

News makers

Felix Editor Kadhim Shubber on the award-winning newspaper and the 135 students who make it happen

...CENTRE PAGES



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rainforest have
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EDITOR'S CORNER

Big picture

Natural disasters are emotive subjects. Since the massive earthquake shook Japan on 11 March, the frightening scenes of devastation in the news have led to outpourings of sympathy at the tragic loss of life and admiration for the emergency workers who are offering **practical support** in the face of such adversity. Searching for a better understanding of the forces behind the catastrophe, as well as their repercussions, I, like many, have been **hooked on the internet**, reading a combination of formal and informal reports. And, from the other side of the media machine, a number of Imperial academics are offering the public insight into everything from the structure of buildings in Tokyo to the human impact of radiation on the Japanese population. During a time of intense uncertainty the **opinions of experts** here are playing a valuable role in helping to provide clarity about a situation on the other side of the world. Our thoughts are with all those who have family and friends in Japan.

EMILY ROSS, EDITOR

Reporter is published every three weeks during term time in print and online. The next publication day is 14 April. Contact Emily Ross: reporter@imperial.ac.uk

Cover image: Kadhim Shubber by Felix photographer Miles Robertson, an undergraduate in the Department of Mechanical Engineering.

Duke of York witnesses healthcare innovations

His Royal Highness The Duke of York (pictured far right) visited Imperial on 2 March to learn about the College's pioneering healthcare innovations in the UK and internationally. He heard about the College's international partnerships, visited early-stage companies in the Imperial Incubator and learnt about developing robotic technologies to enhance surgery.

Welcoming the Duke of York, Rector Sir Keith O'Nions, explained that the university's application of its work to

industry, commerce and healthcare has been central to its mission since its foundation in 1907.

Speaking at the end of his tour, the Duke said: "Imperial has gripped the problem of being able to deliver its output internationally in a way that many other universities have not been able to achieve. It's not just about education, it's about allowing people to innovate, and to expand their minds to do the things that I've seen going on here. I would just like to say, as the UK's Special Representative



The Duke of York with Lord Ara Darzi and Professor Guang-Zhong Yang in the Hamlyn Centre for Robotic Surgery.

for International Trade and Investment, that what you do is utterly brilliant."

The Duke was also given a tour of the Incubator which houses 17 early-stage technology companies spun out of the College. Each receives support from Imperial Innovations, the company that commercialises technologies and discoveries emanating from the College.

—SIMON WATTS, COMMUNICATIONS AND DEVELOPMENT

Imperial College Union refurbishment

The Rector and senior staff joined trustees and members of the Council and Executive of Imperial College Union (ICU) on 8 March to celebrate the completion of the latest phase of work to refurbish the Union building.

The transformation of the Union's main facilities in Beit Quad on the South Kensington Campus began in 2008. The work has resulted in more space for student club and society activities, and refurbished gym facilities on the third floor. The area previously used by the Student Activities Centre in the east basement has been converted into meeting rooms and club storage space. And in the refurbishment's most recent phase, which began in March 2010, the nightclub and bar were renovated and renamed *Metric* and *FiveSixEight* respectively.

The cost of the final phase of development was £2.6 million, two-thirds funded by Imperial College Union and a third by a gift from the College to help



FiveSixEight bar, named after the number of millilitres in a pint. The bar has a concrete façade, and has been designed so that HD TV can be projected on to it.

the Union enhance the student experience at Imperial.

Describing the impact the refurbishment has had on the work of Imperial College Union, Alex Kendall, ICU President, said: "The Union has, after several years, finally got to a stage where we can put ongoing refurbishments aside and see what else needs to be done to improve the services we offer. As for the refurbishments, the changes to the Student Activity Centre were hugely important; Imperial has the highest participation in clubs and societies in the UK and we need to provide the best facilities for students to run their clubs."

Imperial College
London



Expand your horizons

The Department of Humanities is offering summer evening classes in languages including Japanese, Arabic, Russian, Mandarin Chinese and English conversation for non-native speakers. Short arts courses in Creative Writing and Music Technology are also offered. Enrolment starts 28 March 2011.

Visit: www.imperial.ac.uk/humanities/eveningclasses



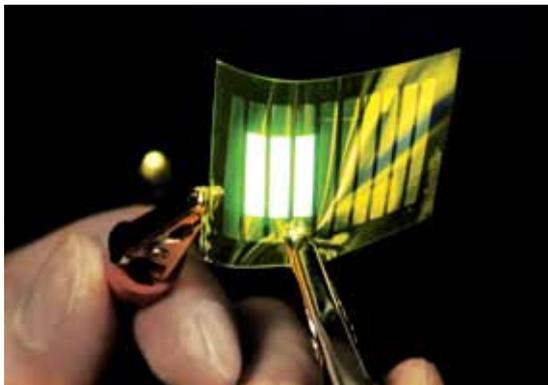
Imperial ranked in world top three for materials science

Imperial is one of the top three institutions in the world for materials science research, according to a global review of the most prominent researchers in the field.

