



Legacy of renewal

The changing face of Imperial's
South Kensington site from the
nineteenth century to the present

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EDITOR'S CORNER

A glance in the rear-view

In recent issues we've covered the very latest College developments such as the new Surgical Innovation Centre, Dyson School of Design Engineering and Althea enterprise programme. But for this issue we've turned back the clock. An event landed in my inbox, that at first seemed like a rather routine plaque unveiling on Campus (page 3), but actually opened up a treasure trove of historical insights into the origins of Imperial (centre pages). We've delved into the archives and poured over old plans and sketches by Victorian architects and rare original letters such as those from Charles Darwin to his collaborator and College forbearer TH Huxley (page 11). We've uncovered factoids such as the expression 'spend a penny' which originates from the Great Exhibition and the campaign to save the Queen's Tower from destruction. Imperial is, and always has been, an institution resolutely focused on the future, but it can be useful every now and again to take a look in the rear-view mirror as we speed along.

ANDREW CZYZEWSKI, EDITOR

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

Bridging the Gulf

Imperial College Business School will bring its expertise in business to new audiences in Abu Dhabi thanks to a new partnership.

The agreement was signed with the Abu Dhabi School of Management (ADSM), an educational institution dedicated to developing the UAE's future entrepreneurial leaders.

The signing ceremony, held at the Abu Dhabi Chamber of Commerce and Industry was attended by the Chamber's Director General His Excellency E. Mohamed Helal Al Muhairi; Professor G. 'Anand' Anandalingam, Dean of Imperial College Business School; and Professor Abdullah Abonamah, President of the Abu Dhabi School of Management.

The partnership with Imperial will provide the ADSM with access to some of the best business and entrepreneurship resources,



practices and expertise currently available. The two organisations are also exploring the possibility of student and faculty exchanges in future.

His Excellency said: "We are very excited over the numerous possibilities the partnership opens up. Imperial's global expertise combined with ADSM's local knowledge will groom a new generation of leaders capable of effectively addressing challenges

and formulating innovative solutions amidst a rapidly evolving global business landscape."

Professor Anandalingam added: "This relationship allows us to share our unique approach to business education, technology and entrepreneurship with new audiences in Abu Dhabi and the UAE, while benefitting from ADSM's valuable local and regional business insights."

—LAURA SINGLETON, COMMUNICATIONS AND PUBLIC AFFAIRS

String theorist and chemist become Royal Society Fellows

Professors David Phillips CBE (Chemistry) and Richard Thomas (Mathematics) have been elected to join the ranks of the UK's most eminent scientists as part of the 2015 announcement of 59 new fellows.



Richard Thomas is a Professor of Pure Mathematics and has become a world leader in the development of a branch of mathematics involved in string theory, which aims to explain the makeup of elementary particles using one-dimensional objects called strings.

Professor Thomas said: "It's a very nice honour. You never really have any indication of whether people in your field might think your work is stupid, but I guess this means someone thinks it's not stupid."

Emeritus Professor David Phillips has been investigating photochemistry and photophysics for 26 years at Imperial. More recently, his work has explored photodynamic therapy, where light-sensitive dyes are used to fight tumours. Professor Phillips also has an active role in science outreach, with live demonstration lectures reaching a combined live audience of over a quarter of a million.

He said: "It is an enormous honour to be elected a Fellow, even so late in life. I believe the FRS has been awarded for a lifetime's work in these fields, and also for the enthusiastic promotion of science in general, chemistry in particular, to young people and to the lay public."

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS

At the time of the 2015 Fellowship announcement 73 members of Imperial staff or people who have an ongoing association with Imperial are Fellows of the Royal Society.

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All aboard for new high speed partnership

Imperial has joined with China South Railway (CSR) Sifang Corporation – the world’s largest maker of electric locomotives – in a bid to develop the next generation of efficient, high speed trains, supported by the latest manufacturing and monitoring technologies.

The Sifang-Imperial Centre for Rail Transportation Manufacturing Technologies will focus on streamlining the construction and testing of high speed trains, so that they are safer, more cost effective and environmentally friendly.

The new Centre will be based in the Department of Mechanical Engineering and headed by Professor Jianguo Lin, a world-leading expert in using materials processing and moulding or plasticity technologies for the production of structural components.

Professor Lin said: “In order to truly reap the benefits of the next generation of rail travel, more work needs to be done to make trains lighter and durable, so that they are more cost effective to make and efficient to run, and are cleaner in environmental terms.”

Professor Peter Cawley, Head of the Department of Mechanical Engineering, said: “The new Centre really plays to Imperial’s strengths. We are leaders in metal-forming and materials modelling research and we have a very strong track record working with the transport sector on ways to improve safety, efficiency and sustainability of rail, automotive and air transport.”

–COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS

Supermarket grand challenge

Imperial and Sainsbury’s have launched a scholarship to help farmers tackle agricultural challenges on the ground by partnering with academics and industry.

The year-long programme, which kicked off last month, offers suppliers for Sainsbury’s the opportunity to collaborate with top UK scientists tackling challenges in the agricultural sector. This year, the programme will focus on issues in soil health and management to coincide with the UN International Year of Soils.

As part of the launch seven farmers from across the country spent a week at Imperial learning about research advances in soil health, and how the understanding they unlock will support improvements in its management and lead to enhanced yield, quality and sustainability. For the rest of the year, they will choose a particular aspect of soil health and management to tackle on their farm, and partner with scientists and industry to come up with potential solutions.

Cheshire dairy farmer and Sainsbury’s researcher John Brocklehurst explains why he joined the programme: “Improving crop yields and quality starts by managing soil health,” he said. “Getting the fundamentals

from the experts was great to understand how we can unlock the potential in our soils. The challenge now is to put the learnings into practice on farm, and I look forward to investigating my research topic.”

The scholarship is organised by Dr Rudiger Woscholski and Dr Laura Barter (both Chemistry), who commented: “I am looking forward to seeing how challenges in soil health and management can be addressed with innovative tools and technologies. Discussions between the scholarship farmers, academics and industrial partners have already begun to stimulate the genesis of wholly new ideas, which could lead to the development of next generation solutions in the field.”

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS



in brief

Marking a shared heritage

Staff and students from Imperial and The Royal Commission for the Exhibition of 1851 came together on May 11 to unveil a commemorative plaque on the Western Gallery Wall at the back of the Sheffield Building, to acknowledge the College’s heritage and inform visitors and passers-by. The section of wall now standing is all that remains of the Eastern and Western Galleries built in 1870 by the Commission to host a series of international exhibitions (see centre pages). Bernard Taylor, Chairman of the Commission (pictured with Imperial’s President Alice Gast) said: “This is a unique opportunity to celebrate the fascinating and



entwined history of the Commission and Imperial College and the legacy of that partnership through the prestigious Fellowship scheme we fund.” The Commission also curated a small exhibition in the College’s Main Entrance displaying historic documents, plans and photographs.

Latest Athena SWAN awards continue drive for equality

Imperial’s Department of Medicine has gained a Silver Athena SWAN award and the Department of Aeronautics a Bronze award bringing the total number of Athena SWAN awards the College holds to 14. Medicine upgraded its Bronze award reflecting a number of initiatives, including a thriving mentoring scheme, alongside events including an academic and family life panel discussion. The Department of Aeronautics is at the beginning of its Athena SWAN journey achieving a Bronze award for the first time recognising additional staff training in areas such as unconscious bias.

“The purple in the hoods you wear was chosen because of William Perkin... and symbolises the spirit of endeavour and discovery that characterises those with an Imperial education.”

SPEAKING AT GRADUATION, PRESIDENT ALICE GAST CREDITS ONE OF THE COLLEGE’S FOREBEARS WHO DISCOVERED SYNTHETIC DYE MAUVEINE AT THE ROYAL COLLEGE OF CHEMISTRY IN THE 19TH CENTURY.



Dr Laura Barter – Medal for Excellence in Pastoral Care and Award for Excellence in External Engagements and Partnerships

College all stars

Thirty six members of staff have been chosen to receive the 2015 President's Awards for Excellence – celebrating its twentieth anniversary this year.

Awards in the Education stream recognise staff who have made outstanding contributions in teaching, pastoral care, research supervision and supporting the student experience. The Research awards, new this year, recognise excellence in innovation and entrepreneurship, engagement and partnerships, and research support, as well as awards for an outstanding research team and early career researcher.

Nominations were made by staff and students with the winners of each award decided by selection panels.

President Alice Gast said: "Congratulations and thank you to this year's winners for their outstanding contributions to the College. It is very gratifying to be able to recognise them all for their truly remarkable work. I look forward to celebrating with them at our awards ceremony later this year."

Within each category those awardees judged to have made particularly exceptional contributions have also been selected to receive the President's Medal.

