



Driving change

The Imperial equality and diversity networks helping to create a more supportive environment for staff

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EDITOR'S CORNER

A different view

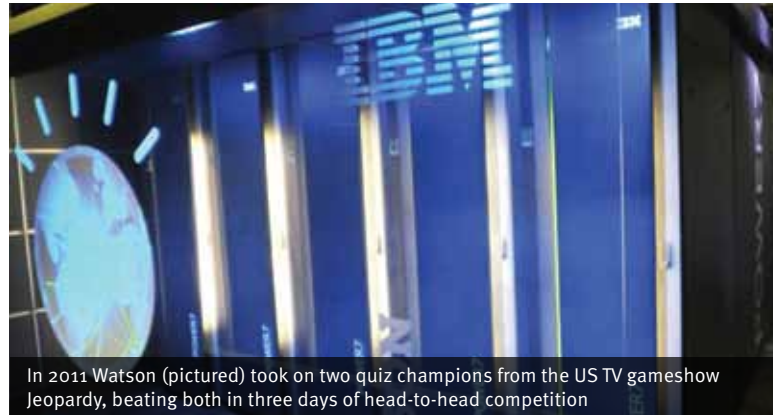
At Imperial we're accustomed to hearing **amazing stories** from members of our academic community who have determinedly pursued their research goals through ups and downs, often over the course of decades. Yet there are some equally inspiring tales from other areas of College. Bernadette Gahan is a Library Assistant at Charing Cross. As part of Disability Awareness Month she recently gave a fascinating talk recounting her life-long **struggles and victories** with depression, addiction, self-harm and working with a visual impairment. I was completely blown away. Bernadette is such a compelling speaker with real presence. She talked about how, despite her difficulties, certain managers and mentors, including some at Imperial such as Alice Lowry, Senior Library Assistant, had recognised her talents and particularly her people skills. In this issue of *Reporter* we interview the Chairs of Imperial's staff networks (centre pages) who all emphasise that a diverse workforce with a **range of life experiences** is essential to maintaining excellence.

ANDREW CZYZEWSKI, EDITOR

Reporter is published every three weeks during term time in print and online. Contact Andrew Czyzewski:

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Imperial and IBM collaborate in cognitive computing



In 2011 Watson (pictured) took on two quiz champions from the US TV gameshow Jeopardy, beating both in three days of head-to-head competition

Imperial and IBM have announced a new partnership, providing Computing students and researchers with access to IBM's cognitive computing technology.

The technology, named Watson, harnesses advances in natural language processing and analytics to handle information in a similar way to how people think. It can

learn from each interaction, allowing it to process intelligently big data even when this appears in disparate forms.

Imperial's new collaboration with IBM will allow selected undergraduates and postgraduates in the Department of Computing to enrol initially in a course providing access to Watson from early 2015.

Course lead Dr Alessandra

Russo, Director of Postgraduate Studies in Computing, said: "There are many advantages to this kind of collaboration. Firstly, it provides students with access to the latest state-of-the-art technology. They also then have to become proficient enough to work in teams to apply that technology to address global challenges."

With access to IBM developers, researchers and Watson technical mentors, the students will work in project teams to develop prototype applications and business plans. The focus will be on applying Watson to a particular data area, such as crime prediction, cyber security or genomics.

IBM's Rashik Parmer said: "Cognitive computing will have a big role in the future of technology, but it requires a different sort of skill-set from traditional computing programming. At the moment there's a shortage of these kind of skills – which is why we're delighted to provide hands-on learning experience to students at Imperial."

—JOHN-PAUL JONES, COMMUNICATIONS AND PUBLIC AFFAIRS

Imperial showcases supercomputing capability

The House of Lords Digital Skills Committee visited Imperial's High-Performance Computing (HPC) facility last month as part of its inquiry into information and communications technology, competitiveness and skills in the UK.

They were welcomed by Imperial's Provost Professor James Stirling who emphasised the role HPC plays in skills development and the economic and social impact this has.

"Students want to come to Imperial to play their part in finding solutions to global challenges in areas such as energy, the environment and healthcare," he said. "Our students learn about harnessing big data and become skilled programmers in addition to their core discipline. They go on to apply these skills, continuing to influence and innovate in successful careers across the digital economy."

Supercomputers and specialised software make it possible to design advanced materials, understand climate change and meet the energy demands of the future. Imperial's facility has played a crucial part in research that has been awarded in excess of £100m of grants from industry and research councils over



Imperial has committed £2m each year for HPC hardware

the past five years, enabling advances in areas from aeronautics to clinical science.

To grow the capability of this valuable research and teaching supercomputing resource, Imperial College has committed annual capital investments of £2m for the next five years in HPC hardware in addition to funding for support, running costs and training in state-of-the-art computational techniques.

The Digital Skills Committee is expected to publish its report by March 2015.

—LAURA GATES, INFORMATION AND COMMUNICATION TECHNOLOGIES

For information and support relating to the College's supercomputing capability visit: bit.ly/imperial-hpc

Celebrating record-breaking year of giving

Imperial opened its doors to more than 360 donors and friends of the College on 25 November, for its biggest-ever celebration of giving.



Interactive exhibition stands gave donors the chance to learn more about some of the latest research at Imperial

President Alice Gast, along with Imperial staff and students, welcomed many of Imperial's growing community of donors at a special Thank You Reception organised to celebrate the contribution that donors made to College life in 2013–14.

Thanking donors for their generosity, President Gast said: "Today's world demands new leaders, critical thinkers, fresh ways of approaching persistent problems, and innovative ways of handling the new problems that arise. That is what we do here at Imperial –

we develop thinkers and leaders, we extend knowledge and develop solutions. And we can do all this only because of your continued support – the support of our donors."

2013–14 was a landmark year in fundraising at Imperial, with a record-breaking 5,403 donors together giving more than £54.2 million for research and scholarships during the year. The support of donors funded 110 undergraduate scholarships through the President's Scholarship Fund and, for the second year running, provided support for PhD scholarships.

President's Scholar Oliver Clipsham spoke of the impact his scholarship had had on his time at Imperial, and thanked guests for their generosity. Looking back on his four years at the College he said: "On behalf of myself and all the scholars here at Imperial, I would like to offer my heartfelt thanks that you have donated to ensure that more students may go on to have a similarly wonderful experience."

€2bn European community to promote health

A consortium of 144 European companies, research institutes and universities including Imperial has won EU backing to promote healthy living and active ageing.

The group has been selected as a new Knowledge and Innovation Community (KIC) by the European Institute of Innovation and Technology (EIT), an independent EU body set up in 2008 to spur innovation and entrepreneurship across Europe to overcome major challenges.

The InnoLife consortium, which will be led in the UK and Ireland by Imperial, includes the universities of Oxford and Cambridge, as well as major companies such as Procter and Gamble, Intel, Medtronic and AstraZeneca. The consortium has been designated as a new KIC called EIT Health. With an anticipated total budget of EUR 2.1 billion, it is one of the largest public funded initiatives for health worldwide.

Prime Minister David Cameron said: "I am delighted to hear that Imperial College London and other UK partners have been successful in their bid to be the Healthy Living and Active Ageing KIC. This reflects



the UK's excellence in health research."

Professor Elio Riboli, Director of the School of Public Health at Imperial and chair of the InnoLife executive committee, said: "The new EIT Health programme will translate recent scientific advances in metabolic, genetic and behavioural causes of chronic diseases into innovative diagnostics, medications and social services that will enhance population health and treatment across Europe and beyond."

Over the next seven years EIT Health partners will develop innovative products, education programmes and services addressing the challenge of demographic change in Europe.

—SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS

in brief

Professor Jonathan Weber named as Imperial College AHSC Director

Professor Weber, a leading HIV expert at Imperial College London, has taken up appointment as Director of the AHSC. The AHSC is a collaboration that brings together researchers, educators and clinicians from Imperial College London and Imperial College Healthcare NHS Trust to drive forward innovation and advancements in patient care. As Director

Professor Weber will be instrumental in furthering the AHSC's work to transform healthcare by turning scientific discoveries into medical advances to benefit local, national and global populations. He succeeds Professor David Taube, a leading expert in renal medicine, who was the first person to hold the post upon its creation two years ago.