The review lists the 100 researchers, and their institutions, who achieved the highest citation impact scores for research papers published since January 2000. Scientists from the Centre for Plastic Electronics at Imperial are the first, second, fourth and sixth most prominent materials scientists in the UK, according to the scale.

The list has been compiled by publishing giant Thomson Reuters in celebration of the 2011 International Year of Chemistry and was reported in *Times Higher Education* on 24 February 2010.

Plastic electronics is a rapidly growing field of research with the potential to bring significant developments in energy, environment and healthcare.



A flexible plastic LED device, which could be used to provide energy-efficient, low-cost lighting in computer displays.

Imperial's scientists are working across physics, chemistry and materials science on areas including realistic solutions for solar power generation, new low-energy computer displays, solid-state lighting, pervasive electronics, imaging and sensing arrays, and photonics.

The four staff members ranked by Thomson-Reuters were, in list order: Professor Jenny Nelson (Physics); Professor Iain McCulloch (Chemistry); Co-director of the Centre for Plastic Electronics, Professor James Durrant (Chemistry); along with the other Director of the Centre

for Plastic Electronics, Professor Donal Bradley (Physics).

"I would like to congratulate our four colleagues whose research has been celebrated in this influential listing," said Professor Maggie Dallman, Principal of the Faculty of Natural Sciences, which hosts the Centre along with partners in the Faculty of Engineering. "Plastic electronics and materials science are areas where Imperial truly excels, and this is an outstanding recognition of some of our interdisciplinary and cross-faculty science."

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

Imperial College Lectureships

The search for the brightest talent to the Imperial College Lectureships scheme is nearing completion, following a recruitment drive launched in November 2010. The scheme, which seeks to appoint a significant number of non-clinical Lecturers across the faculties, and Assistant Professors to the Business School, attracted more than 750 applications of outstanding international quality. Following the interview process, offers have been made for positions across all faculties, and the College hopes the new lecturers will be in post by Autumn 2011.

Rector Sir Keith O'Nions chaired the panel that made the final decisions. Speaking about the rationale behind the scheme, Sir Keith said: "These may be uncertain times for universities on the whole, but at Imperial we're investing in the brightest and best at this 'counter-cyclical' point to gain long term rewards."

Professor Jeff Magee, Principal of the Faculty of Engineering, was highly impressed with the quality of applications: "We have an astounding set of really excellent candidates. In terms of



The Lectureships will provide teaching and research opportunities for early-career academics.

where the Faculty is going in future it depends on the staff we recruit today."

Professor Michele Dougherty (Physics) was appointed under the parent scheme of the new

Imperial College Lectureships in 1999. Today she is the Principal Investigator for an international team working on the Casini spacecraft's

magnetometer, currently orbiting Saturn. Speaking of her experiences on the scheme as a boost earlier in her career, she said: "Besides having the peace of mind, I found having the security of the lectureship was a huge help in attracting funds for my research work."

Teaching remains an important part of her role: "It accounts for about a third of my activities, and I still very much enjoy it. Fundamentally I think teaching keeps you honest."

"At Imperial we're investing in the brightest and best to gain long term rewards"

in brief



New Earth Science and Engineering head

Professor Jan Cilliers, Chair in Mineral Processing, has accepted appointment as Head of the Department of Earth Science and Engineer-

ing, with effect from 1 August 2011, for a period of five years. Professor Cilliers will succeed Professor Martin Blunt, who has held the position since 2006. Prior to joining the College in 2005, Professor Cilliers was a member of staff at the University of Manchester, where he established the Froth and Foam Research Group. Whilst there, he also undertook an MBA at Manchester Business School.

Developing links in clean energy and the life sciences

On 14 March, the Governor of Massachusetts, Deval Patrick and his delegation were welcomed to Imperial by the Energy Futures Lab and Professor Molly Stevens, Research Director for Biomedical Materials (Materials). The visit was part of the Governor's trade mission to the UK, building links for Massachusetts industries in technology, clean energy and life sciences. Governor Patrick led a discussion on the challenges of becoming a low-carbon economy.