Dr Laura Barter (Chemistry), received awards in both streams, with a President's Medal for Excellence in Pastoral Care and a President's Award for Excellence in External



Engagement and Partnerships.

She said: "Pastoral care is vital, as the students we are training are the next generation of scientists who will be tackling some of society's greatest challenges, so it's important that we support their development."

The panel also recognised Laura's research work developing AGRI-net and the Imperial-Sainsbury Farming Scholarship (see page 3).

Dr Joshua Edel (Chemistry) was awarded the President's Award for Excellence in Teaching for his contributions to chemistry education, particularly in developing a new project in which students build a UV-Vis spectrometer, using LEGO.

He said: "We wanted students' first introduction into measurement sciences to have a fun problem solving element and making them build their own UV-Vis spectrometers from LEGO seemed an ideal way to do that."

"I think excellent teaching is vital in capturing the interest and imagination of students in a subject. To be recognised for trying to do that is really gratifying."

—JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS

For the full list of winners see: bit.ly/edu-awards and bit.ly/res-awards

Imperial promotes healthy minds with week of activities

Imperial marked Mental Health Awareness Week with a series of workshops and events for staff and students at the South Kensington and Hammersmith campuses.

The aim of the national initiative, run by the Mental Health Foundation from 11–17 May, is to encourage the public to talk more openly about the issues that surround mental health, as well as to help people think about their own mental wellbeing. This year's theme was 'mindfulness'.

Leyla Okhai, Equality & Diversity Manager, said: "Research shows that mindfulness can be a very effective way of managing stress – so I would like to invite the community to find out more and give it a try."

Leyla also highlighted the College's Mental Health First Aiders scheme which trains staff to recognise signs and symptoms when members of the community are having problems, to provide initial help, and to signpost appropriate professional support.

Julia Easton (Faculty of Natural Sciences), a trained Mental Health First Aider, said: "From my perspective as Faculty Safety Manager, health and safety at work is not just about physical health, but mental health too. As an organisation, we should be interested in the mental wellbeing of our people. I see first-hand the difference higher levels of awareness can make in our community, and increasing numbers of people are becoming more comfortable with coming in to see me to talk."

Addressing members of staff during Mental Health Awareness Week, President Alice Gast said: "Mental Health Awareness Week reminds us that this is something that must be part of our daily lives 52 weeks of the year. It is a call to action for our community, friends, family and colleagues, to get involved, learn more and be able to help one another. Imperial has undertaken an organisational health check by an independent consultant to help us identify areas where we can take practical actions to support mental health in the workplace. Its findings and recommendations guide us as we promote mental health and support members of our community."

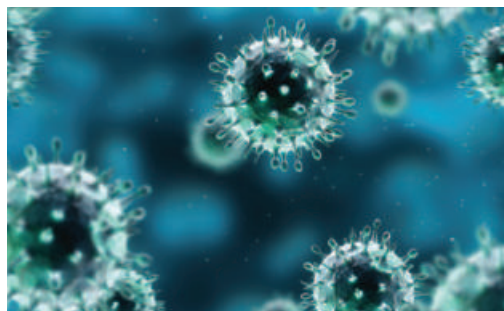
—ELIZABETH NIXON, COMMUNICATIONS AND PUBLIC AFFAIRS



media mentions



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Contagion

NEW SCIENTIST ▶ 09.05.2015

In a special report, *New Scientist* asks if there are viruses out there that are just a few mutations away from becoming unstoppable killers that really could wipe out half the human race. Four factors determine the severity of any disease outbreak, says epidemiologist Professor Christophe Fraser (School of Public Health): how deadly it is; how easily it spreads from person to person; if and how long a person is infectious before symptoms appear; and whether it can be prevented by vaccines, treatments or both. "It is feasible to imagine worse epidemics than we have experienced in the last century," says Fraser. "I would advocate preparing for such eventualities."

Team arrives with electrifying dream

TIMES OF INDIA ▶ 01.05.2015

A four-member team that offers to electrify villages in Uttar Pradesh affordably is arriving for a field study on Friday 1 May at Bahraich, the *Times of India* reports. Led by Clementine Chambon (Chemical Engineering), the team plans to use cheap and abundant agri waste to co-produce reliable and affordable electricity, household cooking gas and biochar soil to improve crop yield. The 'Oorja project' was runner-up in the Althea-Imperial contest for female student entrepreneurs. Clementine said: "We will complete prototyping and construction of the first full-scale plant by the end of this year then launch the first field trial in 2016."

Oxbridge bumped off top spots

THE INDEPENDENT ▶ 05.05.2015

The universities of Oxford and Cambridge have been beaten to the top spot in the latest university league tables assessing graduate employment, according to data from the Higher Education Statistics Agency (HESA) reported in the



Independent. London universities, Imperial College London and St George's, claimed first and second place with Cambridge in third and Oxford in seventh place. Imperial, which came top, has 89.9 per cent of its students in either employment or further education post undergraduate study.

'Marketing' neglected tropical diseases

INTERNATIONAL BUSINESS TIMES ▶ 14.05.2015

Imagine a single disease that inflicts blindness, deforms limbs, stunts growth and affects the daily lives of more than a billion people worldwide. In reality, a rash of 17 diseases plague the world's poorest communities with precisely these problems but these maladies were largely ignored until three researchers came up with the idea to 'market' them to politicians and private foundations collectively as 'neglected tropical diseases.' The result has been a surge of funding in the last decade to the tune of around \$1 billion. "We've made such fantastic progress that last year; 700 million people were treated with one or more of the drugs needed to treat those diseases," Professor Alan Fenwick (School of Public Health), director of the Schistosomiasis Control Initiative at Imperial, told the *International Business Times*.

awards and honours

COLLEGE

Three years in three minutes

This year's Graduate School 3 Minute Thesis Competition – where PhD students condense their research in to a talk of three minutes or less – was won by Ryan Robinson (National Heart and Lung Institute) for his talk entitled 'Getting nervous about Diesel' detailing the health effects of air pollution. Second place was Nisha Ranganathan (Medicine) for her talk 'Why killing 99.9% of bacteria is not enough' about antibiotic resistance. Third place was Laura-Ann McGill

(NHLI) for her talk 'Pulling at heart strings' about Hypertrophic cardiomyopathy. An additional 'People's Choice Award' voted for by members of the audience went to Marianna Micallef (Civil and Environmental Engineering) for her talk about concrete and cracking.



COLLEGE

Perfect ten

Ten Imperial academics have been honoured by esteemed learned bodies this month. In addition to the College's latest

Fellows of the Royal Society (see page 2), Professor Sergei Kazarian, (Chemical Engineering) and Professor Elaine Holmes (Surgery and Cancer) have been awarded the Royal Society of Chemistry Sir George Stokes Award and Interdisciplinary Award, respectively. Meanwhile the Academy of Medical Sciences inducted Professors Wendy Atkin (Surgery and Cancer), Christl Donnelly (Public Health), Jorge Ferrer, Michael Way and Martin Wilkins (all Medicine) among 44 new Fellows elected this year. Lastly, Professor Erol Gelenbe (Electrical and Electronic Engineering) has been made a Fellow of The Royal Academy, Sciences, Letters and Art of Belgium for his pioneering efforts in computer systems modelling.

ENGINEERING

Dame Julia Higgins to become IOP president

The Institute of Physics (IoP) has announced that its next President-elect will be Professor Dame Julia Higgins, who will take up the role in October. Professor Higgins will serve as president-elect for a two-year term, then as president until 30 September 2019. She is currently Emeritus Professor and Senior Research Investigator and a member of Imperial's Council, having previously served as Principal of the Faculty of Engineering (2006–07). Watch a video interview with Professor Higgins: bit.ly/higgins-vid



Charting the evolution of pop music



“People often argue that music becomes ever more homogenous, but we have shown that this is not true: diversity has remained relatively constant.”

There have been three major revolutions in pop music, with the rise of hip-hop and rap causing the largest change in the charts, say researchers who used data mining and evolutionary biology techniques.

The team from Imperial and Queen Mary University analysed the musical properties of 17,000 Billboard Hot 100 tunes from between 1960 and 2010. They wanted to explore diversity and revolutions in pop music by tracking the range of sounds in the charts and when new musical styles came to prominence.

Using signal processing and text-mining they grouped songs by patterns of chord changes and tone identifying trends with an unprecedented degree of consistency.

Senior author Professor Armand Leroi (Life Sciences) said: “The power of large datasets now allows us to answer cultural questions. People often argue that music becomes ever more homogenous, but we have shown that this is not true: diversity has remained relatively constant.”


The team have previously combined music

with evolution by creating ‘Darwin’s tunes’ – computer-generated short tunes that they watched evolve using a genetic algorithm. However, for this study, says Professor Leroi, “We wanted to track the evolution of culture in the wild as opposed to the lab.”