Excellence awards open

Nominations are open for the Imperial College Awards for Excellence in Animal Research and The Provost's Awards for Excellence in Safety. The former have recently been established to celebrate good practice by research and CBS staff, with deadline for submission on Friday 9 January. The latter recognise individuals and teams whose endeavours have resulted in significant improvements in Health & Safety, with deadline for submission on Friday 23 January.



“Imperial taught me how cool space plasma physics is and that magnetic fields are more than just wiggly lines.”

IMPERIAL ALUMNUS DR MATT TAYLOR TALKS ABOUT HIS WORK AS AN ESA PROJECT SCIENTIST. FOR THE FULL INTERVIEW VISIT: bit.ly/cometchaser

Imperial champions support for academic women

Imperial celebrated the College's recent successes in supporting female academics with the presentation of the Julia Higgins Medal and Awards.



Staff gathered to celebrate the presentation of the accolades, which recognise individuals and departments who have made a significant contribution to the support of academic women at Imperial.

Named in honour of the former Dean of the City and Guilds College and Principal of the Faculty of Engineering, Professor Dame Julia Higgins FRS, FREng, the Medal was awarded to the Department of Chemistry in recognition of being the first College department to be awarded the much coveted Athena SWAN Gold Award.

Professor Dot Griffiths, Provost's Envoy for Gender Equality, paid tribute to the Department's efforts, saying: "Achieving the Athena SWAN Gold Award sets the Department of Chemistry apart as a beacon of inspiration, and is a testament to tireless efforts and dedication of all within the Department. I am delighted that we are able to recognise their achievements with the Julia Higgins Medal."

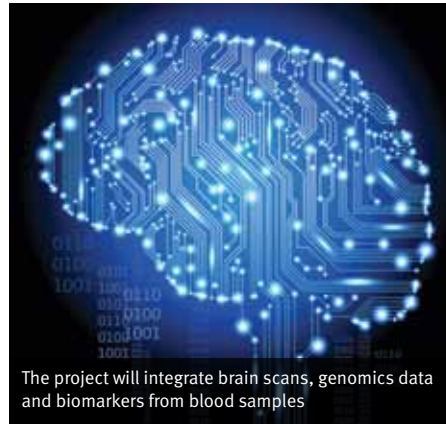
Dr Patricia Hunt, from the Department of Chemistry, was presented with an individual Julia Higgins Award for her work leading the Department's Athena SWAN Gold application.

Also recognised with awards were Rob Bell, for his work as Athena SWAN Coordinator, and the College's Learning and Development Centre, for their support of the professional and personal development of the College's academic women.

Steve Rathborn, Head of the Centre, said: "We are delighted to be recognised with a Julia Higgins Award. The Learning and Development Centre is committed to ensuring a level playing field for all in the workplace – an aim that underpins many of our training programmes and workshops."

— DEBORAH EVANSON, COMMUNICATIONS AND PUBLIC AFFAIRS

Big data project to capture the experience of multiple sclerosis patients



The project will integrate brain scans, genomics data and biomarkers from blood samples

Researchers will track the lives of people with multiple sclerosis (MS) in unprecedented detail in a new project to improve the evaluation of treatments.

The OPTIMISE project is a joint working collaboration between Imperial and the biopharmaceutical company Biogen Idec, which has a long-standing commitment to developing therapies for people with MS.

MS affects more than two million people worldwide and there are more than 100,000 people living with MS in the UK. To gain a better understanding of MS and its treatments there is a need for a system to

collect comprehensive data that provides an in-depth picture of the experiences of MS patients across a large population.

Over an initial three year period, the OPTIMISE project will develop and deploy tools for collecting a wide range of data from people with MS in addition to routine clinical assessments. The project will work to integrate brain scans, genomics data, biomarkers from blood samples, self-reported quality of life measures and data from sensors that track movement into a single database.

Professor Paul Matthews, Principal Investigator on the OPTIMISE project and Edmond and Lily Safra Chair in Translational Neuroscience and Therapeutics at Imperial, said: "This important collaborative project is underpinned by support from the National Institute for Health Research (NIHR) Imperial Biomedical Research Centre. Although led by Imperial, this initiative has grown out of a co-operative vision developed between most of the major MS centres across the UK. Looking forward, we intend that this public-private collaboration will grow with the same spirit of cooperation."

—FRANCESCA DAVENPORT, COMMUNICATIONS AND PUBLIC AFFAIRS

Imperial welcomes leading business thinkers to major conference

The Minister of State for Culture and the Digital Economy, Ed Vaizey MP, opened a major digital conference at Imperial in early December.

Mr Vaizey joined Imperial's President, Professor Alice Gast, to welcome delegates to Digital Exchange 2014 (DE2014). DE2014: The Application of Digital Innovation was the fifth annual meeting of Research Council UK's Digital Economy Programme and the first held in London.

The conference, over 3–5 December, was hosted by Digital City Exchange, a five-year Digital Economy multi-disciplinary, multi-departmental research programme at Imperial.

Featuring speakers from leading companies — including IBM, Huawei,

Microsoft and Thomson Reuters — DE2014 explored the concepts at the heart of the global digital economy. This included discussion about the latest thinking on privacy and data sharing and how to create value from digital data.

Professor Eric Yeatman (Electrical and Electronic Engineering), and Principal Investigator at Digital City Exchange, said: "On behalf of the Digital City Exchange programme at Imperial College London, I am proud to be welcoming so many existing and future research colleagues and industrial collaborators to join us at DE2014. The event provides an excellent opportunity for us all to share and celebrate the quality and diversity of the UK's Digital Economy research, to make new contacts, and to go away inspired by what is being achieved."

media mentions

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Blast injury research vital to saving lives

THE MAIL ▶ 23.11.2014

In a letter to the *Mail on Sunday* in response to a previous article about Imperial's Centre for Blast Injury studies, Professor Anthony Bull (Bioengineering) and Dr Chris Simpkins, Director General, The Royal British Legion, write: "To describe the work of the Centre as 'secretive weapons tests' and 'gruesome experiments' is not only misleading but does a great disservice to the effort to save the lives and limbs of our Service personnel. We still need to assess the effects of blasts so we can protect and treat people more effectively, and we will continue to research in this crucial area, including, where necessary, with human tissue... donated to medical science with full informed consent by either the donor or their relatives."

awards and honours



ENGINEERING

Metal detector finds prize

A breakthrough in mineral analysis allowing explorers to predict distance and likely occurrence of metal resources has won an Institution of Engineering and Technology (IET) Innovation Award. The international team, including Imperial researchers Dr Jamie Wilkinson and Clara Wilkinson (both Earth Science

and Engineering) worked with colleagues from the Natural History Museum, University of Tasmania, Lakehead University and AMIRA International to develop a laser ablation analysis for enhanced discovery of mineral resources.

PHYSICS

Leading thinker

Dr Roberto Trotta (Physics) has been named as one of 100 Leading Global thinkers of 2014 by the international politics magazine, *Foreign Policy*, for his book 'The Edge of the Sky'. The awards are given for to those who have shown an "ability to translate important ideas into action that changes the world". Dr Trotta said: "I was hugely surprised by this utterly

Shopping could damage your health, as well as your wallet

THE TIMES ▶ 05.12.2014

As if Christmas shopping were not stressful enough already, people planning to visit Oxford Street in London are being warned that they could suffer heart and respiratory problems caused by air pollution. A study found that even healthy people suffered damage to their arteries after spending two hours exposed to fumes from buses and taxis on the famous shopping street. Co-author Dr Rudy Sinharay (National Heart and Lung Institute) told *The Times*: "Christmas shoppers shouldn't panic, but it would be wise for people with chronic lung or heart disease to check the air pollution forecast and limit their exposure on very polluted days."



Britain on course for warmest year ever... climate change to blame

THE DAILY TELEGRAPH ▶ 04.12.2014

Central England has not experienced a warmer year since Oliver Cromwell was Lord Protector,

according to figures published by *The Daily Telegraph*. Man-made climate change is probably responsible for Britain experiencing the warmest year since records began, the Met Office has said. Professor Sir Brian Hoskins, Chair of the Grantham Institute at Imperial said the findings should "focus the attention of the Governments in their on-going climate negotiations in Lima." He adds: "The climate system is not going to wait for them. There must be an agreement by all that will lead to global greenhouse gas emissions peaking before 2030 and then falling rapidly."