HEFCE grant allocation announced

The College has received notification that it will receive £149.2 million in funding from HEFCE for 2011–12, an increase of £0.2 million compared with 2010–11. Imperial is one of only five universities in the UK to receive an increase in funding in cash terms, bucking the trend when the total HEFCE funding available has been cut by 4.1 per cent. In the constituent parts of the overall funding, Imperial's teaching grant has fallen by £2.1 million (3.8 per cent) compared to 2010–11, while the research grant has increased by £2.3 million (2.4 per cent).

Students do battle in Varsity 2011

This year's Varsity sporting challenge was the biggest yet, and saw more than 50 teams compete in 25 matches at venues across London. The day delivered an overall win for Imperial College but, once again, Imperial Medics took home the first team rugby honours. The match finished 25–12. A disappointed Imperial College side received medals from Rector, Sir Keith O'Nions whilst JPR Williams presented the Medicals' Captains with the JPR Williams Cup trophy.

See Photo Expo on page 15 of this issue for pictures.

Big Science Pub Quiz

Science reporters from 11 national and specialist media outlets were welcomed to the College on 8 March to take part in Imperial's first Big Science Pub Quiz, staged by the Communications and Development Division. The event was held in the Haemo Globe Inn, a 'pop-up' pub created especially for the occasion on the South Kensington Campus.

Journalists from organisations including the *BBC*, *The Guardian*, *New Scientist* and *Physics World* joined over 60 Imperial researchers to form teams, pit their wits against rivals and make new contacts. A squad of press officers from UK research councils and other partner organisations also came to test their science know-how.

Question rounds

included True or False, Science in the Movies, Science in Song and The News Round. At the helm was quiz-master Gareth Mitchell – a lecturer on Imperial's MSc in Science Communication course and presenter of the Imperial College Podcast and BBC Radio 4's *Digital Planet*.

Professor Martin McCall (Physics), who was on the Particle Zoo team, said:



"I enjoyed myself enormously. I was amazed how much more knowledgeable our *New Scientist* partners were than us physicists!"

Following a tie-breaker, the team Large Hadron

Collider, led by Professor Wendy Barclay, from the Department of Medicine, with journalists from *New Scientist*, stormed to victory.

— LAURA GALLAGHER, COMMUNICATIONS AND DEVELOPMENT

Unravelling causes of chronic diseases



A new partnership to study the myriad environmental factors that affect a person's health held its first meeting at the MRC-HPA Centre for Environment

and Health in the School of Public Health on 25 February. The Exposome Alliance, a collaboration between Imperial and the University of California, Berkeley, will investigate the causes of chronic diseases such as high blood pressure, cancer and diabetes.

"Genes only represent a small proportion of the factors underlying chronic diseases," said Professor Paolo Vineis (Public Health), one of the co-founders of the alliance. "It is now widely recognised that the interaction between genes and the wider environment is perhaps the most important factor in determining the health of an individual."

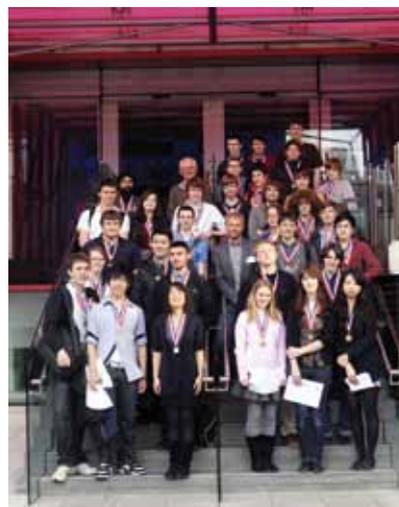
The concept of the exposome refers to the multitude of external environmental factors which everyone is exposed to in everyday life, from conception onwards.

"The number of factors which make up the exposome is extremely broad, from the products of gut bacteria to exposure, to pollutants or dietary components," notes Professor Vineis. "Tackling this seemingly overwhelming complexity requires a wide range of methods, including data collection and analysis on a vast scale, and high-throughput technologies."

The partnership with Berkeley is designed to address these challenges. "We hope the alliance will enable us to make major progress in understanding the causes of major diseases," he said.

— SAM WONG, COMMUNICATIONS AND DEVELOPMENT

School pupils NASA-bound after mission success



School pupils will be jetting off to NASA's Johnson Space Centre in America for the international finals of a space settlement design competition after triumphing in the UK round of the competition, organised by Imperial.

UK school pupils aged 14–18 (pictured above) spent the first weekend of March at Imperial working on a brief to design a space settlement that shuttles between the orbits of Earth and Mars. The pupils were split into four competing companies, appointing presidents and senior managers

amongst themselves, before undertaking two days of intense research and design, supported by volunteers from Imperial's staff and students.