“A record of 100 songs per week for 50 years can be treated like a fossil record, and we can ask the same questions as palaeontologists: Is evolution gradual or punctuated? What hypotheses can we test?”

–HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS

REVOLUTION ROCK?



Pundits have often speculated about the influence of the ‘British invasion’ in the mid-1960s on rock and roll in the US charts, but the new analysis suggests that the rock revolution began before The Beatles and The Rolling Stones crossed the ocean. The analysis suggests they were riding a tide already turning, rather than creating the waves.

Masers make a comeback

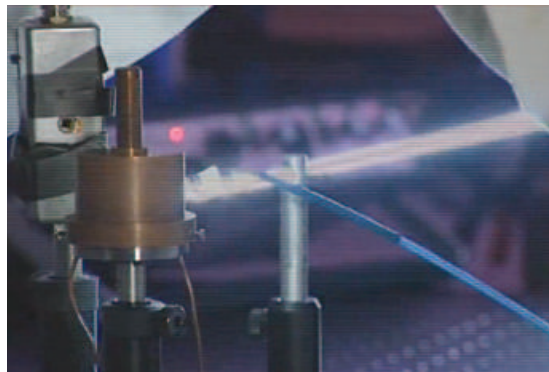
Exploring the galaxy and catching drug cheats in sports are some applications for a magnetic form of laser called a maser, say Imperial researchers.

The basic technology has been around since the 1950s but failed to find wide applications due to practical difficulties including large size and the need for cooling (see box).

Maser researcher Dr Mark Oxborrow (Materials) explains: “A maser is a gadget that work a bit like a laser but instead of amplifying light it amplifies very weak electromagnetic signals. Shining electromagnetic waves through an energy-generating crystal ‘tickles’ it into giving up its energy and so the wave becomes stronger and its amplitude grows.”

In 2012, a team of researchers including Dr Oxborrow, Professor Neil Alford and Dr Jonathan Breeze (all Materials) made a major breakthrough with maser technology. They developed a device the size of a thimble that operates at room temperature with low energy requirements.

Shrinking the technology even further could lead to masers being used in a much wider range of applications – from better medical imaging, to more detailed astronomical observations



and improved drug detection in sports.

“The big breakthrough we’ve achieved is getting our maser to work at room temperature on the bench top and that is quantum leap in functionality,” said Dr Oxborrow. “In the future masers will be used in MRI systems to make them quicker at generating a very detailed images of our bodies – maybe in seconds.”

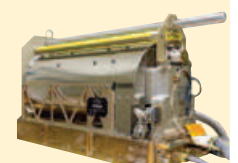
–MARTIN SAYERS AND COLIN SMITH, COMMUNICATIONS AND PUBLIC AFFAIRS



Flashback

Masers were first developed during the Cold War in the 1950s for intended use in radio-astronomy and satellite communication. However, the technology was originally the size of a large fridge and could only operate in a total vacuum or in temperatures at around five kelvin, which is as cold as deep space. Masers also consumed large amounts of energy. The rapid development of semiconductor amplifiers in the 1960s, combined with the launching of satellites that could transmit signals back to Earth at much higher powers, meant that masers were not widely adopted and research into them rapidly declined. Since then, masers have only been used on a limited scale by organisations like NASA to amplify extremely weak electromagnetic signals received back from deep space probes. Only such organisations have had the resources to operate and maintain the technology.

Model of passive hydrogen maser atomic clocks as used on satellites



Bird flu hops from person to person

A new study suggests there have been multiple clusters of human-to-human transmission in recent outbreaks of the bird flu strain H7N9.

There were around 400 human cases of H7N9 influenza and 177 deaths in 2013 and 2014, all of them in China. Most patients are believed to have caught the infection from close contact with birds, but the virus's ability to spread between humans has been uncertain.

Scientists from Imperial studied data from these outbreaks and used statistical methods to estimate how transmissible the virus is.

The results suggest that around 70 cases were caused by an infection spread between people. However,

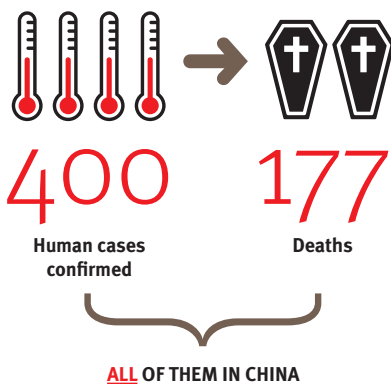
the virus cannot spread easily enough in humans to cause sustained transmission at the level required for a pandemic (see box).

Co-author Dr Steven Riley (School of Public Health) said: "This study shows that H7N9 is currently short of the critical level of transmissibility required to cause a pandemic. But even if the reproductive number is less than one, clusters of human transmission can occur.

"In Zhejiang, the reproductive number increased between the first wave in 2013 and the second wave in 2014. We have to keep an eye on further outbreaks to see how the virus is evolving."

—SAM WONG, COMMUNICATIONS AND PUBLIC AFFAIRS

H7N9 INFLUENZA 2013–2014



Outbreak
The number of people that one infected person will pass on their infection to, on average, is called the basic reproductive number. If the value is less than one, an outbreak would be expected to die out; while a value greater than one suggests an outbreak would grow. In the outbreaks studied, the reproductive number ranged from 0.06 to 0.35.



Biosphere in the palm of your hand

People can check out local wildlife wherever they are in the world with a new app that says what species of animals and plants might be nearby.

The free Map of Life app, developed by an international team, dispenses with bulky field guides by allowing users to access a vast global database of species and their ranges, based on their location.

"The app puts a significant proportion of our global knowledge about biodiversity in the palm of your hand, and allows you to discover and connect with biodiversity in a place, wherever you are," said Professor Walter Jetz (Life Sciences) who worked on the app.

Photos and text help users identify and learn more about what they see. The app also helps users create personal lists of observations and contribute those observations to scientific research and conservation efforts.

"Think of a field guide that continues to improve the more we all use it and add to it; that is the beauty of this app," said Rob Guralnick, project's co-leader from Florida University. "Built from 100 years of knowledge about where species are found, we hope to accelerate our ability to completely close the many gaps in our biodiversity knowledge."

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS



Download the Map of Life app, available in six languages for iPhone and Android smartphones: mol.org/mobile

Legacy of renewal

The changing face of Imperial's South Kensington site from the nineteenth century to the present

Earlier this month the Imperial Festival attracted 15,000 guests to the South Kensington Campus in an extravaganza of science and art exhibited by talented and creative people of many different nationalities.

Impressive as the festival has become in its fourth outing, its scale is far from unprecedented in local history and indeed Imperial has its very roots in a similar but far larger event that happened one hundred and sixty four years ago this very month.

In May 1851 Hyde Park hosted The Great Exhibition of the Works of Industry of all Nations (or 'The Great Exhibition') – the first event of its kind in the world, housed in a monumental glass house filled with over 100,000 exhibits.

It was the first step in the vision of Prince Albert, who wanted to "increase the means of industrial education and extend the influence of science and art". Such a grand ambition had required the creation of a Royal Commission to oversee its mission (see opposite).