Scientists make enzymes from scratch

BBC NEWS ▶ 01.12.2014

Experts say they have achieved a scientific milestone – creating enzymes out of artificial genetic material that they made in their lab, *BBC News* reports. The synthetic enzymes functioned just as well as real ones. Professor Paul Freemont (Medicine) said: "I can see how there could be therapeutic strategies downstream if we can start to mimic nature and develop synthetic variants. What excites me more is the questions it raises about the origins of life. It provokes people to think that what we see on our planet is just one chemical possibility."

unexpected honour. *Foreign Policy* described my radical approach to communicating my science to the public as 'junking astronomy jargon' – an equally radical summary, and a good one!"

ENGINEERING

Prize thesis



Prince Harry presents the award to Dr Chiara Bo

Dr Chiara Bo has been awarded the Atomic Weapons Establishment (AWE) Thesis Prize as part of her work to better understand the effects of high pressure pulses on biological

samples. Dr Bo is based at the Centre for Blast Injury Studies in the Department of Bioengineering. The AWE prize is awarded annually for the best PhD in the field of high energy density, shock regimes and plasma physics.

CHARITY

Top-rated charity

The Imperial-based Schistosomiasis Control Initiative (SCI) has been included in a list of top-rated charities by GiveWell. The organisation assesses charities based on the strength of their programme and track record as well as cost-effectiveness – then lists those that "offer donors an outstanding opportunity accomplish good with their donations."

Mountain range is being created and destroyed by earthquakes

Scientists have shown that earthquakes, not an ancient wetter climate as previously suggested, are eroding the mountains in Peru.

More than 16,000 years ago the Western Andes Mountains of Peru was much wetter than it is today. Scientists have debated whether this ancient wetter climate and associated flash floods were the dominant cause of erosion in the region – or if earthquakes were the likely culprit.

A team of geologists including an Imperial researcher sought to answer that question by comparing ancient and newer eroded piles of rock to determine the source of the erosion (see box-out).

By analysing the cobbles to determine the presence of Beryllium-10, the team have found that earthquakes have been the major source of landslides in the region for thousands of years.

Dr Dylan Rood (Earth Science and Engineering) says: “The now very dry environment of the Andes Mountain range provides us with a really rich source of geological information that has been preserved for thousands of years. Our study is helping us to see that the force that has created the Andes – where one part of the Earth’s crust pushes another



The Andes are the longest and second highest continental mountain range on Earth, formed when the Nazca plate slid under the South American plate, pushing the crust upwards.

massive fragment skywards – is also destroying the Andes through earthquakes.”

The next step will see the researchers measuring how other mountain chains have responded to past climate changes around the world. New insights into how sensitive these Earth systems were to changes in the past will allow us to prepare for the future of a warming globe.

—COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS



Sunburnt rocks

Looking at the level of Beryllium-10 in rocks can provide clues as to their past history and journey. Beryllium-10 is created when cosmic rays from space hit minerals, such as quartz, in rocks, which splits the oxygen inside, leaving Beryllium-10. The scientists liken this process to the rocks getting sunburnt, because the longer the rocks remain on the surface of Earth, the more exposed they are to cosmic rays, and the more Beryllium-10 is created inside the rocks.

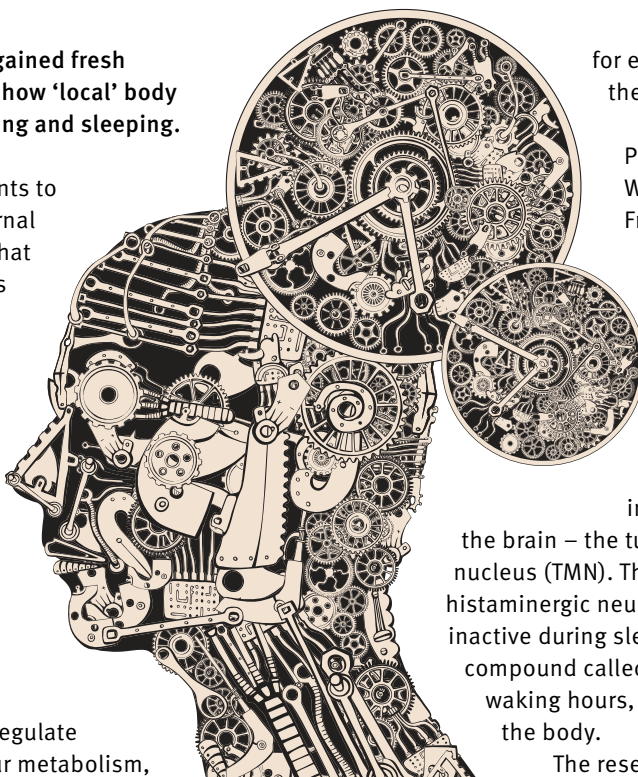
Scientists know that shallow erosion, caused by water, generates eroded cobble rocks that are exposed on the surface for a relatively long period, which means that more Beryllium-10 is created. Conversely erosion from landslides is relatively deep and quick in geological terms, exposing cobbles on the surface for a relatively shorter time, meaning that they contain less Beryllium-10. In the current study they discovered small amounts of Beryllium-10 – one in a million billion atoms – in both the ancient and modern cobbles. This indicated that they were exposed on the surface for a relatively short period, and were eroded as a result of earthquakes rather than floods.

Scientists find first evidence of ‘local’ clock in the brain

Researchers have gained fresh evidence detailing how ‘local’ body clocks control waking and sleeping.

All animals, from ants to humans, have internal ‘circadian’ clocks that respond to changes in light and tell the body to rest and go to sleep, or wake up and become active.

A master clock found in part of the brain called the suprachiasmatic nucleus (SCN) is thought to synchronise lots of ‘local’ clocks that regulate many aspects of our metabolism,



for example in the liver.

In a new study Professors Bill Wisden and Nick Franks (both Life Sciences) worked with the MRC Laboratory of Molecular Biology in Cambridge to investigate a local clock in another part of the brain – the tuberomammillary nucleus (TMN). This is made up of histaminergic neurons, which are inactive during sleep, but release a compound called histamine during waking hours, which awakens the body.

The researchers deleted

a well-known ‘clock’ gene, *Bmal1*, from the histaminergic neurons of mice and found that they produced higher levels of the enzyme that makes histamine and were awake for much longer periods than usual. This finding indicates that there is an active local clock-like mechanism in this region of the brain.

Professor Bill Wisden said: “Getting enough good quality sleep is crucial – it helps keep us mentally and physically healthy, as well as being a key factor in having a good quality of life. At the moment we still don’t know enough about exactly why we fall and stay asleep. Ultimately, understanding local clocks better might enable us to target them to help people have a better night’s sleep.”

The scientists are now looking to investigate whether there is direct communication between the master SCN and local clocks, to find out how the SCN gives and receives sleep-wake messages.

—GAIL WILSON, COMMUNICATIONS AND PUBLIC AFFAIRS

Making waves: getting to the root of brain cognition

Scientists have revealed the mechanisms that enable certain neurons to kick start ‘Mexican waves’ in the brain.

These coordinated oscillations in whole groups of neurons are thought to be essential for higher cognitive functions (see box).

The study was carried out by researchers at Imperial and the Max Planck Institute for Brain Research. It focused on so-called ‘inhibitory neurons’ that resonate or ‘vibrate’ below a certain threshold and in doing so can persuade networks of other neurons to imitate their vibrations – setting off ‘Mexican waves’ in the brain.

Co-author Dr Claudia Clopath, (Bioengineering) said: “These brain cells are similar to spectators in a football stadium, encouraging others into imitating them in a Mexican wave. We suspect that there is a very close relationship between the collective vibrations that they set off and many important cognitive functions. When the vibrations are degraded so that the wave is disrupted, we think it may contribute to neurocognitive disorders such as dementia. Our hope is that ultimately our research will lead to new insights into these disorders and how they can be treated.”

The researchers developed a mathematical model showing the two mechanisms that inhibitory neurons need in order to convince others to join them in their rhythmical vibrations. The first is the mechanism that enables the inhibitory neurons to vibrate on their own, known as sub threshold resonance.

The second mechanism utilises nanoscopic holes known as gap-junctions. There are many of these on the surface of the inhibitory neuron and they allow neurons to communicate directly with one another, enabling inhibitory neurons to set off a collective vibration.