Their efforts culminated in a presentation of their designs to a panel of judges, including academics and representatives from Boeing and the UK Space Agency.

The victorious team's design featured a ring-shaped, solar powered space station called *Cassandras*. Team members will visit NASA's Johnson Space Centre in Houston, Texas, to represent the UK in the finals of the International Space Settlement Design Competition later this year.

The winning team consisted of pupils from the City of London Academy, Sheringham High School, Pates

Grammar School, Lumen Christi College and Chatham Grammar School for Boys.

Postgraduate student Daniel Went (Physics) is one of the Imperial volunteers who helped organise or participate in the weekend. He said: "This is

a weekend where imaginations run wild and where children mature in front of your very eyes. Sacrificing the time is a small price to pay to witness that."

— JOHN-PAUL JONES, COMMUNICATIONS AND DEVELOPMENT

“This is a weekend where imaginations run wild and where children mature in front of your very eyes”

media mentions

—COLIN SMITH, COMMUNICATIONS AND DEVELOPMENT



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www.imperial.ac.uk/media/jointsignup

BBC ONLINE ▶ 16.2.2011

Extreme rain and flooding risks



Greenhouse gas emissions are making extreme rainfall events more common and, in the UK, have increased the risk of flooding, say scientists in a story on *BBC Online*. Using real-world data and computer models, a team from Oxford University says it has proved the link between greenhouse emissions and the observed increase in extreme rains in the Northern Hemisphere, while another team from Canada and the UK says global warming made the UK floods of 2000 more likely. “Both studies depend heavily on the accuracy of their computer models,” Professor Sir Brian Hoskins, Director of the Grantham Institute for Climate Change, commented. “We need to better understand the actual physics of different flooding events and make sure that the models are able to capture this,” he added. “Studies like these should be repeated as models continue to improve.”

THE ENGINEER ▶ 9.3.2011

Issues mapped out

Findings by The Royal Academy of Engineering warn that society is ‘dangerously over-reliant’ on satellite navigation systems, reported *The Engineer*. The report focused on the world’s increasing reliance on global navigation satellite systems (GNSS), the limited use of back-up systems, and their vulnerability to natural interference such as solar flares and surreptitious ‘jamming’. “As part of the process of utilising this really important infrastructure, what we are asking is how might the system fail, and are the barriers we have in place today able to protect us, or do we need to do more research and development?,” says Professor Washington Ochieng (Civil and Environmental Engineering), one of the report’s co-authors.

DAILY MAIL ▶ 8.3.2011

Ballooning popularity



Having a balloon inflated in the stomach can lead to significant weight loss with few side-effects, reported the *Daily Mail*. The new research suggests that implanting a silicone balloon is highly effective at reducing appetite. “It has to be combined with diet and lifestyle advice because once the balloon is removed after six months or so, people need to avoid putting the weight back on,” said Professor Nadey Hakim (Surgery and Cancer). “The technique’s popularity has increased because more people are aware of its existence, and recent evidence suggests that it works well for patients with lower BMIs,” he added.

THE SUN ▶ 15.3.2011

Japanese nuclear disaster

Japan’s unfolding nuclear disaster escalated further as three reactors headed for a possible meltdown, reported *The Sun*. The revelation came as the stricken Fukushima Daiichi plant experienced two more blasts, with radiation levels there rising following an earthquake, measuring nine on the Richter scale, and a tsunami that devastated parts of the country. The first explosion damaged the No.2 reactor, injuring 11 people, followed by an explosion in the No.3 reactor, damaging a suppression pool container. “If the concrete shell that surrounds the reactors is damaged, there will be a risk of harmful radiation exposure and widespread health problems,” said Professor Robin Grimes from the Department of Materials.



awards and honours

MEDICINE

Penn wins RSM presentation prize



Jack Penn, pictured middle, who completed his intercalated BSc in Surgery and Anaesthesia at Imperial in June 2010, has been awarded this year’s first prize in the annual Royal Society of Medicine Undergraduate

Research Presentation competition. Jack’s BSc research project on the potential preventative effect of statins on cognitive decline following surgery, was supervised by Dr Daqing Ma (Surgery and Cancer), pictured left in the image.

LIFE SCIENCES

Ganeev’s outstanding achievements

Dr Rashid Ganeev (Physics) was presented with the Khwarizmi International Award for outstanding achievements in research, innovation and invention in fields related to science and technology at a ceremony on 5 February in Tehran. Dr Ganeev researches short-wavelength laser radiation from a variety of plasma sources containing atoms and ions.