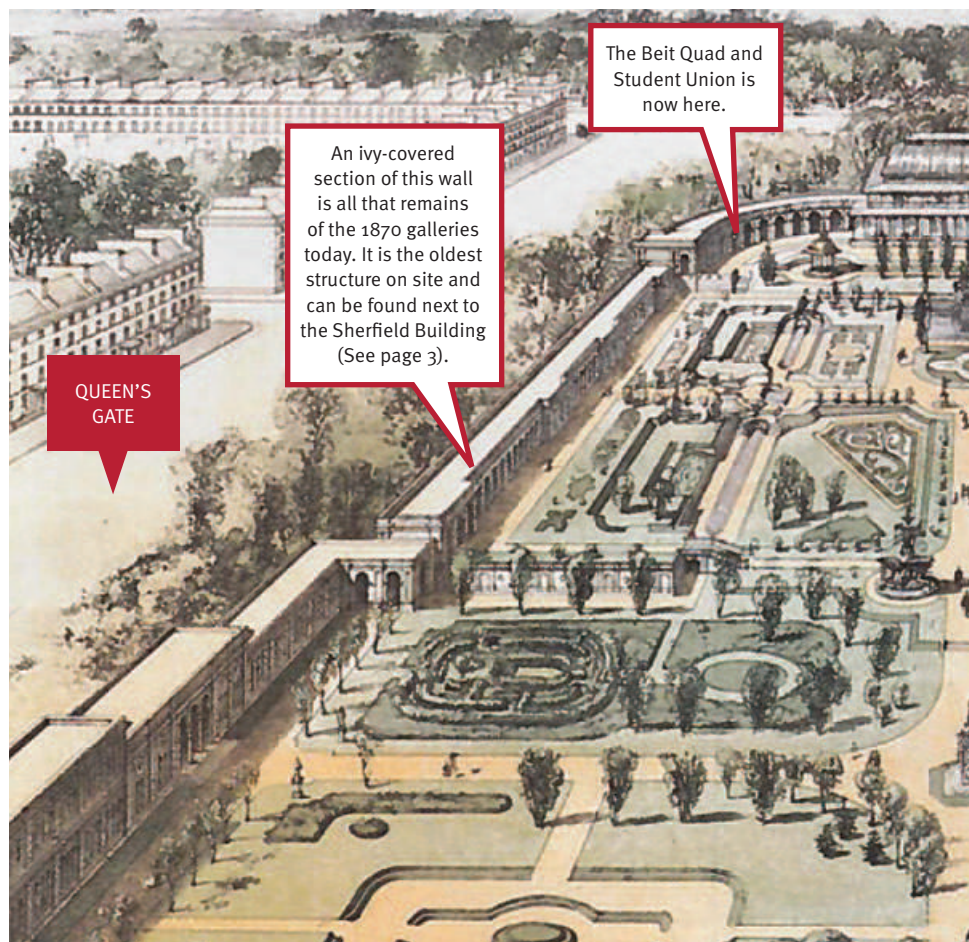
Early beginnings

The Great Exhibition turned out to be a great success, attracting six million visitors between 1 May and 11 Oct 1851 and even turning a tidy profit of £186,000 thanks to an entrance fee of around 5 shillings plus a supplementary fee of a penny to use the flush toilets (a novelty back then). That enabled the Royal Commission to continue Albert's vision through the acquisition of an 87 acre plot of land in South Kensington.

The main square took form in 1855 when the roads of Kensington Gore, Exhibition Road, Cromwell Road and Queen's Gate were laid out and work began on the South Kensington Museum (now the V&A) and the Central Hall of Arts and Science (later renamed the Royal Albert Hall).

Within this square, where Imperial now resides, a stunning garden was landscaped by the Horticultural Society, which in 1870 was enclosed on each side by the 'Eastern and Western Galleries' – which continued the spirit of the Great Exhibition with 'miscellaneous displays of science and art'.

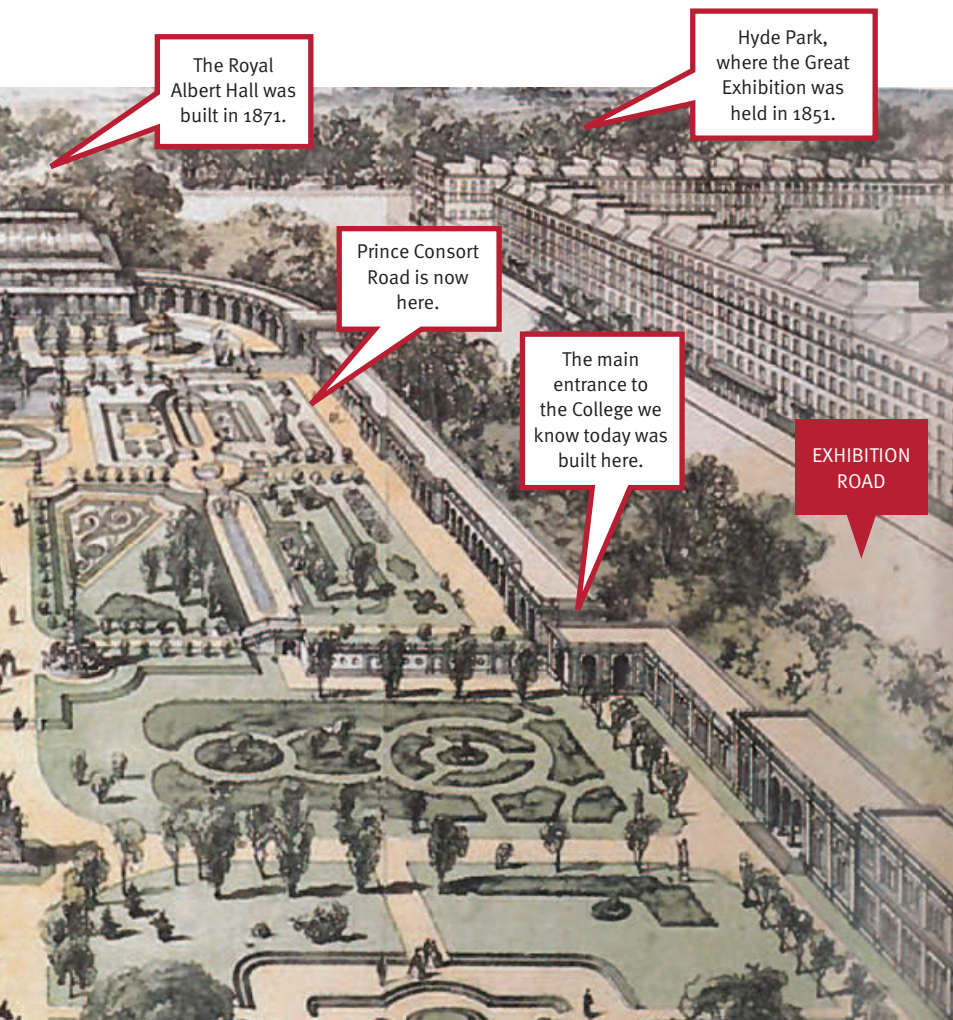
All that remains on Campus from these formative early years is a section of the Western Gallery wall at the back of the Sherfield Building, draped in ivy looking every bit a vestige from a different era, with a small plaque to remind passers-by what once was (see page 3).



Education

Central to Prince Albert's vision was to create a great educational centre, and in 1872 the Royal School of Mines was persuaded to move onto the estate, where the Royal College of Science was later created. The two Colleges were incorporated by Royal Charter into The Imperial College of Science and Technology in 1907, while The City and Guilds College was incorporated in 1910.

The end of the 19th Century ushered in an era of frenzied building activity on the estate, involving some of the great architects and engineers of the day, including Alfred Waterhouse who designed the Natural History Museum (1880) and the now demolished City and Guilds Building (1881) and Sir Aston Webb who designed the still-standing Royal School of Mines building (1907). The centrepiece of the estate though was T.E. Collcutt's Imperial Institute, completed in 1893 with its three iconic Renaissance-style towers.



Renewal

The first five decades of the 20th Century would see Imperial cement its reputation as a leader in science and engineering, playing host to pioneering work in radioactivity and particle physics, zoology, aeronautics and engineering under notable names such as Robert Strutt (4th Baron Rayleigh), W.E. Dalby and Sir Alec Skempton.

In the late 1950s the government's policy to expand UK science and Imperial's own need for modern laboratories ultimately led to the demolition of nearly all the Victorian-era buildings. Only a vociferous campaign saved the 85m East Tower, which became known as the Queen's Tower.

By the 1960s, the expansion of the modern-era college was well underway, with the Blackett Laboratory, Aeronautics and Chemical Engineering (ACE) Building and the foundations of the Sherfield Building all in place. Aside from additions such as the Main Entrance and Faculty Building, the same basic site plan remains today, whilst the Royal Commission, from its base in the Sherfield Building, continues to be Imperial's ground landlord charging a modest rent on a 999 year lease.



Lasting legacy: The Royal Commission for the Exhibition of 1851

In the early days of the Royal Commission, Prince Albert hoped that a programme of scholarships for provincial students would serve as a link between the manufacturing towns – which had contributed so much towards the Great Exhibition – and the institutions on the Commission's estate. In 1891 the Commission brought this to fruition with a scheme that allowed universities in the UK and throughout the Empire to nominate their best engineers and scientists for a £150 per year scholarship.

The granting of scholarships remains the principal focus of the Commission's works today with £2 million distributed each year for a range of research, industrial and design fellowships from postgraduate to postdoctoral level. The success of this programme is partly reflected in the list of alumni, among whom are many famous Nobel Prize winners including Ernest Rutherford, James Chadwick, Paul Dirac and most recently Peter Higgs.

Reporter spoke to two members of the current Imperial community who have benefited from the scheme:

PROFESSOR ANNE DELL

Professor Anne Dell, a long standing academic in the Department of Life Sciences, benefited from a Royal Commission Scholarship in the very earliest stages of her illustrious career. Anne grew up on an isolated farm in Western Australia, cycling many miles each day to school and then university, where she showed exceptional promise.



"As an undergraduate I really didn't know anything about the Royal Commission or the awards; someone applied on my behalf. I suspect there were members of academic staff who thought it would be a waste for this bright female chemistry student to do what most women students did in Australia at that time which was get married, have kids and stay home. That's what was expected."