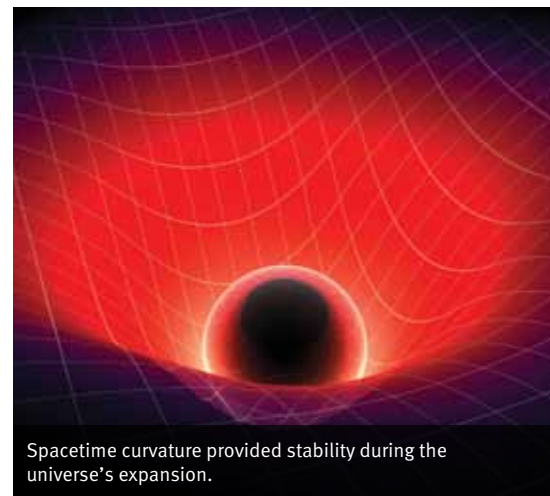
The next step will see the researchers carrying out research on inhibitory neurons to fully understand why vibrations are important for cognitive functions.

—COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS



Tuned in

Neurons often huddle together in clusters to perform a specific purpose – for example responding to and processing a stimulus such as a recognisable face. Sometimes these neurons fire a signal at the same time, then go quiet, and then fire again. This repeating process is called an oscillation and the number of repetitions in a second determines the frequency – 1 Hertz is one burst of firing and one period of silence. Different names are given to different ranges of the oscillation frequency (Hz): the delta band ranges from 0.1–3.5 Hz; theta 4–7.5 Hz; alpha 8–13 Hz; beta is 14–30 Hz; and gamma 30–80 Hz. These rhythms can be measured using electroencephalography (EEG) – which records electrical activity with electrodes attached to the scalp. Using EEG and other methods scientists have shown that certain electrical rhythms are associated with different brain states: the delta band is linked with deep sleep; theta, memory encoding and retrieval; beta oscillations, the sensorimotor system; and gamma, cognitive functions such as attention, associative learning and working memory.



Spacetime curvature provided stability during the universe's expansion.

Gravity may have saved the universe after the Big Bang

New research by a team of European physicists could explain why the universe did not collapse immediately after the Big Bang.

Studies of the Higgs particle – discovered at CERN in 2012 and responsible for giving mass to all particles – have suggested that the production of Higgs particles during the accelerating expansion of the very early universe (inflation) should have led to instability and collapse.

“The Standard Model of particle physics, which scientists use to explain elementary particles and their interactions, has so far not provided an answer to why the universe did not collapse following the Big Bang,” explains Professor Arttu Rajantie (Physics).

Now, in a new paper, Rajantie and colleagues describe how the spacetime curvature – in effect, gravity – provided the stability needed for the universe to survive expansion in that early period. The team investigated the interaction between the Higgs particles and gravity, taking into account how it would vary with energy. They show that even a small interaction would have been enough to stabilise the universe against decay.

“Our research investigates the last unknown parameter in the Standard Model – the interaction between the Higgs particle and gravity. This parameter cannot be measured in particle accelerator experiments, but it has a big effect on the Higgs instability during inflation. Even a relatively small value is enough to explain the survival of the universe without any new physics!”

The team plan to continue their research using cosmological observations to look at this interaction in more detail and explain what effect it would have had on the development of the early universe. In particular, they will use data from current and future European Space Agency missions measuring cosmic microwave background radiation and gravitational waves.

—LAURA GALLAGHER, COMMUNICATIONS AND PUBLIC AFFAIRS





Driving change

The three staff network Chairs with Leyla Okhai, Imperial's Equality and Diversity Manager (in light blue)

The Imperial diversity, equality and inclusivity networks helping to create a more supportive environment for staff

Universities increasingly recognise that providing equality of opportunity is not only the right thing to do, but an essential component in the development of excellence. To maintain the highest standards of research, teaching and support we need to attract the brightest talents and eliminate any discrimination that might prevent members of our community from fulfilling their potential.

At Imperial our dedicated Equality and Diversity Unit is mandated with promoting and embedding all aspects of equality throughout the College. Its six dedicated members of staff work closely with the Equality and Diversity Committee, the Disability Action Committee, the Academic Gender Strategy Committee and the Athena Committee in developing the College's policies, procedures and infrastructure in order to address equality issues.

But there's also a need for staff to take ownership of building an inclusive culture and Imperial's three diversity networks, Able@Imperial, Imperial 600, and Imperial as One are leading the way. Bringing together staff from across the College, each offers advice on how Imperial can achieve equality and diversity goals and provides opportunities to network. They have been through various iterations over the years, but have all recently drawn up new action plans. We hear from the Chairs themselves about what the networks are all about and how they hope to influence change.

For more information visit: imperial.ac.uk/equality

Dean Pateman, Academic Registrar and Chair of Imperial

“Imperial 600 was established in 2006 to support lesbian, gay, bisexual, and transgender staff. The name is a play on the oft-quoted '10% figure' from a time when there were around 6000 members of staff in total.

Ultimately I think it's about providing a safe and comfortable working space for LGBT staff. We've all been interviewed for our jobs on merit so we shouldn't feel there are any more issues or hoops to jump through. Imperial 600 should be there as a critical friend: actively supporting the College on its equality and diversity agenda, but equally challenging wherever necessary.

As a senior manager I'm in a 'privileged' position with access to many different areas of College. But there are many staff members who come

into the office and don't see much beyond their own team or Department and so if they have a particular experience that they perceive to be about their sexuality, disability, gender or race, then that represents their experience of the College as a whole. So it's really important that we provide access to other people and other services, essentially to say 'it needn't be like this'. So in many ways it is about broadening horizons in the workplace.

An important aspect of that is the strong and long-standing social side to I600, which remains really important to the membership. We're currently looking at diversifying that and doing more joined up activities as well – so for World AIDS Day we ran an event with Able@Imperial, the disability network (see Sarah Shemilt's piece opposite).

One of the things I think all the Chairs agree on is the value



Sarah Shemilt, Finance Systems Support & Communications Officer and Chair of Able@Imperial

“Even if you are in a supportive team you can still feel quite isolated.”

“Able@Imperial is a network open to all disabled staff; those who support disabled dependents; and those who have an interest in disability in the workplace.”

Ultimately I believe there are two distinct spheres to the network – a social side and an activist element. The social one involves running events, organising external speakers and basically connecting people. Remember, as a disabled member of staff, even if you are in a supportive work team, you can still feel quite isolated. So having that external support network can be incredibly valuable, even if the interaction is quite informal.

The activism side involves engaging and working with Human Resources and other areas of the College to get across our point

of view and try to affect change. One of the reasons I got involved in the network is because in the past, consultation with groups like ours when implementing policies probably wasn't as good as it could have been. But I've been impressed in my dealing so far; it's not just lip-service, people are willing to listen and change. We have recently drawn up our first Action Plan and are considering how we might implement it.

One of the really important tangible aims is to increase the number of staff who declare a disability upon starting their role at Imperial. Rates of declaration are particularly low at the College relative to other universities. There are many reasons for that, and it may be entwined with Imperial's status as a high-achieving environment where

people are reluctant to reveal what might be perceived as weakness. Whatever the reason, an important part of solution is to create a supportive environment and culture at Imperial so people can feel confident saying: 'I have this condition, it is just one part of me and in fact rather than being a weakness it gives me a unique perspective and valuable life experience.' A related point is that in Imperial's recent Staff Survey, one in five staff who classified themselves as being disabled felt that their career progression at the College was affected by that disability. This is too high and addressing that together as a community will be the greater challenge I feel.”

For more information and upcoming events visit: bit.ly/able-imperial

600



Zarine Khurshid, Training and Development Coordinator (Campus Services) and Chair of Imperial as One

“Imperial as One launched in 2005 and was very much ahead of the curve in the Higher Education Sector for this sort of initiative. Since then it has worked to support and promote an inclusive workplace culture of respect, opportunity, unity, transparency and equality, and to tackle issues of racism, discrimination, fear and prejudice. This was recognised in 2008 with the network winning the Rector's Award for Equality Excellence.”

While the network is primarily for Black, Asian and minority ethnic staff it is very much open to anyone who feels passionately about ensuring inclusivity and is basically interested in exploring other cultures.

Going forward I'm really keen to make it more open access and outward facing – with events and initiatives for the entire College community.

