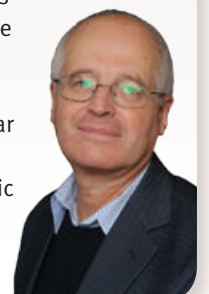


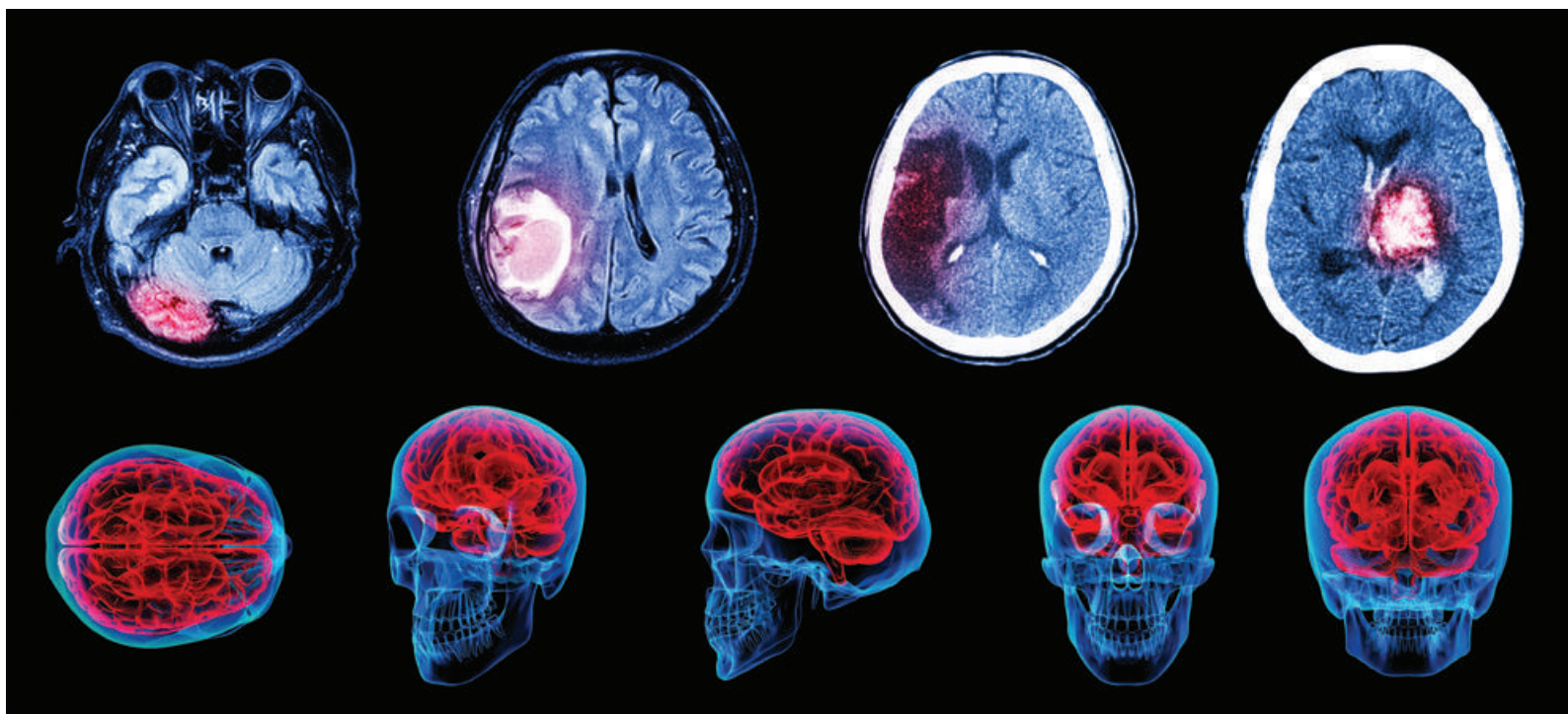
recognition of her outstanding research into learning algorithms for autonomous robots and its impact on the academic environment and on society. The IET award the Hudswell International Research Scholarship, worth £5,000, to assist with advanced research work leading to the award of a doctorate undertaken outside the applicant's home country. Martina will attend the IET's Achievement Awards ceremony in November.

NATURAL SCIENCES

First prize

Professor of Chemical Physics Alexei Kornyshev is awarded the inaugural Lynden-Bell award in recognition of his outstanding career in the field of ionic systems within condensed matter theoretical chemical physics. The award is named after the British chemist Ruth Marion Lynden-Bell FRS Emeritus Professor of Queen's University Belfast and the University of Cambridge. Professor Kornyshev's current research interests span a wide range of fields from DNA biophysics, through molecular electronics and machines, to ionic liquids and their applications.





Stimulating the brain, without the pain

Scientists have developed a new technique that shows promise as a non-invasive approach to deep brain stimulation.

Deep Brain Stimulation (DBS) currently involves cutting open a person's skull and inserting electrodes inside the brain to reduce physical symptoms, such as shaking. It is often the last option for people with Parkinson's disease who have very serious symptoms that cannot be controlled through medication alone.

Now a collaborative team from the Massachusetts Institute of Technology (MIT) and Imperial, has developed a DBS method that involves placing electrodes on the scalp, rather than inside the brain. The method is called

Temporal Interference (TI) stimulation.

The team have used TI stimulation on mouse models and demonstrated that they can non-invasively activate neurons in the hippocampus – a region deep in the brain that is central to memory and cognition. The advantage of TI stimulation is that it is precise and can be steered in a lateral direction by simply changing the ratios of the currents, thereby only exciting the targeted neurons. By comparison the standard non-invasive brain stimulation approach excites both the targeted neurons, and also neurons closer to the surface.

While the researchers caution that their work is still in its early stages, they are interested in whether such a technique could be used to treat

neurological conditions such as Alzheimer's disease, where neurons in the hippocampus have degenerated.

Lead author Dr Nir Grossman (Electrical and Electronic Engineering) said: "Many patients with neurological disorders cannot use deep brain stimulation methods due to the high-risk nature of the procedure.

"We think this technique has a lot of potential – the Temporal Interference method uses electrical fields that are well understood, and patients wouldn't need to undergo chemical or genetic manipulation in the brain," added Dr Grossman, who is now continuing this work at Imperial.

—COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS

X-ray precision

Chemical reactions could be probed in even greater detail using a method invented by Imperial researchers that better characterises ultrafast x-rays.

X-rays can be used to investigate the structures of, and reactions between, molecules on very small scales and at high speed. To do this, scientists use free electron lasers (FELs) to create a train of x-ray pulses.

This allows researchers to probe some of the fundamental processes in chemistry and biology



– such as the mechanisms of photosynthesis and the reactions of amino acids, which are the building blocks of life.

However, FELs are inherently unstable, meaning the properties of the resulting x-rays can vary from one pulse to the next. This can lead to inaccuracies in the measurements made using those x-rays.