The Commission funded Anne's PhD studies at Cambridge University, after which she came to Imperial where she established herself as a world leader in the field of carbohydrate signalling – discovering a range of new biological functions that depended on these sugar interactions including parasite camouflage and human egg fertilisation.

Anne now sits on the Committee of the Royal Commission that reviews applications for Fellowships and bestows the awards. "It's certainly changed my life and I think it has changed the lives of quite a number of other people too."

BEN CHAMBERLAIN

At the time of writing, Imperial has around 12 researchers currently supported by a Commission Fellowship. One of those is Ben Chamberlain, a PhD student in the Department of Computing, with an interest in big data.



Like many Royal Commission Fellows, Ben has an interesting and unique story. After graduating in Physics from Oxford he worked as quantitative trader at Lehman Brothers bank analysing large volumes of financial data. After the economic crash, he joined QinetiQ, Britain's largest private research organisation developing machine learning systems.

Now at Imperial, Ben is developing techniques to 'teach' computers to understand the structure of online societies and identify influential people within these communities. His research helps marketers identify better ways to engage with relevant communities, offering services and products that those communities value.

Ben said: "The ultimate goal is to make social media spam a thing of the past, replacing it with useful information, and positive contributions to engaged communities."

To find out more about the Commission's fellowships, visit: royalcommission1851.org/awards



Do you believe in strict target setting in terms of the number of accidents and so on?

No. It's absolutely the wrong way to go about doing things. If I said: "I want to see year-on-year reductions in accidents of 5% across the board," I would probably get the results, but it would be because people would stop reporting incidents through fear of being judged. So it incentivises people to 'go underground' so to speak. And I don't want that, in fact I want accidents and near misses reported so that we know what is really happening on the ground. A different example is when a lab manager tells me that they have a policy of no lone working after 8pm. For me, that is the wrong approach, because in this environment people will want to work at various times, when they are most productive and have a flow of ideas. We need to just accept that, and then address how to keep them safe. We don't want to stop creativity.

How do you go about implementing a more open culture?

One of the things I would love to see is for safety to become an integral part of the research here, as opposed to it being seen as an add-on. I have met all the Heads of Department, most of whom are passionate about safety, and I am working at the moment with the safety representatives, who are leading the way with safety in their respective faculties. While we have a very comprehensive safety management system, it's not user friendly so we need to make it a much easier, more efficient and simpler process. If the Safety Department is involved early enough in the research process, almost at a conceptual level when researchers are writing their grants, we could put in place many of the things they need to be safe and even get extra funding in some cases. Often we don't get told about projects until later on.

In terms of hobbies do you play it safe or indulge in extreme sports and the like?

I think there's enough risk at work with various category three pathogens, gas guns, lasers and the like! I enjoy movies and travelling – recently I've been to Bali, Spain, Hong Kong and India where I was born. I guess there's always some risk in travelling!

Risk and reward

Dr Surrinder Johal joined the College in July 2014 as Director of Safety, following 27 years working for international life sciences company LGC, latterly as Group Head of Safety.

Having competed a PhD in microbiology at Surrey University you're no stranger to academia. What enticed you back?

During my time at LGC I actually had a whole host of very different roles, for example in business development and in areas like drugs of abuse and pharmaceutical proposals. LGC has worked with Imperial on a number of different research programmes, and so I knew of the reputation and diverse work of the institution. So in truth I wasn't enticed into higher education *per se*; it was the pull of Imperial specifically. I simply would not have gone to any other higher education institution.

How do you enable researchers to push scientific boundaries whilst remaining safe?

There is a widely held misconception that innovative science and safe practice are always pulling in opposite

directions and they really needn't be. Fundamentally, if you do things in a safe way, you usually do them in a planned, methodical way – and that's exactly how good research should be done. I would never stop anyone pushing the boundaries; all I want to do is to be able to guide them through some of the safety implications.

But sometimes the unexpected happens at the frontiers?

Of course, and some of the best science comes out of things that haven't gone quite as planned, but the question from a safety point of view is whether an adverse event or incident was reasonably foreseeable. If you've done a logical risk assessment of what the hazards might be and put in place controls, you cannot be held responsible for something unexpected happening. I remember CERN published a risk assessment on the likelihood that the Large Hadron Collider would create a black hole and swallow us all – it hasn't happened yet!

“Some of the best science comes out of things that haven't gone quite as planned.”



inside* story

mini profile

Anne Barrett

Anne is Imperial's Archivist and Corporate Records Manager, having joined the College in 1982, working in the library.

Tell us a little about Imperial's Archives

The Archives weren't formally started until the 1930s under Rector Henry Thomas Tizard and gradually expanded from there, with the first Archivist appointed in the 1950s. When I took over the Archives in 1989, it was moribund and I spent the first 10 years tackling it on my own. Now we have three staff and handle Records Management and Freedom of Information too. Imperial as an institution can be traced back to 1845 with the Royal College of Chemistry; in addition, we have the medical campuses and their history is far older still. We are lucky in the sense that we've always had staff stashing material away – that and the fact that people are genuinely interested in our heritage.

What sort of interesting material do we hold?

There are certainly a lot of manuscripts, drawings and letters from the 19th Century. Sir Henry Thomas De la Beche's correspondence is very important as he was the driving force behind the founding of the Royal School of Mines and the Geological Survey of Great Britain. The scientific world was much smaller then and

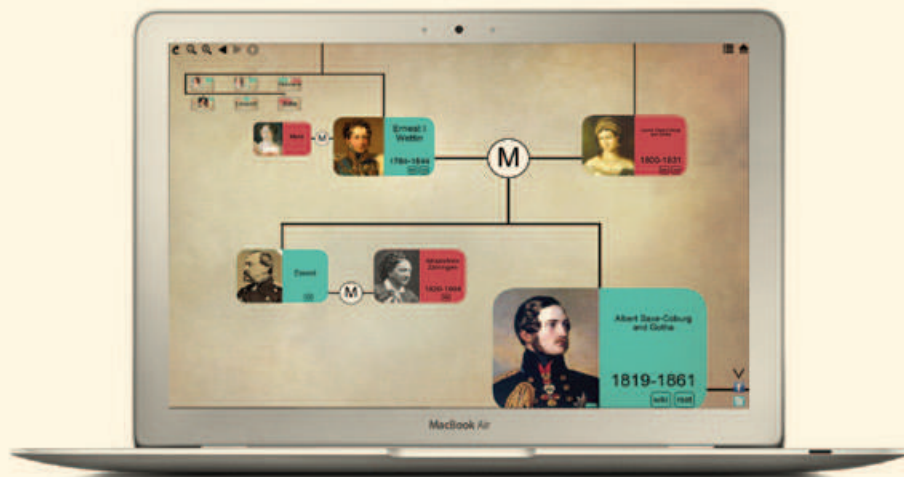


the leading figures travelled extensively and corresponded with a huge range of people – including those from fields such as literature. We also have correspondence between T.H. Huxley and Charles Darwin concerning their work in evolution and public education. Darwin always started his letters with: 'My Dearest Huxley'. You can really see the respect and affection.

Why is it important to keep these things?

If you believe that future developments can spring from history, I think you need to keep going back to the archives. In many manuscript scientific papers there will be dead ends that can be reinterpreted with new applications and that's why we retain them. For example, holography was invented and developed by Dennis Gabor at Imperial in the late 1940s; but at the time there was no practical use for it. Now it's widely, for example as a security feature on credit cards.

—JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS



Delve into genealogy with new interactive website

People can explore their detailed family tree and grow its branches by sharing information with relatives, thanks to new interactive website ZoomPast developed at Imperial.

After researching their family histories, people are often left with sprawling family trees that are difficult to visualise and share. The new website, ZoomPast, solves this problem by allowing huge and complex genealogies to be explored using an innovative zooming interface, similar to an interactive map.

The family trees of famous and fictional people can also be explored on the site, from Queen Elizabeth II and George Washington to Harry Potter. Genealogies can be viewed from the perspective of any person in a given tree, and a built-in social and sharing platform allows trees to be shared and grown collaboratively or kept completely private.

ZoomPast was created by Dr James Rosindell (Life Sciences) and his former student Kai Zhong, who is now a software developer. "Family trees easily grow too large for printing; at least you would need a lot of sticky tape to join the pages. ZoomPast solves this by automatically generating a huge digital view of your family tree that you can then explore just by zooming, as you would a digital map."

Dr Rosindell hopes ZoomPast will be used not only to help people connect with their own past, but as a tool for outreach and teaching through the wealth of information attached to any individual and the intuitive way it can be explored.