ENGINEERING

Technology Leadership in Education Award

At the Annual Flexible Electronics and Displays Conference on 9 February, Dr Natalie Stingelin (Materials), pictured below, collected the Technology Leadership in Education Award on behalf of the Doctoral Training Centre in Plastic Electronics. The FlexTech



Alliance prize recognises the outstanding work of the Centre, which is funded by the Engineering and Physical Sciences Research Council, in educating scientists to design

next-generation plastic electronic technology.

MEDICINE

Research paper award shortlisting



Professor Wendy Atkin (pictured) and her group in the Department of Surgery and Cancer have been shortlisted for the British

Medical Journal Group’s Research Paper of the Year Award. Their study demonstrated the benefits of flexible sigmoidoscopy as a one-off screening test to prevent colorectal cancer in a 16-year randomised trial. The winner will be announced at a ceremony in May.



Sugary drinks associated with higher blood pressure

Drinking sugar-sweetened beverages is associated with higher blood pressure, according to a study of over 2,500 people reported in the first week of March in the journal *Hypertension*.

High blood pressure is a major risk factor for heart disease, which is the leading cause of death worldwide. Someone with a blood pressure level in millimetres of mercury (mmHg) of 135 over 85 is twice as likely to have a heart attack or stroke as someone with a reading of 115 over 75.

The new study, by researchers in the School of Public Health, shows that for every extra can of sugary drink consumed per day, participants on average had a higher systolic blood pressure by 1.6 mmHg and a higher diastolic blood pressure by 0.8 mmHg. This difference was statistically significant even after adjusting for factors such as weight and height.

The study did not examine the mechanism that might link sugary drinks with blood pressure. However, the researchers suggest that raised uric acid, which has been linked to sugar-sweetened beverage consumption, might raise blood pressure by reducing the levels of nitric oxide, a chemical that relaxes the lining of the blood vessels.

The association between sugary drinks and higher blood pressure was especially strong in people who consumed a lot of salt as well as sugar. Diet drinks were linked with lower blood pressure levels in some analyses, but the association was not consistent or strong.

Senior author of the study, Professor Paul Elliott (Public Health), said: "It's widely known that if you have too much salt in your diet, you're more likely to develop high blood pressure. The results of this study suggest that people should be careful about how much sugar they consume as well."

—SAM WONG, COMMUNICATIONS AND DEVELOPMENT

Doctors should discuss weight problems with patients



Patients who are told by their doctor that they are overweight or obese are more likely to acknowledge a weight problem and try to do something about it, according to a new study published in the *Archives of Internal Medicine* on 28 February.

Researchers from Imperial and the Medical University of South Carolina found that getting an honest assessment from a physician

appeared to be a key factor in whether or not study participants considered themselves overweight.

Doctors consider people with a body mass index (BMI) above 25 to be overweight, and those

with a BMI over 30 to be obese. Among 7,790 of participants in a US interview survey, 37 per cent of people who were overweight,

"Many people who are seriously overweight don't realise that their health is at risk"

but had not been told this by a doctor, did not think they were overweight. Nineteen per cent of obese people, who had not been advised of their condition by a doctor, did not think they were overweight. Of those whose doctors had given them an honest assessment of their weight, only six per cent of overweight people and three per cent of obese people did not think they were overweight.

"With the whole population getting heavier, obesity is becoming normalised, so many people who

are seriously overweight don't realise that their health is at risk," said Dr Sonia Saxena (Public Health), senior author of the study. "Our study shows that having a doctor

tell someone they are overweight is a key factor in the patient's awareness of the problem."

—SAM WONG, COMMUNICATIONS AND DEVELOPMENT

Battlefield blast injuries need better study

Imperial scientists say more interdisciplinary research is needed to improve the treatment of soldiers and civilians injured by landmines and improvised explosive devices (IEDs).

Recent conflicts have seen a proliferation of these weapons, which are capable of causing multiple, severely injured casualties in a single blast. Study author, Dr Kate Brown (Life Sciences), said: "IEDs pose the most prevalent single threat to troops operating in war-torn regions such as Iraq and Afghanistan."

Combined improvements in body armour, pre-hospital care and aero-evacuations mean

more people survive conflicts despite multiple injuries, for example, 89 per cent of wounded soldiers survived the conflict in Iraq, compared with 70 per cent in World War II. However, the number of injuries caused by IEDs in the current conflicts show a worrying upward trend.

Writing in *Philosophical Transactions of the Royal Society B*, researchers from the cross-faculty Blast Biomechanics and Biophysics Group say that if clinicians, natural scientists and engineers worked together, it would be possible to improve the quality of treatment for these combat casualties. Data from field



hospitals in war zones could help surgeons make decisions that would improve the quality and speed of treatments.