Now, a research team led by physicists at Imperial has used an artificial intelligence technique known as machine learning to accurately predict the properties of x-rays. The speed of the technique means chemical reactions could be explored in greater

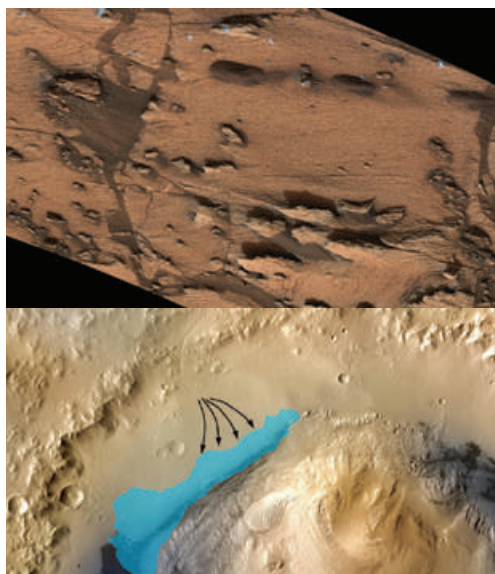
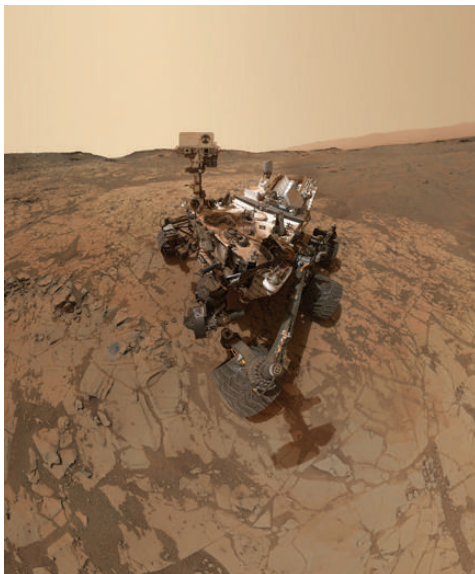
detail, as changes in the molecules could be observed on shorter timescales, down to single femtoseconds (one quadrillionth of a second).

Lead researcher Professor Jon Marangos (Physics) said: "These rapid-fire experiments will allow us to observe interactions that usually happen too fast for us to capture.

"They will also allow researchers to build up 'molecular movies' of these ultrafast process, for example to see how atoms and even the faster electrons move during a chemical reaction"

The team hopes their method could be installed directly into x-ray FEL instruments, around the world.

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS



The latest from Mars

Professor Sanjeev Gupta (Earth Science and Engineering) is part of NASA's Curiosity mission. Every day he analyses data on the geology of Mars, which is beamed back from the Mars Science Laboratory mission's remote-controlled Curiosity rover. Curiosity's main goal is to assess whether the Red Planet is, or ever was, capable of supporting microbial life.

Can you briefly recap what we've learnt about Mars so far, thanks to Curiosity?

Data from Curiosity has really transformed our understanding of the early geological history of Mars. We have discovered outcrops of pebble beds and sandstones with signs of ancient underwater dunes. This represents the first on-the-ground evidence that there was once sustained river flow on the Martian surface.

Perhaps most importantly, we discovered a rock succession on the lower slopes of Mount Sharp that comprises thinly laminated mudstones. These rock outcrops are very fine-grained sedimentary rocks that we interpret as having formed from particles suspended in water, which slowly settled.

What can you tell us about the rocks?

The mudstones' chemistry and mineralogy changes abruptly at different levels in the rocks. However, even though their chemistry changed, their geological features remained similar. The mudstones are stacked on one another. Some mudstone layers are rich in oxidised ferric iron-bearing minerals such as haematite. In other layers, the mudstones have high concentrations of silica minerals and magnetite. We suggest that this was due to changes in the chemistry of the lake water on Mars.

What else did you discover?

We could also determine the degree of chemical weathering of the lake mudstone sediments prior to them being deposited on the lake floor. This tells us more about what Mars' ancient climate was like. The sediments in the lower levels of the mudstones were likely deposited in a cold climate environment. The lake sediments higher up in the sedimentary succession indicate that the original sedimentary particles had experienced some chemical weathering in their source region suggesting warmer, more temperate climate conditions. This shows us how Mars' climate evolved from a colder to warmer, wetter world for a period of time.

What are the next steps for the mission?

The next few months are really going to be exciting for the mission. We are currently approaching one of the major exploration targets for Mars Science Laboratory, the Vera Rubin Ridge. This rock ridge located on the lower slopes of Mount Sharp is made up of layered sedimentary rocks but what is particularly exciting is that orbital observations of the uppermost layers show abundant haematite, an oxide of iron.

The haematite is thought to have been formed either by exposure of iron-rich groundwater to an oxidising environment or weathering of the sedimentary rocks to oxidising conditions. These chemical reactions could have provided energy sources for bacteria on ancient Mars, making the Rubin Ridge an excellent site to study past habitability on Mars.

—COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS

Cold blast

Wind turbines can pick up the slack on coldest days when power demand is highest, according to new research and contrary to previous thinking.

During winter in Great Britain, warmer periods are often windier, while colder periods are often calmer, due to the prevailing weather patterns. Colder periods are also when electricity demand increases.

This means that wind turbines are widely considered to be producing the least energy when demand is highest. However, the new study shows that on the very coldest days, turbines often produce more power than the average winter day.

The team, which involved scientists from the Met Office Hadley Centre, Imperial and the University of Reading, found that during high demand (cold) days, capacity from turbines decreased by an average of a third.

However, during the highest five percent of energy demand days, one third had above-average wind power, due to more of these days having strong easterly winds.

The research suggests that a spread of turbines around Great Britain would make the most of the varied wind patterns associated with the coldest days – maximising power supply during high demand conditions.

Professor Sir Brian Hoskins, Chair of Imperial's Grantham Institute, is one of the paper's other authors. He said: "A wind power system that is distributed around Great Britain is less influenced by low generation on cold, still winter days: low wind in one region tends to be compensated by wind elsewhere. The average drop in generation is only about a third, and is generally smaller than this on the really cold days."

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS



Decade of discovery

At the frontiers of science, it requires real daring to tackle long-standing, intractable research problems or to refute existing dogma.

Imperial's Strategy states that the College 'will act courageously and innovatively when pursuing new opportunities' and 'take academic risk through starting new areas of research, before we know whether funding or acclaim will follow.'

The European Research Council (ERC) meanwhile, is based on a simple concept: selecting the best ideas put forward by daring scientists to push the frontiers of knowledge, drawing from a wider pool of talents and ideas than is possible for national schemes. This has made a winning partnership over the past decade, with the ERC supporting more than 100 grants across all four faculties of the College, investing €160 million, making Imperial one of Europe's top beneficiaries of the ERC's excellence-based funding.

In the following pages we meet members of the research community who have benefited from ERC grants at different stages in their careers.