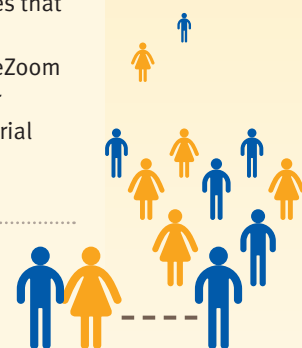
ZoomPast is built on the framework of Dr Rosindell's previous project OneZoom, an interactive map of the evolutionary tree of life. But while the foundation was there, this new project had its own challenges. "The tree of life shows individual species splitting into several new species, whereas genealogies are more complex" he said. "In family trees there are two parents, multiple siblings and potentially several marriages that complicate the structure."

A special version of the software used for OneZoom and ZoomPast developed for museums and other public educational venues is available from Imperial Innovations.

—HAYLEY DUNNING, COMMUNICATIONS AND PUBLIC AFFAIRS

Trace and share your family tree:
www.zoompast.org

"In family trees there are two parents, multiple siblings and potentially several marriages that complicate the structure."



Students say ‘thank you’ with awards for staff



(L–R) John Pinney, Martin Holloway, Michael Jones, Steven Cook, Claudia Schulz, Peter Cheung (on behalf of Paul Mitcheson), Anup Jethwa, Provost James Stirling, President Alice Gast, Elizabeth Hauke

College staff were recognised at Imperial College Union’s annual Student Academic Choice Awards (SACAs) in a ceremony held in the Union Concert Hall on 11 May.

Presenting the awards, Imperial College Union’s Deputy President (Education), Pascal Loose said that the aim of the SACAs was for the students to “say thank you to the academics and the staff.”

Established in 2013 by the Union to celebrate staff achievement and share best practice across the College, this year’s awards saw a record 808 nominations from 568 students, made via the Union’s website. A judging panel of student representatives narrowed down the nominations to a shortlist of before choosing the eventual winners.

Dr Steven Cook (Life Sciences) received the award for Best Teaching for Undergraduates. He said: “I was 10% hoping I might win, and 90% sweatily terrified of

having to give an acceptance speech. I am so grateful to all those students who nominated me for this award and to all those colleagues and friends without whose support I couldn’t teach at all.”

Claudia Schulz (Computing), who received the award for Best Graduate Teaching Assistant, said: “Winning the award was overwhelming and I didn’t expect it. I used some new technologies in my tutorials and it’s always dangerous to try new things but I’m glad the students appreciated it.”

Speaking at the event Imperial’s Provost, Professor James Stirling, said: “This evening we have seen some wonderful examples of great practice. Our task now will be, with your help, to spread this great practice right across the College so that together we can create a community of people with the passion, ability and commitment to secure our position as one of the world’s great universities.”

–JON NARCROSS, COMMUNICATIONS AND PUBLIC AFFAIRS

★ THE WINNERS ★

BEST SUPERVISION

Dr John Pinney
Department of Life Sciences

BEST TUTORING

Martin Holloway
Department of Bioengineering

BEST GRADUATE TEACHING ASSISTANT

Claudia Schulz
Department of Computing

BEST TEACHING FOR UNDERGRADUATES

Dr Steven Cook
Department of Life Sciences

BEST SUPPORT STAFF

Anup Jethwa
Department of Medicine

BEST INNOVATION

Dr Elizabeth Hauke
Imperial Horizons & Science Communication

BEST FEEDBACK

Dr Paul Mitcheson
Department of Electrical and Electronic Engineering

BEST TEACHING FOR POSTGRADUATES

Dr Michael Jones
Department of Medicine



blog
SPOT

Student blogger Emma: Becoming an Independent Visitor

Children in care can get moved around a lot: the average number of moves in Hammersmith and Fulham is 3.41 per child, but can be much higher. Crucially, the number of professionals involved in their lives – including social workers, foster parents, teachers, children’s rights advocates and so on – is much greater than the number of unpaid close

friends and family. This is why the Independent Visitor scheme exists. It allows volunteers to spend time getting to know young people in care, and build up a stable, long-term relationship with them. They try to take them out once a month to do fun activities, such as going to the cinema, to a museum, playing sport –



essentially all the normal kid things that they might have otherwise missed out on. There is a lot of training and paper-work involved (I first applied around a year ago), but yesterday I sent off a profile of myself to the young person I might be matched with! Fingers crossed.

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





FESTIVAL MARCHES INTO ACTION

Hundreds of researchers and Festival volunteers helped to bring the South Kensington Campus alive for visitors who flocked to Imperial to enjoy the livelier side of science.

With the Festival entering its fourth year, the programme expanded to include activities for new audiences as well as events scheduled for the whole weekend for the first time. Festivities kicked off with a visit to the College's youngest scientists in the Early Years Education Centre, followed by the Festival Schools' Day for primary school children for a series of workshops from researchers and Imperial's Outreach team.

Festival previews for funders, journalists, members of Court and alumni were followed by a celebratory opening for the general public at midday on Saturday 9 May. This included a mounted fanfare and marching display from The Band of the Household Cavalry, based in the Hyde Park barracks, who visited College for the first time as part of the Festival's programme to collaborate with neighbouring institutions.

Over 150 Festival volunteers helped over 500 researchers take part in the Festival to discuss and debate their work. The original Research Zone in the Main Marquee expanded into several themed venues. These included the Superbug Zone to showcase the College's work in antimicrobial resistance, and the Light Zone, to celebrate the International Year of Light with the GoPhoton! show.

Festival Director Natasha Martineau said: "Over 15,000 visitors got to see Imperial at its very best. We're grateful to everyone who gave up their time to provide an unforgettable insight into some of the work that goes on here and to get visitors engaged with our work. It was exciting to join with so many colleagues in bringing the College to life."



Imperial team go for gold in 'bionic Olympics'

At Imperial Festival visitors were able to learn about the up-coming Cybathlon, with Dr Faisal and team members on hand in the robot zone showcasing some of the assistive technologies that they are developing for the unique competition.

Scientists and students from the Departments of Bioengineering and Computing will compete in the inaugural Cybathlon in Zurich in October 2016 – an event that enables people living with disabilities to compete in a range of challenges, with the aid of the latest assistive technologies.

Similar to Formula One racing, the Imperial researchers and students along with industrial partners will act as the pit crew, assisting their parathlete team mates, called pilots, to compete. Over the course of 2015, the academics and students will work alongside pilots to develop, test and refine their assistive technologies in preparation for the competition.

Technology under development includes devices that electrically stimulate muscles to assist with body movements along with new types of technologies that interface with the pilot's brain so that they control devices through thought.

Team Imperial are aiming to compete in a range of sports including the arm prosthetic race, where pilots hold a hoop in their prosthesis while navigating through a charged wire circuit, with points being deducted if the hoop touches the wire. They will also take part in the brain computer interface challenge, where a pilot wears a cap with electrodes to successfully navigate a 3D computer game.

Imperial team Captain Dr Aldo Faisal, (Bioengineering/ Computing) said: "It is such a powerful feeling knowing that the assistive technologies we are developing will help our team mates to compete in sports for the first time and we hope team Imperial will propel the UK to medals glory."

The College is currently recruiting pilots and those interested should contact Dr Radcliffe for more information i.radcliffe@imperial.ac.uk



Dr Aldo Faisal

long
service

Staff featured in this column have given many years of service to the College. Staff listed celebrate anniversaries during the period 2 January–31 January 2015. The data are supplied by HR and correct at the time of going to press.

20 years

- Gurjeet Bhangal, Research Technician, Medicine
- Professor Austin Burt, Professor of Evolutionary Genetics, Life Sciences
- Professor Alun Davies, Professor of Vascular Surgery, Surgery and Cancer
- Professor Richard Festenstein, Clinical Professor of Molecular Medicine, Medicine
- Bernadette Gahan, Library Assistant (Medicine), Library Services
- Robin Hines, Craft General Maintenance, Estates Division
- Professor Alexander Ivanov, Professor of Pure Mathematics, Mathematics
- Dr Michael Johns, Research Associate, National Heart & Lung Institute
- Dr Gregory Quinlan, Senior Research Fellow, National Heart & Lung Institute
- David Woodward, Shift Security Officer, Security Services

30 years

- Dr Michael David Jones, Reader in Molecular Medicine & College Tutor, Medicine



Students get revved up over motorsports placements

A Formula One racing car, previously driven by racing legends Sebastian Vettel and Mark Webber, had a temporary pit stop at Imperial this month.

The aim was to encourage students to apply for a 12 month placement between Infiniti Motor Company and Infiniti Red Bull Racing, the Austrian Formula One racing team based in Milton Keynes.

The organiser of the event, Dr Jonathan Jeffers (Mechanical Engineering): “Having the car here really drives home to students how a degree in engineering can potentially lead to an amazing career in elite motorsports. We know from discussions with industry just

how important industry placements are in terms helping to kick-start careers.”