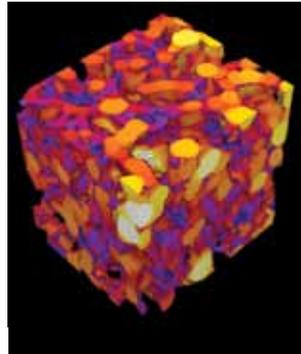
Military surgeon and main author of the article, Arul Ramasamy (Bioengineering), explained: "A comparison between the injuries sustained from IEDs out in the open, versus those in

enclosed spaces, such as a vehicle hit by an IED, demonstrates that the environment is significant in determining the underlying patterns and causes of injury. This understanding is fundamental to developing new technology to protect the soldiers on the ground."

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

From the Asian elephant to the roadrunner

The structures inside animals' thigh bones that enable them to support huge loads, whilst being relatively lightweight, were revealed in research published in the journal *Proceedings of the Royal Society B* on 9 March. The researchers say their work could lead to the development of new materials based on thigh bone geometry.



Dr Doube discovered that one strut in this elephant's trabeculae is bigger than a Shrew's whole femur.

A team from Imperial and the Royal Veterinary College collected thigh bone samples from British museum collections and zoos, analysing specimens of the femur bone from 90 different species, including the Asian elephant, Etruscan shrew, roadrunner, crocodile, emu, turkey, leopard and giraffe. They explored how animal size related to the formation of an interlinking lattice of tiny bone struts inside the femur called trabeculae. The researchers found that trabeculae, typically found near joints, have different geometry depending on the size of the species.

The researchers say their new understanding of how femur bones are structured could be used to advance a class of tough, lightweight structural materials, which could be used to improve body-work for planes and cars.

Dr Michael Doube (Bioengineering), lead author of the study

from Imperial, who is also a veterinary surgeon, says: "Scientists had not previously known that the structure of trabeculae varied, or scaled up, depending on the size of the animal. We assumed that trabeculae would be important in supporting the weight of larger creatures, such as Asian elephants, which can weigh more than three tonnes. However, we were surprised to find that animals that have comparatively lighter loads, such as the Etruscan shrew, weighing three grams, also has trabeculae supporting its tiny body."

—COLIN SMITH, COMMUNICATIONS AND DEVELOPMENT

Genetic studies find five new variants linked to heart disease

Five new genetic variants linked to heart disease have been identified in a meta-analysis of four large genome-wide association studies, published in *Nature Genetics* in the first week of March. The findings will guide research into new treatments for coronary heart disease, which kills 88,000 people in Britain each year.

The discoveries add to 11 common variants previously shown to be associated with heart disease, and provide further evidence that many genes have a small but significant effect on heart disease risk.

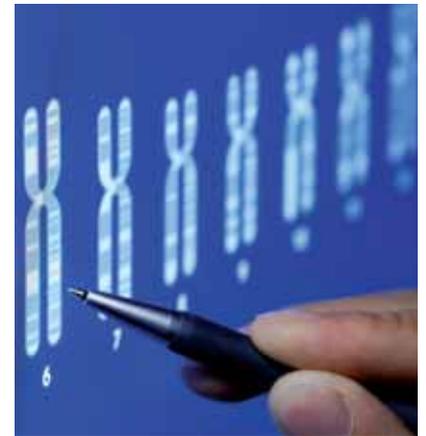
The Coronary Artery Disease (C4D) Genetics Consortium, co-led by groups at Imperial and the Universities of Oxford and Cambridge, compared the DNA sequences of thousands of people with heart disease in European and South Asian populations with controls from the same ethnic groups.

All of the variants linked to heart disease in the study appeared to be equally significant in people from European and South Asian ancestry.

Professor Jaspal Kooner (NHLI), Dr John Chambers and Professor Paul Elliott (both Public Health) co-led the research at Imperial, and determined the contribution of these variants to heart disease amongst South Asians living in the UK.

"These findings add weight to the idea that a large number of genes affect your likelihood of developing heart disease, each gene having a relatively small effect," Professor Kooner said. "This means that genetic tests are unlikely to be useful for predicting heart disease, but each gene we discover tells us about the biological mechanisms underlying heart disease and gives us a new lead to look for new treatment strategies."

—SAM WONG, COMMUNICATIONS AND DEVELOPMENT



“Each gene we discover tells us about the biological mechanisms underlying heart disease”

New land-move theory for early plants



New research by Dr Martin Bidartondo (Life Sciences), who holds a joint post at Imperial at Kew Gardens, has given rise to a new theory about how early plants (such as liverworts, pictured) were able to colonise the land 400 million years ago.