Dr Aimee Morgans (Mechanical Engineering), ERC Starting Grant (2012)

"The motivation behind my research is to help reduce atmospheric levels of nitrogen oxides (NOx) – which are released by gas turbines, aeroplane engines and power stations – and cause harmful air pollution.

In order to do that, we have to study something called combustion instability which arises due to the interactions between soundwaves and flame unsteadiness in turbines. Through my ERC grant, we are coming up with a much more efficient, accurate way of predicting combustion instability that will be useful to people who design gas turbines and we hope it will ultimately facilitate a reduction in NOx emissions in the future.

The ERC grant was awarded just as I returned from my second maternity leave

and so it gave me a real injection of research momentum at a critical point in my career and has allowed me to really build up my research team over the past five years.

I love the intellectual freedom that it brings and I love using problem-solving to try and make the world a better place. I think fundamental research is really important because you just never know where the next big breakthrough is going to come from."



Dr Stuart Mangles (Physics), ERC Consolidator Grant (2015)

"In my research, we use powerful lasers to create matter under very high pressures and densities, and then probe these extreme conditions using extremely short flashes of x-rays.

These pressures are so high that they are normally only found in the centre of stars or planets, so the experiments we are doing are going to help us improve our fundamental understanding of how celestial bodies like the Sun are formed, and perhaps even planets outside of our solar system.

Investing in fundamental research is really

important not only because it helps us to understand how the world and the universe work, but also because it leads to unexpected discoveries and developments that have a real impact on society.

Without the ERC funding there's very little chance this research program would have gone ahead; it's enabled us to do really cutting-edge, high risk projects. The ERC has really helped my career by allowing me to establish my own team of researchers within a much larger research group and carve out my own area of research in a growing field."

Professor Dame Amanda Fisher (Institute of Clinical Sciences), ERC Advanced Grant (2011)

“I have a long-standing interest a cell commitment – the biological process which takes you from a single fertilized egg, to a ball of cells, to an embryo and onto a fully grown adult and all the different cell types that organism contains.

Although this happens in a directional, progressive way, several scientists have shown that you can subvert it and turn one cell into another cell type. I was interested in trying to find out whether there were particular stages when cells are vulnerable to being subverted to another cell type.

Through the ERC grant my group showed that when our cells divide there is a window of vulnerability when they can be turned into something else. When cells grow and they replicate their DNA, that DNA is very vulnerable to change. We identified a window of opportunity and went on to try to find out the mechanism underlying it.

I don't think there were many other groups trying to resolve this problem – it was a blue skies question. What's been most interesting is the whole plethora of literature that's sprung up based upon the work that we did, in some cases from different fields than our own. They have all honed in on DNA synthesis as this crucial time when cell fate can be changed. I think the work has had a great deal of impact – wider than I had imagined.”

Professor Esther Rodriguez Villegas (Electrical and Electronic Engineering), ERC Grants: Starting Grant (2009); Proof of Concept Grant (2015); Consolidator Grant (2016)

“Epilepsy is a neurological condition affecting 1% of the global population. In certain cases, healthy patients with epilepsy can die suddenly and unexpectedly – an event known as SUDEP [Sudden Unexpected Death in Epilepsy]. My research focuses on developing wearable medical technologies to alert carers to physiologically indicators known to be precursors to SUDEP.

Electroencephalography (EEG) measures electrical brain signals and is a fundamental tool for the diagnosis of neurological disorders including epilepsy; however, it is rather difficult and cumbersome to carry out and requires clinical supervision. Also, if you want it to record continuously, as would be needed for an early warning system, it would generate enormous amount of data.

The ERC Starting Grant allowed my research group and I to develop algorithms that can automatically interpret electrical brain signals in a very low-power integrated circuit. It brings us a step closer to a wearable EEG device and a diagnosis tool.

I really enjoy my career in research because every day is an adventure you never know what's going to happen – I always say that doing this job is like being on a roller coaster.



The ERC grants have allowed me to take risks and tackle the ‘big fish’ in terms of research questions in a way that can be more difficult with other funding bodies.”

Professor Daniel Rueckert (Computing), ERC Synergy Grant (2012)

“Through my research we're aiming to build the first ever map of brain connectivity in early childhood and in the brains of newborn babies or fetuses just inside the mother. This ability may allow us to understand how brain connectivity is altered in neuropsychological disorders such as autism.

We're doing this with the help of an ERC Synergy Grant, which crucially, enables researchers from different backgrounds – e.g. computer scientists such as myself, as well as physicists and clinicians – to tackle a problem which really requires a multidisciplinary approach.

The grant has given us a lot of freedom and international visibility with many opportunities to collaborate. We work closely with our sister project called the Human Connectome Project – which is one of the largest research projects in the US.

In addition, our research group is highly international; we have around 30 postdocs and PhD students who come from all over the world including probably half of them from Europe and a number of them from Asia. This diversity and mix of different cultures contributes significantly to the dynamism and vibrancy of the research group, and helps foster new collaborations.”



THE ERC AWARDS THE FOLLOWING TYPES OF RESEARCH GRANT:

Starting Grant

Awarded to talented early-career researchers two to seven years post-PhD. These grants are awarded for a period of up to five years.

Consolidator Grant

Support researchers at the stage of their career when they are consolidating their own independent research team or programme (seven to twelve years post-PhD). These grants are awarded for a period of up to five years.

Advanced Grant

Support excellent researchers at the stage of their career where they are already established research leaders with a track record of achievement. These grants are awarded for a period of up to five years.

Proof of Concept

Funding that enables researchers who already have an ERC award to establish proof of concept of an idea that was generated in the course of their ERC-funded project. These grants are awarded for a for a period of up to 18 months.

Synergy Grant

Enables a small group of researchers and their teams to bring together complementary skills and resources in new ways to jointly address research problems. Previously trialled in 2012 and 2013, the Synergy Scheme will be re-introduced for 2018.

To be, or not to be an academic

Becoming a full time academic at a research university is a dream for many young scientists, but it's no easy road.

For the past eight years, Dr Liz Elvidge has been helping postdoctoral researchers achieve this goal – but also advising them about a variety of different career paths and generally supporting their decision-making and skill-set building.

Liz is Head of the Postdoc Development Centre at Imperial, and has recently written a book *What Every Postdoc Needs to Know*, in collaboration with two colleagues. The emphatic title reflects Liz's straightforward approach and draws on her many years of experience as well as her own spell as a postdoc.

The journey ahead

A postdoctoral research position comes after a PhD doctorate degree. It is a fixed-term contract, typically funded through a grant awarded to a Principal Investigator of a research project. After completing a postdoctoral position, researchers can apply for a fellowship which provides funding directly to them and their research, putting them in a good position to apply for long-term faculty positions, such as a lectureship.

The catch is that only 10% of postdocs nationally go onto to permanent academic positions (the figure is slightly higher for Imperial postdocs). What's more, research conducted by the PDC shows that the longer people stay in postdoctoral positions, the more they want to become academics – yet the less likely that becomes as time goes by. In fact, four years seems to be a 'breakpoint' for postdocs, after which time the academic door effectively closes, as others come through with fellowships.