I want people to see our activities and encourage them to pop along just to find out what it's all about. That's one of the drivers behind the upcoming Walk around the World photography exhibition celebrating the cultural diversity of

Imperial and showing at the Blyth Gallery in March next year. I'm also working

with the Union to organise a world film festival for staff and students at the Beit Cinema and hopefully a showcase of international costume and foods.

At Imperial we obviously promote equality of opportunity which is absolutely the right policy; however, that in itself will not promote better understanding of cultures. I'm a practicing Muslim and I welcome it when people feel comfortable enough to ask me questions about fasting practices at Ramadan or celebrating Eid.

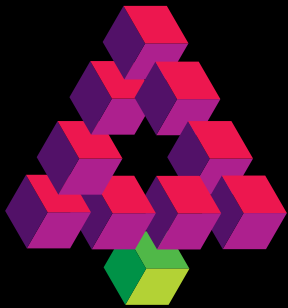
It promotes respect. Greater visibility of different cultures also brings a real richness to the environment and perhaps makes for a happier workforce.

Of course we are also there to support our members if they feel they have experienced discrimination of any kind, but I'm keen to drive change with positivity.

For more information and upcoming events: bit.ly/Imperial-as-one

For more information and upcoming events visit: imperial.ac.uk/Imperial600





FESTIVE FRINGE

The Imperial Fringe returned for a seasonal celebration of research science on Thursday 11 December. From 16:00 until 20:00 staff, students and members of the public stopped by to take part in hands-on demos, activities and games in the College Main Entrance. We take a look at some of the highlights from the evening.



Dr Marina Galand (Physics) shows how to harpoon yourself a comet for Christmas, explaining the work she and others contributed to the Rosetta mission to comet 67P (top). Visitors were able to illuminate the lights on the College Christmas tree using pedal power with an installation devised by the Energy Futures Lab at Imperial (right).

The Department of Materials hosted a 'build your own snowman' exhibit taking advantage of the adhesive properties of sodium polyacrylate (top left). Researchers from the Department of Surgery & Cancer gauged visitors' reactions to bitter tastes similar to Brussels sprouts and how it reflects your genetic makeup (middle, left). Dr Agi Brandt-Talbot (Chemistry) brought along a reactor to explain how biofuels can be created from the fibres of fast-growing and hardy Christmas trees (bottom, left). The Imperial College Advanced Hackspace was also on hand to help visitors create their own bauble using 3D printing techniques (right, bottom two).

inside*

story

mini profile

Michael Johnson

Dr Michael Johnson is at the forefront of big data analysis in his attempts to unravel the genetic mystery of epilepsy. He is currently Deputy Head of the Centre for Clinical Translation in the Division of Brain Sciences and a consultant neurologist at Imperial College Healthcare NHS Trust



Why is research into epilepsy so important?

Epilepsy affects at least 50 million people worldwide. What's perhaps not always appreciated is that these people have a two-to-three-fold increased mortality risk. However, we simply don't understand why some people develop epilepsy and others do not. It's increasingly acknowledged that epilepsy has a strong genetic influence; but the risk is related to multiple genetic factors. Identifying those factors would massively improve our understanding of the biology and potentially unlock the door to new and more effective drugs.

How do you hope to rectify this situation?

We use computational techniques to analyse large sets of genetic data from people with and without epilepsy. We first did this in a UK study of nearly 1,300 patients with epilepsy and 5,100 controls – and then contributed to a

larger international study of over 34,000 subjects. This demonstrated that genes do account for a substantial proportion of the risk of epilepsy – about 30 per cent – and that for adult patients with the more usual forms of epilepsy, it is common genetic variants that explain this risk and not rare mutations. However, the number of genes responsible for epilepsy could range from about 400 into the thousands.

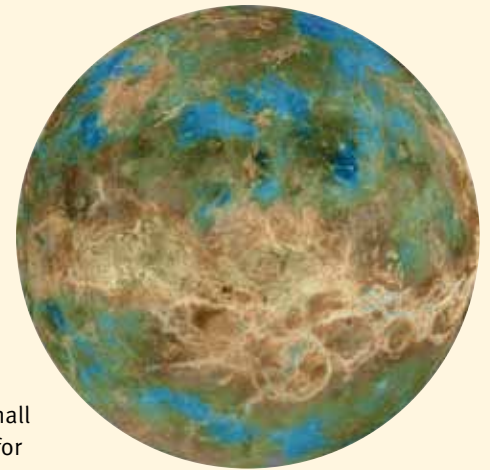
What is the future of research in this area?

We have laid the foundations for future research but, perhaps more importantly, the studies have confirmed the need for research using cutting edge computational tools on large datasets. It is also vital that we collaborate with industry to ensure findings inform the development of new medication.

—FRANCESCA DAVENPORT, COMMUNICATIONS AND PUBLIC AFFAIRS

Hot rock!

Dr Richard Ghail (Civil and Environmental Engineering) and Dr Philippa Mason (Earth Science and Engineering) have recently proposed a new mission to Venus, Earth's 'unloved neighbour' – which is in fact very similar to our own planet in size and topography... but swelteringly hot and hostile. "We intend to take a relatively small spacecraft, similar to ones used for earth observation, and spend 3-5 years looking at the surface for earthquakes, volcanoes and any changes in activity that are taking place."



A global radar image of Venus taken by NASA's Magellan spacecraft.

Listen to the full audio interview here: bit.ly/venuspod



▶ SCIENCE FROM SCRATCH

As explained by Rebecca René, MSc Science Media Production

Why do all the planets in our solar system orbit in the same direction?

If you were to look down at the solar system from high above the North Pole you would observe the planets all orbiting in the same direction – anti-clockwise. That fate was determined during the creation of the solar system around 5 billion years ago.

When an ancient star exploded in the region that was to give rise to our solar system, the surrounding space became littered with swirling clouds of dust and gas known as nebulae. Something, perhaps the influence of other distant supernova, caused the dust and gas particles to become drawn together in a smaller cloud. Each cloud particle's random motion plus any net angular momentum of the clouds themselves contributed to the general rotation of the greater nebula.

As the centre of the cloud attracted more dust and gas, its gravitational pull increased and eventually the cloud collapsed in on itself. The speed of rotation increased as the cloud collapsed, all the while conserving angular momentum. Those rotational forces also caused the cloud to flatten into a disk spinning anticlockwise around a core.

At the core, the Sun was born, again rotating anticlockwise, producing solar winds which blew the remaining dust and gas to the edge of the solar system. Within the disk, smaller clumps of gas and dust coalesced, forming the planets and other objects such as comets. At the heart of one of these dust clusters was the Earth.

And so in time, the orbital direction became set in stone – literally in the case of the rocky planets. The force of gravity acting between the Sun and the planets is what keeps the planets moving in orbit.

Each planet's individual rotational direction also came from the rotating disk – with two exceptions, Uranus and Venus. Uranus spins on its side, while Venus spins clockwise, reputedly a result of the planets colliding with larger objects.

Success for students in international design competition

An innovative idea to help long distance partners, families and friends feel closer led an Imperial student team to success in a global competition.

Postgraduate students Alexandre Kitching and Sheana Yu, who are enrolled on the Global Innovation Design course jointly delivered by Imperial and the Royal College of Art, won gold in their category and took home an overall prize for Best Intelligent Design in the 'LotusPrize' International Industrial Design and Innovation Competition 2014.



This year's competition brought together more than 40 international companies, including LG, Intel and Microsoft, to set design topics for the competition – based on real and current needs in society and industry.

The Imperial team won the top prize in the 'Closer to Your Heart' category, sponsored by telecommunications company Huawei, which asked them to come up with a concept that would help people feel closer to each other when they are in different locations.

Their winning concept, Hamon, envisions an interactive surface which allows users to communicate with each other based on their interactions with everyday objects – such as a cup of coffee, a pen, or a notepad. Outlines of these objects would then be visualised on a connected Hamon board (left), allowing users to experience the presence of another person by observing the movement of the objects they interact with.

Explaining their concept,



Postgraduate students Alexandre Kitching and Sheana Yu took home two awards in the LotusPrize competition

Alexandre Kitching says: "When you're physically with someone, your mood is shown through your actions and movements, and can be sensed by others around you without you having to articulate your feelings. These subtleties tend to be missed in telephone calls, emails or text messages, which rely upon written or

spoken words.