Prior to this time, plants were only able to extract nutrition directly from water. Then, in one of the most influential events in the evolution of our planet, plants developed a special relationship with fungi whereby they exchanged energy made by photosynthesis for nourishment extracted from the soil.

Ancient plants preserved in the fossil record led scientists to believe that fungi related to present-day *Glomus* (Glomeromycota) were the first to provide mineral nutrients to plants. However, the new study,

published in *Biology Letters* on 9 March, suggests that the first fungi to assist plants on land were in fact a different type related to today's *Endogone* (Mucoromycotina).

The so-called 'mycorrhizas' (literally fungus roots) are now common in around 90 per cent of all plants, where they grow in and around the plant's own cells, and spread out into the soil.

Dr Bidartondo explained: "this

relationship is so close, maybe we shouldn't say a plant has roots,

we should say it has mycorrhizas." The fungi are well adapted to absorbing chemicals from the soil, being thinner and longer than the plant's roots.

"This new data means we should reconsider the process whereby plants evolved the ability to live on dry land," he added.

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

“This relationship is so close, maybe we shouldn't say a plant has roots, we should say it has mycorrhizas”



From left: Navid Nabijou (Maths), Deepka Rana (Physics), Matthew Colvin (Maths), Kadhim Shubber (Physics), Jovan Nedic (Aeronautics) and Gilead Amit (Physics).

Press gang

It's an hour before *Felix's* press deadline and there is an air of urgency in the basement of the Imperial College Union building as the students near the end of a record week, in which they published five issues in five days. Charged with Red Bull and drumming his fingers to the

music of LCD Soundsystem, *Felix* Editor Kadhim Shubber flits between computers doing last-minute tweaks

to layouts and scanning articles

over the shoulders of his team-mates, eager to hit the

button and send

the final *Daily*

Felix to the

printers.



Reporter goes behind the scenes to learn about the student team's passion for their work on *Felix* and how they found publishing a daily.

The idea for the *Daily Felix* came from watching the film about the founding of Facebook, *The Social Network*. In the film the students kept mentioning their daily newspaper the *Harvard Crimson*.

"Somehow this made me think that maybe we could publish every day too, as it had never been done before at Imperial,"

explains Kadhim. "No one told me it was a bad idea so we just went ahead," he adds.

Felix, first published in 1949, is a weekly newspaper dedicated to telling Imperial students about what goes on at the College. The *Felix* motto, 'Keep the Cat Free', refers to the tradition of free speech, and those who write for the newspaper are given a free rein to follow-up

articles that interest them.

Kadhim explains that it's a very hands-on publication and students get experience of the whole production process from commissioning articles to writing, editing, taking photos and laying out their pieces in Adobe InDesign.

Deputy Editor, Gilead Amit (Physics), says that it's the fast

pace nature of creating a newspaper which attracted him to work for *Felix* in the first place.

"It's the feeling of writing a news story with an hour to go before the paper has to

reach the printers that makes it so exciting."

Kadhim is the only member of the *Felix* team who is on a paid sabbatical from his Physics degree but you wouldn't be able to tell from the amount of time and effort the team dedicate to the publication. What is tangible is the sense of community in the office. "We are united by a common enthusiasm and love of

“We are united by a common enthusiasm and love of the paper; it's a great team to be part of”

the paper; it's a great team to be part of," says Chief Copy Editor, Lizzy Griffiths (Life Sciences).

Gilead believes it's particularly important to have a paper like *Felix*, which welcomes anyone who wants to get involved, at Imperial. "I have always felt that *Felix* is a blessing for a science university, where students of an artistic disposition

might worry about feeling stifled. I don't know how my written English would have been affected had it not been for the regular practice."

This year an average issue of *Felix* has around 48 pages, and features the work of over 100 contributors and 35 editors

(including four who work on *Felix online*). The paper is made up of 15 sections featuring articles on a range of topics from fashion and politics, to film and music.

For the *Daily Felix*, Kadhim scaled down the publication to 24 pages and used a different company to print it. The issues included themed pull-out supplements on subjects such as music, technology and art. In order to get the first issue out on the Monday, the students worked through the weekend, going to press on Sunday night, and for the rest of the week *Felix* absorbed all of their time outside of lectures.

Creating the *Daily Felix* was undoubtedly a team effort. "It involved a lot of time, effort and coordination," explains Lizzy. "For me it was about making sure everything was finished to a high quality and that mistakes were removed from every issue, which was not always easy! We were really relieved when it was over but there was a real sense of satisfaction that we achieved it together."