"There's a real challenge in dealing with a population where 90% will ultimately be disappointed and in some cases believe that they are failures at something they have been doing for so long," Liz says.

"The biggest take home message from the book is that being a postdoc is not a long-term career. You can't be a postdoc for the rest of your life. Postdocs need to know that and take responsibility for their career."

Liz stresses though that careers outside of academia – such as in industry, publishing and research administration – should not be viewed as 'alternative' or lesser, but rather that they are all equally valid paths.



Liz with co-authors Carol Spencely and Emma Williams



Guiding light

The PDC at Imperial aims to support postdocs whatever path they ultimately choose with a variety of initiatives, including one-to-one advisory sessions; pop-up briefings following a new announcement or funding stream; leadership courses; residential away days and much more.

Perhaps one of the most successful initiatives has been the mock interview scheme. Any postdoc can ask for an interview for any prospective job. Liz's team analyses the application and puts together a set of tailored interview questions – chaired by a member of PDC staff, with postdoc volunteers making up the two or three panellists.

"We give them a hard time – there's no point otherwise – but also lots of constructive feedback," Liz says. "Around 50% of postdocs land the job following a mock interview. That's a substantially higher success rate than without one."

Next steps

Going forward, the PDC is spearheading some new schemes, such as Pathways for Postdocs – an online resource portal that collates existing material that postdocs find useful in easy to digest skill-based tip sheets. The PDC will also be launching a new shadowing scheme, allowing postdocs to shadow staff who have studied for a PhD or postdoc, but gone into a different professional role

The PDC recently commissioned some research looking at the barriers faced by female postdocs as well as black, Asian and minority ethnic (BAME) postdocs, when applying for fellowships. Liz is currently reviewing the results with Professor Nick Jennings, Vice Provost (Research) and planning a course of action.

While writing the latest book has been something of a labour of love for Liz, she's already thinking about a follow-up with the working title *What every new academic needs to know*. She notes that fellowship recipients, probationary lecturers and lecturers are still shaping the future direction of their careers and deciding what sort of academic they want to become.

"There's days when you only write a few words and they are all terrible, but I really enjoyed it and I think we've got more to say."

Imperial's everyday heroes celebrated with photo exhibition

From a ballet dancing engineer to a hockey playing neuroscientist, Imperial Heroes explores the lives of staff and students inside and outside College.

The exhibition showcased a special photography project by College photographer Thomas Angus, capturing members of the Imperial community mixing their day jobs with their passions.

Thomas said: "I wanted to bring a little life and colour to the fore, there is a perception that if you come to Imperial all you can do is live breathe and sleep your studies.

However I know from traversing the College campuses and all the people within them, that there is actually a lot more, an amazingly vibrant community of people who are squeezing every last drop out of their time here outside of their studies, and it's those people I wanted to feature."

We caught up with four of the 'Heroes' to find out the stories behind their portraits.

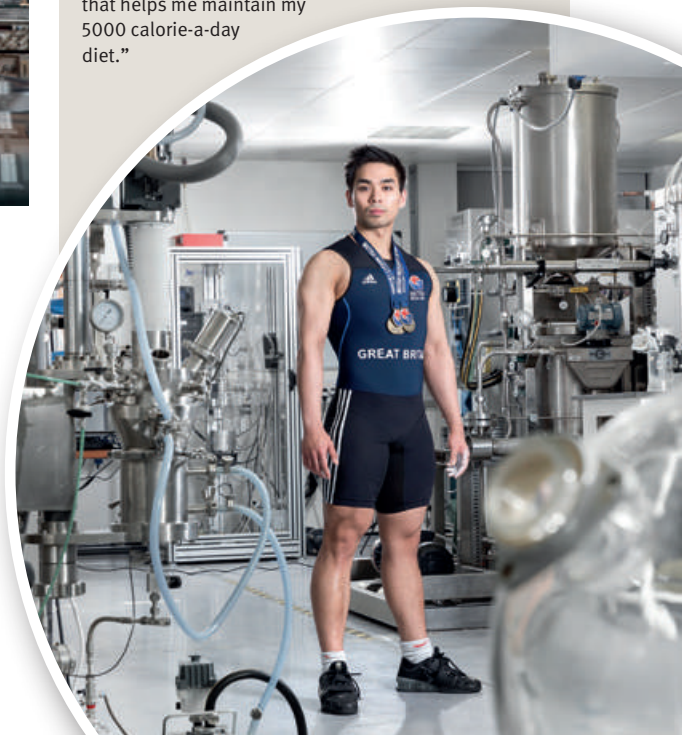
Carmen Martin Alonso
Third Year, MeNG Biomedical Engineering, Ballet dancer (Photographed in the Beit Hall of the Students' Union)

"It's important to me to become a well-rounded individual. I have always enjoyed dancing and have been practising ballet since the age of seven – it was something that always felt natural to me. Thanks to my President's Scholarship, I am able to attend weekly lessons at the English National Ballet. As a Biomedical Engineer, I enjoy the year-long projects that allow us to connect to the real world to tackle the problems of today. Last year the construction of a throwing frame for the Paralympic athlete Ellie Simpson was a real success!"



Liem Bui-Le
First year, PhD Chemical Engineering, GB weightlifter.

"I began weightlifting to improve my strength and conditioning for karate, but I picked it up quickly and enjoyed being able to measure my progress, so I changed sports. I've been competing for six years now. I try to train with people better than me, as it's motivating and helps me see ways of improving my technique. Where are you most likely to find me on campus? Probably the Chemical Engineering kitchen, preparing one of the meals that helps me maintain my 5000 calorie-a-day diet."



Karl Zimmerman
PhD in Clinical Medicine/ staff researcher, National-level ice hockey player

"I love that I can investigate and push the boundaries of our neuroscience knowledge, whilst seeing first-hand how our research can improve the quality of life for individuals who've experienced a brain injury. One of the biggest challenges is the late night commitments required by my sport. Ice hockey is normally played late in the evenings due to public skating and figure skating taking up the earlier time slots at ice rinks. This means that training can finish in the early hours of the morning when trains aren't always running. Mornings the next day are hard work – coffee is necessary! This season has been pretty special; I was part of the university team who won a division title at a national competition."



Francesca Cavallo
Third year MeNG Electrical and Electronics Engineering, National-level fencer

"I am part of the women's first team at Imperial, and I occasionally participate in competitions on the British circuit. Fencing is a sport that requires lots of thinking, which can be hard after a whole day spent on books. It is also very time consuming, therefore, I try to make the most of every training session I attend, even if sometimes it is only once a week. Probably my proudest moment as a sports person was getting individual bronze at BUCS in my first year at Imperial. I really proved to myself that with training and confidence I can achieve a lot."

Start small, think big

The English Higher Education Funding Council has commended Imperial's new strategy for its innovative approaches to increasing engagement with small and medium-sized enterprises (SMEs).