The year in industry is available to undergraduates who are in their second and third years, where they convert their four year degree in Mechanical Engineering to a five year degree.

Julia Leutenantsmeyer, a fifth year student from the Department, undertook a placement year with Red Bull in 2012–2013.

“Working with the race car team gave me a really sound knowledge in aerodynamics, which is something I wouldn’t have had the chance to learn about in my studies. My experiences have given me lots to talk about in interviews, which I think has ultimately helped me to secure a job with an engineering firm in Germany.”



The 2010 season RB6 racing car was squeezed through the College’s revolving doors and parked in the Main Entrance.

obituaries

GEORGE KEILBACH



George Keilbach, Lecturer in German in the Centre for Co-curricular Studies, died

unexpectedly on 24 April 2015. Two of his colleagues, Charmian Brinson and Margaret Vallance, pay tribute to him.

George Keilbach arrived in this country from his native Germany in the early 1960s and remained here for the rest of his life. Having first taught at the Goethe Institute and various other institutions, George joined the staff of what was then Associated Studies (later Humanities, now the Centre for Co-curricular Studies) at Imperial where he taught German, both in daytime and evening classes, to students

and staff at all levels.

He became a well-known figure in the Centre and was greatly appreciated by his students, some of whom became life-long friends. George also enjoyed longstanding friendships with fellow staff members who were shocked and dismayed to hear of his sudden death.

Through his teaching, George imparted an infectious enthusiasm for Germany,

the German language and culture and hundreds of students must have benefited from his knowledge and experience during his almost 40 years association with Imperial. He was a regular participant in staff seminars inside College as well as in cultural events outside. He was an interesting, unusual and thought-provoking man and will be sadly missed by students, colleagues and friends.

Welcome new starters

Mr Pedro Arcelus Arrillaga, Chemical Engineering
 Mr Paladd Asavarut, Medicine
 Dr Giovanni Barontini, Physics
 Professor Derek Bell, Medicine
 Dr David Bending, Life Sciences
 Mr Enrico Berardo, Chemistry
 Dr Lucas Black, Medicine
 Dr Mariea Brady, Bioengineering
 Mr Dan Brewer, Chemical Engineering
 Professor Peter Burney, NHLI
 Dr Rohan Bythell-Douglas, Medicine
 Ms Laura Carlin, Imperial Innovations
 Mrs Judith Carr, Library
 Mr Alan Castleman, Estates Division
 Dr Juan Castro Palacio, ESE
 Dr Yuriy Chaban, Medicine
 Mr Jason Cole, Physics
 Miss Caroline Cooper, Business School
 Mr Joseph Corcoran, Mechanical Engineering
 Mr Niccolo Corsini, Physics
 Dr Ceire Costelloe, Medicine
 Mrs Vania Da Silva Rodrigues Goncalves, Public Health
 Dr Verzella Daniela, Medicine
 Ms Angela Del Giudice, Medicine
 Dr Baptiste Depalle, Materials
 Mr Robson dos Santos, Estates Division
 Emeritus Professor Michael Duff, Physics
 Ms Angela Ellermeier, Business School
 Mr Christopher Emmott, Physics
 Mr Laurence Evans, Centre for Environmental Policy
 Dr Abdulkadir Farah, Physics
 Dr Dorte Faust, NHLI
 Dr Alberto Favaro, Physics
 Dr Nicholas Fogell, Aeronautics
 Mr Paul Foley, College Headquarters
 Mrs Edina Forman, Bioengineering
 Mr Bradley Forrester, Faculty of Engineering
 Dr Markus Fuhrer, Physics
 Miss Zoe Gardener, NHLI
 Dr Amy Gelmi, Materials
 Dr Dipankar Ghosh, Life Sciences
 Dr Julie Glanville, Clinical Science
 Dr Valerie Good, Medicine
 Miss Sally Gowers, Bioengineering
 Dr Claire Greiller, Medicine
 Mr Paul Grocott, Physics
 Gil Dr Hernandez, Chemistry
 Mr Christopher Hester, ICT
 Ms Samantha Hobbs, Faculty of Medicine Centre
 Mr Darren Holdaway, ICT

Dr Fangjing Hu, EEE
 Dr Kit Huckvale, Development
 Dr Adam Januszewski, NHLI
 Dr Hae Kang, Medicine
 Mr Shahid Kassim, ICT
 Miss Ailish Kerrigan, HR
 Dr Bradley Ladewig, Chemical Engineering
 Dr Daniel Lawson, Life Sciences
 Ms Sonja Lehtinen, Public Health
 Dr Chia-Liang Lin, Medicine
 Dr Susan Little, ESE
 Mr Yang Lu, EEE
 Miss Elina Lulle, Business School
 Ms Lea Maitre, Surgery & Cancer
 Dr Jordi Mayneris Perxachs, Surgery & Cancer
 Mr Christoph Mazur, Chemical Engineering
 Miss Elizabeth McCormack, Medicine
 Dr Edward McGowan, Medicine
 Dr Chris McLeod, EEE
 Professor Thomas Meier, Life Sciences
 Miss Sara Merino Aceituno, Mathematics
 Miss Marina Merryweather, Accommodation
 Dr Katerina Michalickova, ICT
 Mr Fergie Miller, Faculty of Engineering
 Mr Yunuen Montelongo Flores, Chemistry
 Mr Nicholas Morgan-Smith, Materials
 Ms Maria Mota Martinez, Chemical Engineering
 Dr Jaita Mukherjee, Faculty of Medicine Centre
 Ms Nora Mulvaney, Library
 Mr Matthew Musgrave, ICT
 Dr Giovanna Nicolaou, NHLI
 Dr Masahiro Ono, Life Sciences
 Mrs Karen O'Toole, Faculty of Medicine Centre
 Dr Michael Panagopoulos, Chemical Engineering
 Mr Fritz Panaligan, Estates Division
 Miss Elli Polemiti, Public Health
 Ms Paz Prieto Martin, Life Sciences
 Dr Laila Read, Grantham Institute
 Dr David Rees, Medicine
 Dr Luciano Rigano, Medicine
 Miss Teresa Russell-Redman, Campus Services
 Mrs Laura Selema, Public Health
 Dr Kanudha Sharda, Materials
 Dr Peter Sherrell, Materials
 Mrs Krupa Shukla, Medicine
 Ms Marianne Simmonds, Faculty of Medicine Centre
 Dr Anika Singanayagam, Medicine
 Miss Emma Staddon, Faculty of Medicine Centre
 Mr Graham Stark, Estates Division
 Mr Benjamin Statton, Clinical Science
 Dr Leigh Stork, Library

Dr Steve Stribbling, Surgery & Cancer
 Miss Laura Styles, Student Recruitment & Outreach
 Miss Bowen Su, Public Health
 Dr Jonathan Swann, Surgery & Cancer
 Mr Havelok Symes, ICT
 Mr Joshua Symons, Surgery & Cancer
 Dr Mary Underwood, Medicine
 Dr Ghislain Vaillant, Computing
 Dr Isabel Van De Keere, Faculty of Engineering
 Ms Rachael van der Toorn, Business School
 Ms Vidhya Varghese, Surgery & Cancer
 Dr Charlotte von Essen, Business School
 Professor Dale Wigley, Medicine
 Mrs Lucy Wilkins, Research Office
 Dr Martin Wilkinson, Medicine
 Dr Oliver Willhoft, Medicine
 Mr Robert Wright, Computing
 Dr Frank Xu, Medicine
 Dr Tatsuya Yasuda, Aeronautics
 Dr Peng Ye, Physics
 Ms Michaela Zajacova, Catering Services
 Dr Agirta Zalli, Medicine
 Miss Fatima Zaman, Faculty of Medicine Centre
 Dr Shaodong Zhang, Materials
 Miss Yue Zhang, Computing

Farewell

moving on

Mrs Alina Agaciak, Catering Services
 Dr Alexandra Anderson, Life Sciences (7 years)
 Dr Katerina Artavanis-Tsakonas, Life Sciences (6 years)
 Dr Julia Balog, Surgery & Cancer
 Mrs Valerie Barber, Development
 Miss Carol Barlow, Physics (24 years)
 Mr Debarshi Bhattacharya, ICT
 Dr Nina Biscoe, Strategic Planning (6 years)
 Dr Sarah Blagden, Surgery & Cancer (8 years)
 Mr Yakov Boglev, Computing
 Mr Dan Brewer, Climate KIC
 Dr Michael Brown, Chemistry
 Dr Stephanie Brown, Surgery & Cancer
 Miss Ash Bugno, Faculty of Natural Sciences
 Dr Moises Calderon, NHLI (11 years)
 Ms Rebecca Church, Medicine
 Mr Allen Coates, ICT
 Ms Veronica Daniel, Surgery & Cancer
 Dr Andrea Darling, Public Health
 Dr Radhika Desikan, Life Sciences (8 years)
 Dr Sarah Dwyer, NHLI
 Dr Jaap Eldering, Mathematics