"We wanted to create a new kind of long-distance interaction that would allow users to feel close to someone without having to constantly think of things to say. It's a more playful, personal way of communicating."

—DEBORAH EVANSON, COMMUNICATIONS AND PUBLIC AFFAIRS

Imperial invites the public to pop-up market event

Last month members of the public were invited to a pop-up market event at Imperial, which tested students' business skills.

Visitors were able to buy a variety of products – such as festive-themed jumpers, organic soaps and discount electronics – at the market held on Thursday 20 November from 10.00 – 16.00 at Imperial's Queen Lawn.

The event was part of the Business School's 360 Business Challenge – an 'Apprentice' style task for current MBA students. The five day project saw teams of students tasked with the challenge of setting up business as market traders in less than three days with budgets ranging from £200-£400 to source and buy



Winning team comprising (L-R): Devika Sarin, Robert Harold, Henry Quiroz Suazo, Lauren Dickerson, Sandeep Kumar, Moath Alnaeem

products for their stall. The teams then sold their products on day four of the challenge.

Total turnover was added up and return on the original investment (ROI) calculated. Emerging on top were a team that sold Dre urBeats™ earphones for £40 having negotiated a deal directly with a wholesale contact, ultimately making a 294% ROI. In close second place with an ROI of 247% were a team that sold Christmas jumpers, gloves and hats.

Kira Hughes, Careers Consultant at Imperial



Second place team comprising (L-R): Arshad Baharudin, Jovi Overo, Sophie Ireland, Viv Diwakar, Thankikarn Sumsawan

College Business School, said: "The 360 Business Challenge aims to give our students a real insight into the many processes involved in setting up a business. The goals of the challenge are to foster teamwork, encourage shared learning and enhance skills."

Kira adds that a career consultant observed each group's activities throughout the week and provided feedback on their performance to help them develop their leadership potential.

—MAXINE MYERS, COMMUNICATIONS AND PUBLIC AFFAIRS



▶ INVENTOR'S CORNER

Airborne revolution

Earlier this year Dr Mirko Kovac (Aeronautics) demonstrated a prototype flying, 3D-printing robot at the Imperial Festival. He is now working to improve the design and develop it for specific applications.

Why create a nest-building robotic swiftlet?

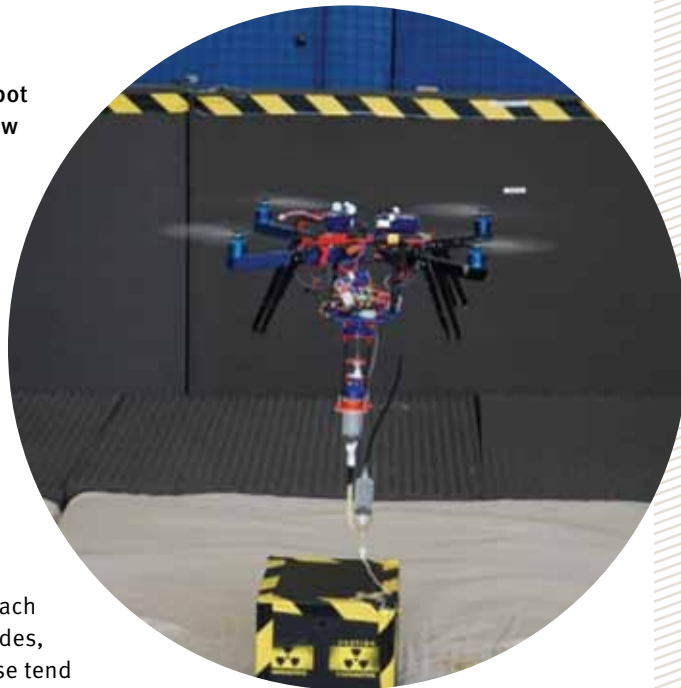
I believe the aerial robotics sector is on the cusp of a period of exponential growth. The current systems on the market can only perform aerial photography. But at the Aerial Robotics Lab, we are working on a new generation of robots that can repair hard-to-reach structures: oil pipes, turbine blades, aeroplane wings and so on. These tend to be in remote locations as part of large structures and it can be dangerous for someone to assess or repair any damage. Robots could provide a comparably safe solution.

How did you make the swiftlet?

Our robotic swiftlet consists of a quadcopter which was extended with a trunk and a 3D printing module that reaches out of the robot – allowing it to print directly on the structure, repairing a crack or creating extensions. Making the robotic swiftlet wasn't only about integration of these different systems though. A key challenge was in making the 3D printing module very light weight and adapting it to the structure of the quadcopter. Working with expanding foam is also difficult because the setting time varies and requires precise coordination of the printing sequence. In addition we had to develop novel flight controllers and behaviours to allow for precise deposition from the air.

How did you adapt the swiftlet to the challenge of interacting with remote areas?

We look at animals and extract the key design principles from their behaviour,



body structure, and sensing abilities and try to apply them to robotics. So with the swiftlet we analysed the nest-building process and adopted four key features: the onboard storage of materials to build the nest (the swiftlet's nests are made from its saliva); use of a material that is both adhesive and structural; the ability to construct nests while either perched or flying; and application of the additive layer manufacturing principle.

What's next for the swiftlet?

The version we presented at the Imperial Festival was the result of a proof of concept study. We are now working on improving the accuracy and consistency of the 3D printer and combinations with flying 3D scanners that can detect damage to guide swarms of flying construction drones. We are also working on other robots that can interact with environments and stay there for longer amounts of time, as well as hybrid locomotion, like amphibious robots.

—DAVID BARRETO IAN, IMPERIAL INNOVATIONS

UK the leads way in Europe

The UK has become Europe's most entrepreneurial economy and has climbed five places to fourth globally, according to an Imperial report.

The Global Entrepreneurship and Development Index (GEDI) profiles and benchmarks the entrepreneurial ecosystems of 130 countries. In this year's index, the US ranked first, Canada second and Australia third.

The study was carried out by researchers from Imperial College Business School with collaborators at LSE, University of Pécs and George Mason University. The UK's ranking has improved steadily over the past three years – from 14th in 2012, ninth in 2013 and now fourth (the highest ever position).

Professor Erko Autio (Business School), co-author of the study, said: "The UK's performance in entrepreneurship is improving with more people recognising that there are opportunities to start up a business. However, our report shows that entrepreneurial aspirations remain a relative weak spot in the UK profile when compared with global leaders such as the US. Improving entrepreneurial aspirations is important, because it is the innovative, high-growth entrepreneurs that make all the difference. In entrepreneurship, quality matters more than quantity. Our report highlights areas that the government needs to focus on to further improve UK's already strong performance."

—MAXINE MYERS, COMMUNICATIONS AND PUBLIC AFFAIRS



long
service

Staff featured in this column have given many years of service to the College. Staff listed celebrate anniversaries during the period 1 December 2014–1 January 2015. The data are supplied by HR and correct at the time of going to press.

20 years

- Professor Jon Friedland, Chair in Infectious Diseases and Immunity, Medicine
- Professor Joanna Morgan, Professor of Geophysics, Earth Science & Engineering
- Professor Robin Grimes, Professor of Materials Physics, Materials
- Professor Alfried Vogler, Professor of Molecular Systematics, Life Sciences (Silwood Park)
- Professor Nicholas Long, Sir Edward Frankland BP Chair -Inorganic Chemistry, Chemistry

30 years

- Courtney Richards, Maintenance Manager, Estates

SPOTLIGHT

Professor Alfried Vogler, Professor of Molecular Systematics, Life Sciences (Silwood Park) 20 years



“Since 1995, I’ve worked in the Department of Life Sciences in a joint appointment with the Natural History Museum. When I applied, I was promised ‘the best of both worlds’ and I have not been

disappointed. I’ve been able to combine my main interest of taxonomy, in particular the study of beetles, with the more conceptual ideas of evolutionary biology in Life Sciences. I remember when I first started it was very exciting to pass on my way to work the rows of mahogany cabinets at the Museum filled with specimens, some collected by Charles Darwin. During my first 15 years at Imperial, DNA sequencing technology changed very little, but recent technological advances have transformed my work. Using these super-fast sequencing techniques for monitoring biodiversity has become even more important as we are witnessing the acceleration of environmental decline. From a personal point of view, it has been exciting to work with bright young graduate students and postdocs; people excited about similar things as me. They have gone on to build their own laboratories all over the world, including here at Imperial. I have greatly enjoyed my work and made many good friends here at Imperial.”