The knowledge exchange strategy includes six priority objectives which the College will focus on over the next five years (see box)

Currently, Imperial supports SMEs in a number of ways. The White City Incubator, launched last month (see page 2), provides subsidised lab space for early-stage science and technology companies. Around half of the current occupants are external to the College.

The ELITE programme, a partnership between Imperial College Business School and the London Stock Exchange, provides support for high growth SMEs through a tailored portfolio of business support tools, education services and access to a select group of advisory and investment partners.

In addition, a number of the College's departments run schemes which facilitate SME engagement, such as the Department of Computing's Corporate Partnership Programme, and the Department of Bioengineering's Imperial MedTech Links.

Imperial also plays a role in creating SMEs, with a vibrant entrepreneurial community of staff and students. Around six new start-ups are founded each year by Imperial staff, with the support of Imperial Innovations.

The College's new Enterprise Lab, launched earlier this year, supports student entrepreneurs. It offers state-of-the-art digital tools, techniques and

training to help students build better business plans and improve their performance at pitching to potential clients, partners or investors.

Imperial College ThinkSpace also works with start-ups, high growth businesses and corporations, to provide larger space solutions in the I-Hub at White City and elsewhere.

Over the next five years, Imperial will take actions to make it easier for SMEs to access the College's expertise, including: forming SME stakeholder groups around particular areas of science and engineering; investigating the practical problems faced by SMEs in engaging with the College; and developing solutions to these in partnership with SMEs themselves.

Professor Nick Jennings, Imperial's Vice-Provost (Research), said: "Our new knowledge exchange strategy is part of our commitment to shrinking the time and distance between fundamental discovery and societal benefit. I am pleased our commitment to engaging with SMEs has been recognised, and I look forward to expanding our work in this area."

—ELIZABETH NIXON, COMMUNICATIONS AND PUBLIC AFFAIRS

KNOWLEDGE EXCHANGE STRATEGY OBJECTIVES

- Supporting technology transfer activities
- Supporting business partnerships
- Supporting partnerships with small to medium-sized enterprises (SMEs)
- Embedding entrepreneurial activities at the core of the educational experience
- Influencing policy makers, and running a proof of concept fund



Associate Dean, Diane Morgan

Call for entrepreneurs hoping to make it big

The Business School has announced a new scholarship worth £23,500 designed to attract entrepreneurs to apply to its Full-Time MBA programme.

The Entrepreneurship Scholarship, which covers half of the fees for Imperial's Full-Time MBA, will be available to students applying to the programme which starts in September 2017. Rather than supporting would-be entrepreneurs, the scholarship is aimed at established entrepreneurs looking to build the necessary skills to expand an existing business or develop a new one.

Diane Morgan, Associate Dean of Programmes at Imperial College Business School, said: "Entrepreneurship is at the heart of our teaching on the Full-Time MBA. We want to encourage people who have experienced the full life-cycle of a start-up to take advantage of the many benefits that an MBA brings to growing their business, including the opportunity to share expertise with other students and extend their networks through Imperial's dynamic start-up scene and links to industry in London."

The idea for the scholarship came from current Full-Time MBA student Byron McCaughey, who is also the founder of MBA Connect, a student-led group of experts who support and mentor start-up businesses at Imperial College Business School and across the wider college.

Explaining what inspired him to come up with the idea for the scholarship, he said: "Doing an MBA simply isn't a path that currently crosses the mind of many entrepreneurs, but when you consider the fundamentals that you learn – e.g. defining target market, building and marketing a brand, designing VC-ready business models, or management skills – it's a valuable addition to the inherent skills they already have. The Imperial College ecosystem for supporting innovation and entrepreneurship has played a big role in my time here and I look forward to seeing what the recipient of this scholarship will accomplish."

—LAURA SINGLETON, COMMUNICATIONS AND PUBLIC AFFAIRS

To apply for the Entrepreneurship Scholarship or see further information please visit: bit.ly/MBA-schol



Imperial's Enterprise Lab

Students say ‘thank you’ at staff awards

College staff were recognised last month at Imperial College Union’s annual Student Academic Choice Awards (SACAs).

This year’s awards received a record 830 nominations from over 470 students from across the College community.

The student panels shortlisted six nominees for each category and there were eight award winners on the night (see box).

Hosting this year’s ceremony, Imperial College Union’s Deputy President (Education) Luke McCrone said: “The product you are witnessing this evening is born out of hundreds of nominations voluntarily submitted by students, shortlisted by panels



of students chaired and led by students.

“The SACAs represents more than just prestige and success. What it’s really about is giving students the opportunity to say thank you to those staff who work tirelessly to support their education.”

One of this year’s winners was Anderson Santos, Postgraduate Administrator (Mathematics), who took home the award for Best Support Staff.

One nomination read: “Anderson is always friendly and approachable. He always has a big smile upon his face. He is always happy to help with student activities. Since he arrived, the maths department has changed for the better.”

—JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS



2017 SACAS WINNERS

Prof Jenny Nelson (Physics) - Best Supervision
 Martin Holloway (Bioengineering) - Best Tutoring
 Julia Sun (Bioengineering)
 - Best Graduate Teaching Assistant
 Prof Silvestre Pinho (Aeronautics)
 - Best Teaching for Undergraduates
 Anderson Santos (Mathematics)
 - Best Support Staff
 Dr Bradley Ladewig (Chemical Engineering)
 - Best Innovation
 Dr Christopher John (Medicine) - Best Feedback
 Dr Peter Fitch (Earth Science and Engineering) - Best Teaching for Postgraduates



On a high note

With last month’s concert at Holy Trinity Church, Imperial’s Symphony Orchestra (ICSO) has ended another successful year in style.

At the end of a year that’s seen them pack out venues from Imperial’s Great Hall to the Royal Philharmonic Orchestra’s Cadogan Hall and play in locations from Croatia to Chelsea, Imperial’s musicians take the time to consider some of the group’s recent successes.

Amber Moore, a third year medical student, harpist and this year’s ICSO Chair said: “It’s tricky balancing your academic work and being the Chair of the orchestra but it’s been really nice to shape the orchestra’s year and get to know everyone as well as I have.”

This year’s tour took ICSO to Croatia and Slovenia where they played concerts in Ljubljana’s Konservatorij za glasbo in balet and the Celjski Dom in Celje. Perhaps the highlight of the trip was their performance at the Opatija Hotel as part of the Opatija Festival, where they played in front of a 500-strong crowd which included the City’s Mayor.

But for Hannah Takahashi, hornist and a second year physics and music student who served as this year’s ICSO Secretary, the Cadogan Hall performance was a personal highlight: “Playing in a professional concert hall like that really raises everyone’s game. Everyone really gives it their all and performances are always amazing.”

Studying a degree in physics and music, taught jointly between Imperial and the Royal College of Music, Hannah more than most is aware of the benefits of combining music and science as a student at Imperial.

“They’re both so different, they often act as a balance to each other. Being a musician has really helped with my academic studies, particularly to control my stress levels, which is so vital during a big performance, and also really beneficial when it comes to exam time.”