Dr Christoph Engl, Life Sciences
 Miss Khatra Farah, Catering Services
 Miss Gillian Forsyth, Business School (7 years)
 Mr Attila Gajdacs, Mechanical Engineering
 Dr Leiming Gao, Aeronautics
 Mr Adam Gardner, Estates Division
 Miss Corinne Gittens-Noel, Faculty of Medicine Centre
 Dr Anantharaman Gopalakrishnan, Civil and Environmental Engineering
 Dr Marianne Guenot, Life Sciences
 Mr Todd Harrison, ICT (11 years)
 Dr Thomas Headen, Chemical Engineering
 Ms Katie Henry, School of Professional Development
 Miss Nicola Hill, Medicine
 Dr Danijela Horak, Life Sciences
 Ms Despo Ierodiakonou, Medicine
 Dr Henry Jacobs, Mathematics
 Dr Kim Jonas, Surgery & Cancer (6 years)
 Dr Bernhard Kainz, Computing
 Mrs Anju Kanda, Surgery & Cancer
 Mr Narinder Kapur, Public Health
 Dr Mindaugas Kirkus, Chemistry
 Mr Tomasz Kostrzewski, Life Sciences
 Dr Dimitrios Kouzapas, Computing
 Dr Nina Kovalchuk, Mathematics
 Miss Ruth Kusionowicz, College Headquarters
 Dr Mhairi Laird, Surgery & Cancer
 Miss Elizabeth Laurence, Climate KIC
 Dr Feng Li, Clinical Science
 Ms Yatang Lin, Business School
 Dr Olga Lobanova, Chemical Engineering
 Mr Nuno Loisas Tome, Catering Services
 Miss Kim Loo, Business School
 Mr Ioannis Marras, Computing
 Mr Deepak Mawar, Sport and Leisure
 Dr Rachel McMullan, Life Sciences (5 years)
 Dr Grainne McNamara, Clinical Science
 Dr Thais Mello Cintra L Muller, Clinical Science
 Ms Irene Mittermayr, Sport and Leisure
 Miss Jo Monger, Life Sciences
 Ms Gaye Norris, Sport and Leisure
 Ms Sasha Oelsner, Student Recruitment & Outreach
 Miss Bethany Orrell, Medicine
 Mr Juan Ossa Moreno, Civil and Environmental Engineering
 Mr Mitchell Pallett, Life Sciences
 Mr Richard Parasram, Civil and Environmental Engineering (5 years)
 Dr Tamlyn Peel, NHLI
 Dr Oscar Pello, Medicine
 Miss Katerina Petropoulou, Medicine
 Miss Carissa Phipps, Sport and Leisure
 Dr Norman Qureshi, NHLI

Dr Susarla Raghuram, Physics
 Miss Relinde Reuvekamp, Business School
 Dr Regis Riveret, EEE
 Miss Caroline Roney, NHLI
 Mr Jaypal Roprai, Sport and Leisure
 Ms Foteini Rozakeas, NHLI
 Miss Louise Sadler, Sport and Leisure
 Ms Lauren Schulte, Medicine
 Dr Lawrence Sheppard, Life Sciences (Silwood Park)
 Dr Somnath Shinde, Chemical Engineering
 Dr Antonio Simoes Monteiro de Marvao, Clinical Science
 Dr Subreena Simrick, NHLI
 Dr Kristyna Sovova, Surgery & Cancer
 Ms Elpiniki Spanoudaki, Medicine
 Mr Thomas Stork, Business School
 Dr Marco Thiene, Aeronautics
 Mr Anil Thotakura, Medicine (6 years)
 Mr Antonio Torres Mendez, Life Sciences
 Dr Jeremy Turcaud, Physics
 Miss Samrawit Tzehaie, Surgery & Cancer
 Ms Jacquie Ujetz, NHLI
 Mr Sunil Varma, Physics
 Miss Helen Vaughan, Careers
 Miss Claire Villette, Civil and Environmental Engineering
 Miss Katie Webb, Business School
 Mr Anthony Webb, Sport and Leisure
 Ms Anna Wheeler, NHLI
 Mrs Toe Yee, Catering Services
 Ms Jenny Zelazowski-Schwarz, Security Service

retirement

Mrs Sharon Baker, Faculty of Medicine Centre (24 years)
 Professor Ilpo Huhtaniemi, Surgery & Cancer (13 years)
 Dr Pat LeEVERS, Mechanical Engineering (37 years)
 Mr Ian Morris, Life Sciences (24 years)

This data is supplied by HR and covers staff joining the College during the period 24 April 2015 – 22 May 2015. This data was correct at the time of going to press.

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

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



10 JUNE – 17.30

Going brown or getting greener?

Recognition of the impact Earth's vegetation and soils have on moderating increases in human-induced carbon dioxide and the rate

of climate change is growing. In his inaugural lecture Professor Jon Lloyd (Life Sciences) explores how this "terrestrial carbon sink" compares with the carbon dioxide taken up by the oceans, before evaluating how the Earth's vegetation and soils are expected to respond to – and affect – future changes in our climate.



17 JUNE – 17.30

Playing the quantum field

Despite the discovery of the Higgs boson effectively confirming the Standard Model, questions remain about the quantum field aspects of the theory with implications for our understanding of the earliest moments of the Universe.

Professor Arttu Rajantie (Physics) uses his inaugural lecture to explain why quantum fields are so successful in describing the laws of nature, before tackling ongoing problems and mysterious phenomena like magnetic monopoles, which cannot be understood purely in terms of elementary particles.

take note

Sealed and delivered

Staff and students ordering goods from Amazon are encouraged to use the new Amazon Locker system for deliveries at the South Kensington Campus. The facility provides a useful resource for the College community, while freeing up valuable staff time to focus on College business deliveries. The locker system is now operational and is situated on the walkway adjacent to the main Sherfield Building entrance on Level 2 and can be chosen as a delivery option when purchasing items through Amazon.

Find out more:
amzn.to/1HwDczO



1 JUNE 17.00

Addressing air quality science and policy challenges in China and India

Dr Daniel Greenbaum, CEO of the Health Effects Institute, Boston, discusses the challenges for estimating air pollution in the developing world.



1 JUNE 17.30

How might we reduce the 'carbon footprint' of concrete on a global scale?

Ellis Gartner, Scientific Director at Lafarge's Central Research Laboratory in France, looks at concrete in his inaugural lecture as a visiting professor.

3 JUNE 18.00

Additive manufacturing research at the University of Nottingham

The Dyson School of Design Engineering host the EPSRC Centre for Innovative Manufacturing in Additive Manufacturing.

4 JUNE 12.00

Bioelectricity of cancer: from novel mechanisms to clinical potential

Professor Mustafa Djamgoz (Life Sciences) will discuss the phenomenon of voltage gated channels and the spread of cancer.



4 JUNE 19.00

Creating artificial cells and studying single cells

Dr Oscar Ces (Chemistry) discusses how we can manufacture cells that sense and react to their environment at this Friends of Imperial ticketed event.

7 JUNE 12.00

Family fun day at Heston

Free fun and entertainment at the College's new Heston venue.

8 JUNE 14.00

Imperial@Crick briefing session

Two of the Crick Institute's most senior directors present the partnership between Imperial and the Crick, including new collaboration opportunities.

8 JUNE 18.00

Increased natural gas production, methane emissions, and climate: A US perspective

Professor David T. Allen from the University of Texas delivers this year's Sustainable Gas Institute Annual Lecture.

08 JUNE 18.00

Decoding derivatives

Professor Katharina Pistor, Columbia Law School, discusses these structured finance products and the light they shed on financial markets and the interdependence between regulation and financial innovation.

10 JUNE 18.00

Entrepreneurial renaissance in the fintech sector

An expert panel discuss how changes in the financial sector are opening up new entrepreneurial opportunities.

11 JUNE 17.30

Mobile pathogens in a changing world

From Ebola, malaria, and amphibian chytrid fungus to bee health, renowned speakers discuss how the mobility of pathogens, old and new, pose major challenges for human, wildlife and ecosystem health.



16 JUNE 18.00

Reforming high risk patient support in the US Healthcare System

Professor David Meltzer, University of Chicago, reviews patient care at the Institute of Global Health Innovation's annual lecture.

17 JUNE 16.00

Building brains: Learning from data

Steve Furber CBE, professor of computer engineering at the University of Manchester, discusses advances in machine learning and the implications for self-driving cars and real-time machine translation.



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