—HENRY ROTHERY, COMMUNICATIONS AND PUBLIC AFFAIRS

CERN makes public the first data from LHC experiments



CERN has launched an Open Data Portal, making data from Large Hadron Collider (LHC) experiments openly available to all for the first time.

Experiments at the LHC at CERN are addressing some of the most fundamental questions about the origin, evolution and composition of our universe. Many members of Imperial’s High Energy Physics group have been working on the mission to find new particles, detect the Higgs boson particle, and

explore some of the mysteries of the universe, such as where mass comes from and what constitutes dark matter.

The newly available data come from real collision events produced at the Compact Muon Solenoid (CMS) particle detector experiment, one of the two general purpose experiments at the LHC. It is expected that they will be of high value for the research community, and will also be used for education purposes.

Dr David Colling (Physics)

is one of those behind the project to make the LHC’s data openly available. He said: “We’re really pleased to be able to share these data with the public for the first time and we think ours is the first particle physics experiment to make its data available like this. Publicly funded data are a public good, and it’s right that people can access the data that we have been able to generate thanks to their funding.”

—LAURA GALLAGHER, COMMUNICATIONS AND PUBLIC AFFAIRS

obituaries

DAVID HOLT

David B. Holt, Emeritus Professor in the Department of Materials, died at the end of October aged 86. Professor Jim Williamson and colleagues from the Department pay tribute.

David was a much valued member of the Department of Materials and its forerunners for over 30 years. Born in South Africa, he grew up and received his schooling in the USA. He then returned to South Africa and the University of Witwatersrand where he obtained a BSc degree in Physics and Mathematics followed by an MSc in Solid State Physics. In 1956 David obtained his PhD in Physical metallurgy from Birmingham University where he was made a Research Fellow. He joined Imperial in 1962 in what was then the Metallurgy Department. He was appointed Lecturer in Metallurgy and

subsequently promoted to Senior Lecturer and Reader before being made Chair in Electronic Materials in 1990. After retiring in 1993 he was made an Emeritus Professor and Senior Research Fellow at Imperial.

His research interests were mostly concerned with the structure and electronic properties of a wide range of materials, notably semiconductors. He was a leader in the development and use of monochromatic cathodoluminescence and used the photon energy of the radiation to determine quantitative properties of semiconductors and their defects. The techniques that made use of electron beam induced currents (EBIC) were later taken up and marketed by Oxford Instruments.

He co-authored a book with BG Yacobi entitled “Extended Defects in Semiconductors – electronic properties, device effects and structures” which was published in 2014.

Welcome

new starters

Mr William Abbott, Bioengineering
 Dr Arfan Ahmed, Surgery & Cancer
 Mr David Akroyd, Computing
 Ms Janet Alexander, Development
 Dr Eric Alix, Medicine
 Mr Alessandro Allievi, Bioengineering
 Ms Paula Alvarez Cartelle, Physics
 Dr Paras Anand, Medicine
 Dr Heather Ang, Life Sciences
 Mr Luke Bacon, Outreach
 Miss Marta Bagnati, Medicine
 Mr Alister Bates, Aeronautics
 Mr Neil Beadle, Mechanical Engineering
 Miss Sarah Beardon, Public Health
 Ms Aime Boakye, NHLI
 Dr Anna Bonne, Development
 Dr Olivier Borkowski, Bioengineering
 Dr Andre Brown, Clinical Science
 Mr William Brownscombe, ESE
 Mr Shane Cadogan, Chemical Engineering
 Ms Teresa Carbajo Garcia, EEE
 Miss Rachel Cassidy, Faculty of Medicine Centre
 Mr Huang Chong, Mechanical Engineering
 Mr Kieron Creagh, College Headquarters
 Dr Andrea Darling, Public Health
 Dr Sarah Davies, Surgery & Cancer
 Mr Miguel De Braganca Miranda, Public Health
 Dr Stefano Del Rosso, Aeronautics
 Dr Nathan Dennison, Life Sciences
 Dr Daniele Dubois, Computing
 Mrs Agnes Edwards, EYEC
 Dr Astrid Eichhorn, Physics
 Dr Tristan Fletcher, Medicine
 Mr Alexandros Floros, NHLI
 Dr Gemma Freeman, Chemistry
 Dr Benedicte Galmiche, Mechanical Engineering
 Miss Alice Gautreau, Surgery & Cancer
 Dr Guntvanti Goding, NHLI
 Miss Sally Gowers, Computing
 Miss Agata Grecka, Registry
 Miss Philippa Griffin, Medicine
 Miss Ellen Grimas, Medicine
 Ms Lena Gruscheski, NHLI
 Mr Dilip Halai, ICT
 Dr Alice Halliday, NHLI
 Mr Edward Harry, Physics
 Dr Hanadi Hassan-Nixon, Chemistry
 Dr Jiaqi Huang, Bioengineering
 Ms Tracy Irvine, Climate KIC
 Mr Ivan Isakov, Physics
 Miss Helen Johnson, NHLI
 Dr Elizabeth Jones, NHLI
 Ms Rebecca Jones, Library
 Mrs Gabrielle Judah, Surgery & Cancer
 Mr Priyesh Kapadia, Mechanical Engineering

Mr Narinder Kapur, Public Health
 Dr Ciaran Kelly, Life Sciences
 Dr Christos Keramiotis, Mechanical Engineering
 Dr Tanzeela Khalid, Surgery & Cancer
 Mrs Gintare Krajaseviciene, Catering Services
 Mrs Susan Lacey, Surgery & Cancer
 Ms Yatang Lin, Business School
 Dr Chang Liu, Mechanical Engineering
 Miss Stephanie McNamee, Faculty of Engineering
 Mr Russell Meredith, ICT
 Dr James Moss, NHLI
 Dr Raul Munoz Sanchez, Aeronautics
 Miss Vinh Nguyen, Public Health
 Miss Basmah Othman, Materials
 Mr William Otter, EEE
 Mr Jack Paget, Chemistry
 Dr Evangelos Papaefthymiou, Mathematics
 Dr Monica Patel, Chemistry
 Dr Jennifer Peed, Surgery & Cancer
 Miss Tegan Pickles, Sport and Leisure
 Miss Helen Piotrowski, NHLI
 Miss Sophie Piper, NHLI
 Ms Jessica Prestt, Surgery & Cancer
 Ms Azalea Raad, Computing
 Miss Olivia Raglan, Surgery & Cancer
 Mr Ahsan Rao, Surgery & Cancer
 Professor Mala Rao, Public Health
 Ms Francesca Rauzi, NHLI
 Mr Simon Rawstron, Business School
 Dr Christopher Reynolds, Life Sciences
 Dr Natalie Reznikov, Materials
 Mr Thomas Rice, Medicine
 Ms Lindsey Roberts, Campus Services
 Miss Delphine Rolando, Medicine
 Ms Theresa Ross, EYEC
 Dr Anastasios Roussos, Computing
 Miss Khelan Saffrey-Hunter, Finance
 Miss Prabhjot Saini, Chemistry
 Mr Ash Salam, Surgery & Cancer
 Dr Saeed Salimzadeh, ESE
 Mr Papa Sevane Thioucoury, Catering Services
 Dr Umang Shah, Chemical Engineering
 Miss Rebecca Sie, Medicine
 Dr Natalia Smoktunowicz, NHLI
 Dr Irina Spulber, EEE
 Ms Vasiliki Stamatopoulou, Public Health
 Ms Esra Suel, Civil and Environmental Engineering
 Ms Maria Symeonaki, Surgery & Cancer
 Dr Jonathan Tandy, Physics
 Miss Rebecca Tanner, NHLI
 Ms Caroline Teh, Business School
 Mr Ioannis Theodorou, Materials
 Dr Christopher Tighe, Chemical Engineering
 Mr Dimitris Touloupis, Mechanical Engineering
 Dr Marie Toussaint, NHLI
 Mr David Trevelyan, Mechanical Engineering
 Dr Jocelyn Turpin, Medicine