Away from their usual schedules of rehearsals and performances, this year the group gained national attention with an appearance on BBC’s ‘The One Show’ on 7 April. As part of a report on digital instrument apps, the orchestra were presented with a challenge, to perform Tchaikovsky’s famous 1812 overture – but using only instrument apps on their smart phones and tablets instead of their traditional instruments.

Hannah was one of the players who took part in the filming: “It was great to hear the Imperial orchestra on the BBC – as well as using the apps we also had to perform with our actual instruments. It was really interesting to hear it properly from the perspective of the audience when watching it on TV. It sounds completely different to when you’re performing on stage.”

—JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS





Extra sensory

Sensory prosthetics could soon become the norm, according to physicist Joseph Paradiso, who gave Imperial's 2017 Dennis Gabor lecture.

Paradiso directs the MIT Media Lab's Responsive Environments Group, which investigates the enhancement of human experience through external sensors. In his lecture, he outlined how the group's research is bringing us closer to a world where humans will be connected to a ubiquitous electronic 'nervous system'— a sensor network that will extend across objects, people and places, challenging our notion of physical presence.

Many of us are already connected to the Internet of Things, through digital assistants like Siri, or smartphone apps of the sort that can control the thermostat. According to Paradiso, this is a mere transition phase.

"We're living in the world of the digital butler," he said. "We talk to our devices, or in some cases we can gesture to them. We're going to move through this pretty quickly and get to the point where we see them as an extension of ourselves."

For example, his group has developed a bracelet which measures the wearer's comfort in terms of heat and humidity. These data, and the user's location, are relayed to a central system in the building, which activates the air conditioning or heating in the relevant office.

For the "nervous system" to be truly ubiquitous, however, it must extend beyond wearables, to include sensory information about far-away places. MIT's Networked Sensory Landscape project has created virtual models of remote locations by dotting those places with sensors measuring all sorts of information, from the weather to the wildlife.

As our presence becomes increasingly generalised through these sensor networks, he questions whether humans will retain the notion of a personal boundary: "In this new world, where does the 'self' end, and 'other' begin?"

—BRUNO MARTIN, COMMUNICATIONS AND PUBLIC AFFAIRS

Teaching insights

Nobel Laureate Professor Carl Wieman delivered a lecture at Imperial this month about taking a scientific approach to science and engineering education.

An internationally renowned scientist and educator, Professor Wieman holds a joint appointment as Professor of Physics and of the Graduate School of Education at Stanford University.

During the lecture, Professor Wieman spoke of his own experience teaching students and the paradox between academic achievement and success as a scientist that made him question the ways the subjects were taught and the outcomes that were achieved.

"The particularly striking feature was the students that did best in all their courses and their exams never turned out to be the best practicing physicists. The best physicists were often the ones who never quite achieved that high level academically but excelled as researchers. I got to the point of identifying a fundamental puzzle here and one I decided to tackle just like I would any physics problem."

Wieman's discovery led him to take a scientific approach, measuring outcomes of teaching methods and conducting research into their effectiveness. By comparing methods in controlled groups he found that results using scientific teaching methods led to increased understanding over similar ability students taught in a traditional

lecture format.

By combining a range of techniques and experimental approaches to class design, such as focusing readings pre-class and using a question based format in the classroom, Wieman saw a dramatic improvement in results.

"The students are very enthusiastic and are now pushing the faculty to change other courses in this way as they find it is so much more valuable. It's an enthusiasm that has been shared amongst the staff too. All the faculty have found it is a much more rewarding way of teaching and whilst it does take some time to learn, once you do it you don't go back."

The lecture came ahead of the launch of Imperial's new Learning and Teaching Strategy (see page 4) which has been informed by many of Wieman's ideas, particularly around giving staff time to review curricula and creating space and resource to develop scientific approaches to teaching.

Professor Wieman, Simone Buitendijk, Vice Provost (Education) said: "I think Professor Wieman is living proof that excellence in research and excellence in teaching can co-exist."

"We should be very keenly aware that as we research solutions to the world's problems we are also training the next generation of global leaders and we want to teach them well."

—JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS



Welcome Moving in

Miss Simmi Adeluola, Residential Services
Miss Adesimisola Adeyinka, Residential Services
Miss Ji Ahn, Mechanical Engineering
Miss Carolina Alvim Roup Rosa, Residential Services
Dr Sabrina Andrade Rodrigues, Public Health
Miss Pearl Anteh, Residential Services
Ms Mehrnaz Anvari, Aeronautics
Mr Nana Asamoah-Danso, NHLI
Dr Habtom Asfaw, Chemistry
Mr Neil Astbury, Catering Services
Miss Cherele Augustine, Public Health
Miss Olamide Awe, Residential Services
Miss Eleanor Axson, NHLI
Miss Marie Bachelet, Chemical Engineering
Ms Sangeeta Bhatia, Public Health
Mr James Bird, Aeronautics
Mr John Blissett, HR
Miss Bobbi Borovanska, Student Recruitment & Outreach
Mr David Botschinsky, Faculty of Medicine Centre
Mr Patrick Brandl, Centre for Environmental Policy
Miss Nicole Burgess, Residential Services
Ms Nicola Byrom, Registry
Miss Ela Calik, Materials
Mr Noel Caliste, Medicine
Dr Rodrigo Carrillo Larco, Public Health
Miss Helen Chamberlain, Residential Services
Dr Kok Chooi, Bioengineering
Mr Makhb Choudkhuri, Residential Services
Miss Despina Christodoulou, Residential Services
Mrs Alison Church, Health and Safety
Mr Ronald Clark, Computing
Dr Nichola Cooper, Medicine
Mr Jonathan Corsan, Faculty of Medicine Centre
Dr Bob Cregan, ICT
Mr Kristijonas Cyras, Computing
Mr Mario D'Auria, EEE
Mr Geoff Day, Communications and Public Affairs
Mr Alexandre De Figueiredo, Mathematics
Mr Antonio Del Rio Chanona, Chemical Engineering
Mrs Anu Dhandu, HR
Miss Benite Dibateza, Residential Services
Dr Hermanus Draisma, Public Health
Ms Gina Duggan, Medicine
Miss Victoria Durojaiye, Residential Services
Miss Paulina Dyl, Registry

Miss Min Ei, Residential Services
Ms Ellyw Evans, Faculty of Medicine Centre
Ms Mobolaji Fabusoro, Medicine
Mr Erik Fagerholm, Medicine
Dr Hamed Farokhi, Aeronautics
Mr Claudio Ferraro, Materials
Mr Liam Fletcher, Medicine
Miss Jessica Frankland, Business School
Mr Khari Fraser, Residential Services
Ms Juliana Frimpong, Business School
Ms Stef Garasto, Bioengineering
Mr John Geoghegan, Residential Services
Mr Goncalo Gomes Da Graca, Surgery & Cancer
Mrs Vanessa Gonzales, Registry
Dr Alfonso Gonzalez Perez, Chemical Engineering
Miss Niamh Gordon, Residential Services
Ms Kamanie Govender, Registry
Miss Ola Gwozdz, Estates Division
Mr Carlos Harris, Estates Division
Ms Selina-Marie Harris, Advancement
Mr Daniel Hdidouan, Grantham Institute
Miss Emelie Helsen, ICU
Dr Alexandra Hill, Public Health
Miss Fern Horsfield-Schonhut, Residential Services
Mr Sam Ibe-Igwé, Residential Services
Miss Munachi Iboko, Residential Services
Ms Chiamaka Iboko, Residential Services
Ms Linda Inuabasi, NHLI
Miss Rachel Januszewski, Mechanical Engineering
Ms Claudina Jensen, ICU
Ms Moe John, Faculty of Medicine Centre
Miss Emma Jones, Faculty of Medicine Centre
Dr Sarah Joseph, Medicine
Mrs Radhika Kamaraj, ICT
Mr Ville Karhunen, Public Health
Dr Shabana Khan, Institute of Clinical Sciences
Mr Michael King, ICU
Professor Mia Kivipelto, Public Health
Dr Aaron Knoll, Aeronautics
Dr Aishwarya Krishna, Medicine
Miss Saidat Kyeyune, Medicine
Ms Eszter Lakatos, Life Sciences
Miss Robyn Levy, Business School
Ms Deborah Livingston, NHLI
Miss Hazel Lowe, Physics
Mr Andrew Mackinnon, Advancement
Ms Hannah MacLachlan, Communications and Public Affairs

Mr Michael Maloney, ICT
Mr Oswald Marongwe, Chemistry
Mr Michael McTernan, International Relations Office
Mr Miten Mistry, Computing
Mr Abdikarim Mohamed, Finance
Ms Cristina Morrell, Public Health
Dr Philippa Moss, Public Health
Mr Chris Natt, Bioengineering
Miss Anne Ogunbiyi, Finance
Ms Carmen Oleksinski, Civil and Environmental Engineering
Dr Sheehan Olver, Mathematics
Mr Jonathan Palmer, Chemical Engineering
Dr Ji-Sang Park, Materials
Mr Werner Paschinger, Chemical Engineering
Dr Aakta Patel, Surgery & Cancer
Mr Bhavik Patel, Institute of Clinical Sciences
Mr Shashikant Patel, Finance
Dr Teresa Peiro-Salvador, NHLI
Dr Felipe Perdomo Hurtado, Chemical Engineering
Mr Andris Piebalgs, Chemical Engineering
Mr Joan Ponsa, Medicine
Dr Raquel Prado Garcia, Chemistry
Dr Sajjad Rafiq, Public Health
Miss Marilyn Ramsey, Education Office
Mr Stephen Ramsey, Chemistry
Dr Andre Raposo Osorio Veiga, Business School
Ms Camille Reltien, Campus Services
Dr Jonas Rodewald, Physics
Dr Gajan Santhakumar, Chemistry
Dr Marin Sawa, Chemical Engineering
Mr Karthik Selvaraj, ICT
Dr Stavros Sidiropoulos, Civil and Environmental Engineering
Mr Selvaraj Sivasubramaniam, Public Health
Mr Christos Skamniotis, Mechanical Engineering
Miss Vidhya Sridhar, EEE
Mr Nathan Steadman, Mechanical Engineering
Mr Kevin Tang, Faculty of Medicine Centre
Miss Megan Taylor-Silva, Business School
Mr Deus Thindwa, Public Health
Dr Alexandra Thomson-Moore, Public Health
Mr Adam Townsend, Mathematics
Miss Eleanor Vale, Surgery & Cancer
Mr Mark van Logtestijn, Bioengineering
Professor Francisco Veloso, Business School
Dr Ans Verammen, Centre for Environmental Policy
Mr Alastair Vettese, NHLI

Mr Wilhelm von Rosenberg, EEE
Ms Sara Vydy, Campus Services
Mr Åke Wallin, Design Engineering
Dr Haoyu Wang, Chemical Engineering
Miss Mary Weathers, Faculty of Medicine Centre
Ms Amy Weir, Centre for Environmental Policy
Miss Abigail Williamson, ICU
Ms Lingzhi Wu, Surgery & Cancer
Mr Benjamin Yadin, Physics
Miss Helen Young, HR
Miss Neptun Yousefi, Chemical Engineering
Mr Bohao Zhang, Aeronautics

Farewell Moving on

Mr Rashid Almasarwah, Medicine
Dr Minas Bacharis, Physics
Miss Mohini Badiani, Faculty of Medicine Centre
Dr Thomas Barillot, Physics
Mr Guillermo Barinaga, Medicine
Dr Kirsten Barnicot, Medicine
Dr Paulina Bartasun, Life Sciences
Dr Alistair Bates, Bioengineering
Dr Francois Blanquart, Public Health
Dr Lies Boelen, Medicine
Dr Bryant Boulianne, Medicine
Miss Catriona Briggs, EYEC
Mr Benito Broglia, Public Health
Mr Jeremy Brown, Surgery & Cancer
Dr Andrew Buchan, EEE (11 years)
Dr Aoife Cameron, NHLI
Miss Elizabeth Carter, Advancement
Ms Liza Caruana-Finkel, Medicine
Dr Michelle Clements, Public Health
Dr Bridgette Cooper, Physics (6 years)
Dr Louise Cowpertwait, Public Health
Dr Ide Cremin, Public Health (7 years)
Dr Oscar Dahlsten, Physics
Dr Khuong Dinh, Physics
Mr John Dinnewell, ICU
Dr Peter Edmunds, Physics
Dr David Fairbairn, Computing
Ms Oleksandra Fedina, NHLI
Mr Maxime Ferreira Da Costa, EEE
Ms Lynette Fleur, Student Recruitment & Outreach
Mr Anderson Gavioli Dos Santo, Sport and Leisure
Dr Myriam Gharbi, Public Health
Ms Tracey Glenister, Bioengineering