Dr Julia Urquhart, Centre for Environmental Policy
 Miss Claire Villette, Civil and Environmental Engineering
 Mr Thomas Watson, Faculty of Engineering
 Mr William Watson, Faculty of Engineering
 Ms Sarah Wissing, Design Engineering
 Dr Xiaolin Xiao, Medicine
 Ms Cristina Young, Public Health

Farewell

moving on

Dr Saima Afaq, Public Health
 Dr Chitvan Amin, Life Sciences
 Dr Sujit Bhattacharya, Physics
 Miss Cynthia Bishop, Medicine
 Mr David Boyle, Business School (7 years)
 Mr Andrew Brockman, Life Sciences
 Dr James Buckley, NHLI
 Mr Giles Carlin, ICT (9 years)
 Dr Antony Constantinou, Life Sciences (6 years)
 Mr Anthony Crowther, ICU
 Dr Robin De Cock, Business School
 Mr Paul De Ponte, Surgery & Cancer
 Mr Olivier Dubois, Medicine (5 years)
 Miss Catherine Edlin, Business School
 Mr Gray Elkington, Public Health
 Mr Jurijs Fjodorovs, ICT
 Miss Frankie Galati, Business School
 Dr Juan Garcia De La Cruz Lopez, Aeronautics
 Dr Maria Giubilei, Life Sciences
 Miss Paola Grassi, Life Sciences (5 years)
 Dr Yingying Guo, Mechanical Engineering
 Dr Amir Hakim, NHLI
 Ms Karen Harvey, Business School (6 years)
 Mr Peter Hellyer, Medicine
 Dr Helen Hipperson, Life Sciences (Silwood Park) (5 years)
 Dr Lesley Hoyles, Surgery & Cancer
 Mrs Jacqueline Kaiser, Climate KIC
 Miss Jubeda Khatun, Chemical Engineering
 Dr Bernadette Khoshaba, Surgery & Cancer
 Mr Christoph Kirmse, Chemical Engineering
 Dr Andrea Kroideweiss, Business School
 Mr Chun Law, Chemistry
 Dr Jen Lee, NHLI
 Dr Haojie Li, Civil and Environmental Engineering
 Mr Aldrin Lucero, Sport and Leisure
 Mr Nicholas Mason, Chemistry
 Dr Richard Mathie, Chemical Engineering
 Dr Andreas Mautner, Chemical Engineering

Dr Nicolas Mercado, NHLI (6 years)
 Mr John Mole, ESE
 Dr Deborah Morris-Rosendahl, NHLI
 Dr Mu Niu, Public Health
 Miss Maame Osei-Kyeremeh, Medicine
 Dr Andreas Panayides Panagidis, EEE
 Dr Vasileios Papaioannou, Chemical Engineering
 Miss Kasia Parfieniuk, Faculty of Medicine Centre (6 years)
 Dr Simona Parrinello, Clinical Science
 Dr Shreela Pauliah, Medicine
 Dr Katie Payne, NHLI (6 years)
 Mr John Perry, Sport and Leisure (10 years)
 Dr Konstantinos Petridis, Physics
 Dr Valentin Poirier, Chemistry
 Mrs Sarah Pottinger, Faculty of Natural Sciences (12 years)
 Mr Ramin Ramezani, Surgery & Cancer
 Mr Fabian Renn-Giles, Physics
 Dr Steve Ridge, NHLI
 Mr Rob Robson, HR
 Ms Camilla Sanger, Medicine
 Mr Alexander Schmidt-Richberg, Computing
 Mr Cameron Setchell, Business School
 Mr Arun Shivalingam, Chemistry
 Miss Vesta Simkute, Medicine
 Miss Magdalena Skowronska, Catering Services
 Mr Graham Smith, Chemistry
 Mr Dean Surtees, Registry (11 years)
 Ms Chrysanthi Taxiarchi, Life Sciences
 Dr Vicky Tspouri, Medicine
 Dr Monica Vazquez Acosta, Physics (6 years)
 Ms Elaine Walsh, Graduate School (16 years)
 Dr Rachel White, Physics
 Mr Peter Woodward, Surgery & Cancer
 Mr Satoshi Yoshizaki, EEE
 Mr Giovanni Zaninotto, Surgery & Cancer
 Dr Meng Zhang, Physics

This data is supplied by HR and covers staff joining the College during the period 14 November – 4 December 2014. This data was correct at the time of going to press. For Moving On, visit the online supplement at www.imperial.ac.uk/reporter

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

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



28 JANUARY, 18.00

Energy Futures Lab annual lecture

This year's lecture is delivered by Sir David King, the UK's Foreign Secretary Special Representative for Climate Change. Emeritus Professor of Physical Chemistry at the University of Cambridge, Sir David was also

Government Chief Scientific Advisor 2000 – 07. He worked to raise awareness of the need to act on climate change – with the Labour governments – headed by Prime Ministers Tony Blair and Gordon Brown. Follow on Twitter @EnergyFuturesC



16 –19 DECEMBER

South Kensington tunnel ideas competition

View work by students at the Royal College of Art, Royal College of Music and Imperial who have reimagined the South Kensington pedestrian tunnel and underground station entrance. The competition winner will

be awarded £5,000 and the opportunity to feed into grand plans to bring the area up to twenty first century standards. An exhibition of the shortlisted schemes is on display to the public at the Henry Moore Gallery in the Royal College of Art.

17 DECEMBER, 17.00

A Fragile Trust

Screening of an award-winning documentary that charts the progress and ultimately the downfall of young journalist, Jayson Blair, at the New York Times.



4 JANUARY, 12.00

Boat Club alumni reunion

Lunch at the Imperial College Boathouse for alumni from the period 1970-1976.

15 –22 DECEMBER

Visitor welcome and orientation pod exhibition

View proposals for a South Kensington tourist information hub created by Imperial Mechanical Engineering students and artist Hawys Tomos, open to the public in the City & Guilds Building foyer.

5 JANUARY College re-opens



6 JANUARY, 17.00

Being willing to see things clearly

Seminar with former hospital President and CEO, Paul Levy, looking at transparency in clinical process, organised by NIHR Imperial Patient Safety Translational Research Centre.

18 DECEMBER, 13.00

Lunchtime concert

Schubert and Dussek performed by I Musicanti, comprising Martin Roscoe (piano), Tamas Andras (violin), Robert Smissen (viola), Richard Harwood (cello) and Leon Bosch (double bass).

15 JANUARY, 12.30

The Gestapo and abduction as a political weapon

Seminar with Professor Charmian Brinson (Centre for Co-Curricular Studies) about kidnapped Second World War journalist Berthold Jacob.

15 JANUARY, 12.30

Lunchtime concert

Laura van der Heijden (cello) and Tom Poster (piano) play Beethoven's Cello Sonata in C major Op 102 No 1 and Schubert's Arpeggione Sonata in A minor D 821.



16 JANUARY, 19.00

De la Beche 100th anniversary reunion

Dinner for alumni celebrating the 19th Century geologist and founder of the Royal School of Mines, Sir Henry De La Beche.



19 –25 JANUARY

Healthy Living Week

Sport Imperial activities promoting health, fitness and competitive sports, including group exercise classes, games, seminars and fitness assessments with the Active Lifestyles Team.



29 JANUARY, 12.00

Dissecting the wound microenvironment

Department of Bioengineering seminar with Dr John Connelly, from Queen Mary University of London, about chronic and non-healing wounds.

10 FEBRUARY, 16.30

The best engineering becomes invisible – let's get over it

The 40th Annual Paviers lecture delivered by Keith Clarke, Vice President of the Institution of Civil Engineers.

23 DECEMBER College closes for Christmas break



take note



Nominate your enterprising students!

Academic staff are invited to nominate undergraduates and postgraduates for a £3,000 award to celebrate breakthrough innovation. This will be supported by Imperial Innovations and Google [x], Google's innovation-focused research unit that develops "radical solutions to huge problems".

Entrance is through nomination by academic staff only, and is now open. Visit: bit.ly/create-lab



Staff Survey 2014 Update

Since the College-wide presentations took place in June and July, the individual department survey results have been shared with Heads of Departments and Department Managers. Departments are now in the process of sharing this information with their staff and developing their action plans. The Department results and action plans will be added to the website over time, with many results already available to view online.

Please visit the Staff Survey webpage to find out more about the local results and next steps: bit.ly/imp-survey

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