Dr Aisha Gloudon, Public Health
Mrs Sayuri Gong, ICT
Dr Miguel Gonzalez Gonzalez, Chemistry
Dr Valentin Goverdovsky, EEE
Dr Rajesh Govindan, ESE (6 years)
Dr Darren Grafius, Civil and Environmental Engineering
Dr Ricardo Guerrero Moreno, Computing
Miss Fatou Gueye, Surgery & Cancer
Dr Yang Han, Chemistry
Ms Raunaque Hasnat, Enterprise
Miss Joanna Hockenull, Medicine (9 years)
Dr Margaret Holme, Materials
Dr Simon Hu, Civil and Environmental Engineering
Mr Mathieu Hu, EEE
Ms Catherine Irving, HR
Ms Kirsten Irving, Library
Mr Martin Jaborsky, Catering Services
Mrs Seema Jagdev, Advancement
Miss Caroline Janes, Business School
Mr Allan Johnson, Physics
Miss Georgina Joss, Centre for Environmental Policy
Dr Huseini Kagdi, Medicine
Ms Dimitra Kalogiannopoulou, Medicine
Dr Hadi Karimi Khouzani, EEE
Dr Janice Kenney, ESE
Dr Marina Kravtsova, Mathematics (5 years)
Dr Julien Lange, Computing
Dr Kaiyu Lei, Surgery & Cancer (5 years)
Mr Charlie Leppington, Library (5 years)
Dr Xin Li, Medicine
Mr Hengyan Liu, EEE
Mrs Georgia Mannion, Public Health
Dr Henry Maples, Chemical Engineering
Ms Paloma Matia Hernandez, Physics
Dr Holly Matthews, Life Sciences
Mr Oliver McFeeters, Public Health
Dr Alison McKinlay, Public Health
Dr Syafrina Mohd Sharif, Centre for Environmental Policy
Dr Rabih Mohsen, Computing
Dr Yunuen Montelongo Flores, Chemistry
Mr Dennis Moynihan, Faculty of Engineering
Mr Owen Nicholson, Computing
Mr Gian Ntzik, Computing
Ms Eleana Overett, Grantham Institute
Miss Ireti Oyejola, Finance
Dr Anna Pacelli, Institute of Clinical Sciences
Dr Peter Pesi, EEE (6 years)
Mr Akshay Pharma, Careers
Mr Arturas Pinigis, Catering Services (5 years)
Dr Aiswarya Prabha, Chemistry

Mr Andrew Preater, Library
Miss Chanelle Quealy, Faculty of Medicine Centre
Mr Alexander Renziehausen, Medicine
Mr Jordie Roberts, Medicine
Dr Sharfaraz Salam, Medicine
Dr Irene Sanchez Molina Santos, Chemistry
Miss Ana Sancho Medina, Medicine
Dr Sina Sareh, Aeronautics
Ms Agnieszka Sama, Catering Services
Mr Daniel Schade, Physics
Mr Ankush Shinde, ICT (8 years)
Dr Akela Silverton, ESE
Dr Laurent Soucasse, ESE
Ms Tayana Soukup Ascencao, Surgery & Cancer
Dr Milena Studic, Civil and Environmental Engineering
Dr Namrata Syngal, NHLI
Miss Tammy Tran, Public Health
Dr Vidhya Varghese, Surgery & Cancer
Dr Dennis Veselkov, Surgery & Cancer
Dr Haixing Wang, Surgery & Cancer
Mrs Michelle West, NHLI
Dr Hiroe Yamazaki, Mathematics
Dr Wenzheng Yu, Civil and Environmental Engineering
Dr Yi Zhou, Aeronautics

Retirement

Miss Christine Gale, ICT (43 years)
Dr Angela Galpine, Surgery & Cancer (8 years)

This data is supplied by HR and covers staff joining the College during the period 16 May – 23 June. This data was correct at the time of going to press. For Moving On, visit the online supplement at www.imperial.ac.uk/reporter

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

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



04–09 JULY, 10.00 – 17.00

The Royal Society Summer Science Exhibition 2017

Imperial researchers and students are involved in six of the stands at this year's Royal Society Summer Science Exhibition – an annual display of the most exciting cutting-edge science and technology, hosted by the UK's national science academy The Royal Society.

With hands-on experiments, panel discussions and family activities throughout the week, there's something for everyone. It's free entry and open to everyone between Tuesday 4th and Sunday 9th July at the Society's central London headquarters.



24 JULY, 12.00 – 17.00

Bugs! day

Discover the wonderful world of bugs and other invertebrates at this year's Bugs! Day. Silwood Park has 100 ha of extensive grounds, including grasslands, woodlands, and even a lake! Various Imperial College

researchers, NGOs, and companies will present to talk about the importance of bugs in our everyday lives. Though primarily aimed at families with young children (aged 4-11), anyone with an enthusiasm for wildlife is welcome. Find out more at bugsdays.com.

30 JUNE – 01 JULY, 17.00 – 18.00

V&A Reveal Festival

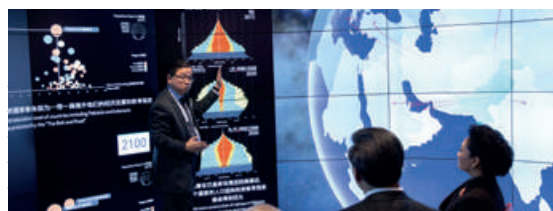
Imperial teams head across Exhibition Road to help celebrate the Museum's new public areas and gallery spaces.



03 – 05 JULY, 09.00 – 17.00

Statistical Data Science Conference

This conference will explore the nature of the relationship between statistics and data science, suggesting state-of-the-art reasoning from both areas, and developing a synergistic path forward.



25 – 28 JULY, 10.00 – 16.30

Insights into Science and Engineering Summer School

This course aims to encourage Year 10 students to enter science and engineering through offering taster sessions of different STEM disciplines.

19 JULY – 23 SEPTEMBER, 09.00 – 21.00

Itineraire photographique

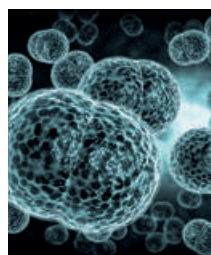
A solo exhibition of photographs by Imperial Staff member Bashir Taouti.



14 JULY, 14.00 – 18.00

EMBRACE Workshop and Dragons Den Competition

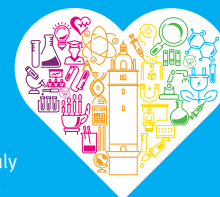
EMBRACE is inviting PhD students and early career researchers to give a Dragons Den-style pitch on how to solve the challenges of antimicrobial resistance (AMR)



take note

On the march

The Imperial 600 staff network has registered for the Pride in London parade on Saturday 8 July 2017. This year's theme, 'Love Happens Here', is intended as a message of hope, acceptance, activism and love, marking 50 years since Parliament first voted to legalise homosexuality in the UK. All staff are welcome to join the Imperial group in the parade to celebrate and support the College's LGBTQIA staff and students. All marchers will be supplied with a custom-designed Imperial Pride T-shirt.



Register online: bit.ly/600-pride

SUPPORT STAFF

SUMMER PARTY

TUESDAY 18 JULY 2017

★★ 15.30 – 21.30 ★★

CIRCUS

ROLL UP! ROLL UP!

FOR THE **MOST AMBITIOUS**

★ SUMMER PARTY YET ★

JOIN US ON THE **QUEEN'S LAWN**

SOUTH KENSINGTON CAMPUS FOR

CIRCUS ACTS • BIG BAND

KARAOKE • HELTER SKELTER

RODEO • FOOD • DRINK

REGISTER FOR FREE BY 11 JULY 2017:

bit.ly/summer-circus

Stay in the loop

✉ Visit www.imperial.ac.uk/events for more details about these events and others. To sign up for regular updates about Imperial events please email: events@imperial.ac.uk