One of the things Kadhim was most concerned about in producing the *Daily Felix* was how to generate enough stories to fill the pages. Kadhim gets tip-offs about potential stories via emails,

phone calls or word of mouth. "Week in, week out, someone always messes up a little bit and gives us a hook for an article," he says, gleefully pointing to the stories which helped fill the *Daily Felix*, such as the hacking of the Department of Computing's IT system and a number of thefts in the Department of Electrical

and Electronic Engineering. Kadhim is most proud of the reporting of the Life Sciences restructuring, noting that the topic has attracted lots of attention from staff and students.

Felix doesn't just attract

local acclaim – this month the publication won the London Student Journalism Support Network's Prize for Best Publication.

Kadhim will be handing over to the new Editor after the summer term and is looking forward to his final year of his Physics degree, as a step back from *Felix*. As for taking up journalism as a career, Kadhim isn't convinced that he is cynical enough and thinks it would harden his heart. "I get really anxious about sticking the boot in and am too amiable with people I'm interviewing – I'm happy to admit that!"

Kadhim confesses to being a bit of a perfectionist and on Wednesdays he works through the night to check the whole layout of the newspaper, taking a few hours' break to sleep on the sofa. "I know I could work fewer hours if I wanted to but I wouldn't be as happy with the outcome. I want *Felix* to be as good as a proper newspaper," he says.

— EMILY ROSS, COMMUNICATIONS AND DEVELOPMENT

“I know I could work fewer hours if I wanted to but I wouldn't be as happy with the outcome. I want *Felix* to be as good as a proper newspaper”



A week in the life...

Kadhim describes a typical week in the *Felix* offices



Monday

I usually get in at 7.30. Today is pretty relaxed as I have a false sense of security as press day seems far away. At lunch I meet with all the section editors to discuss what is going in the paper that week. News meetings are held straight afterwards and all the stories are allocated. I normally work until 19.00.

Tuesday

Today is all about following up leads, researching, interviewing and writing up stories. I sometimes work from home.

Wednesday

Wednesday is the most stressful day and it's all hands on deck in the office. At 20.00 I go to Tesco and load up with cans of Red Bull. Then I look at all the pages in the issue and try to fix the layout. I take a kip in a sleeping bag on a sofa in our meeting room for two or three hours, then start again.

Thursday – press day

Thursday is all about copy editing. There used to be a bit of flexibility in terms of the time we went to press but now the *Daily Mail* shares our printer, so if we are late then we get bumped off until the next day to ensure the *Daily Mail* is on the newsstands in time. As a result I've had to become stricter – so we normally go to press at 18.00, then I work with the online editors to upload all the content onto the website. I finish around 22.00 and get home just in time to watch *Question Time*.



Friday

I wake up early and work from bed, publishing all the news stories I uploaded the night before. I then make my way into College and head to the post room to pick up the boxes of *Felix* and distribute them to the bins all across campus, so students can grab a copy before their 9.00 lectures. It's great seeing people enjoying it. I spend the rest of the day checking my emails, then head to the Union Bar for the weekly *Felix* social.





Heading in the right direction

From tinkering with radio equipment as a teenager to bringing together multidisciplinary research teams at Imperial, Professor Jeff Magee, recently appointed Principal of the Faculty of Engineering, speaks to *Reporter* about his career progression and his hopes for his new role.

After five years working as Head of the Department of Computing, Jeff was asked to take on the top role in the Faculty in January when Professor Stephen Richardson became Deputy Rector on a full-time basis. "It is certainly daunting heading up the largest and definitely the best engineering faculty in the UK," Jeff admits, "but I'm keen to meet the expectations of my colleagues and pass on my passion to the next generation of engineers".

Jeff's first introduction to engineering was mending pieces of old radio equipment given to him by his uncle, an electrical engineer with the Northern Ireland Electricity Board, when he was in his early teens. "I've always been quite impatient and finding out how to make things work was my way of putting this trait to good use. It also explains

why I love computers so much, as they provide instant results," he adds.

Following in his uncle's footsteps, Jeff pursued electrical and electronic engineering at Queen's University Belfast and went to work for Post Office Telecommunications (now BT) after graduating. It was at Post Office Telecoms that Jeff discovered computers – working with a teletype, a form of typewriter that operated at 10 characters per second and communicated with a Burroughs Timesharing Computing System.

Post Office Telecoms funded Jeff's Master's in Computing at Imperial which he started in 1979. A year after finishing, he returned to the College to do a PhD in Computing Science, before joining

the Department of Computing as a lecturer. He became a professor in 1999.

Jeff made his mark in the Department as one of the originators of the research field known as software architecture, establishing the structures of software elements required to develop technical solutions. A version of one of the software tools developed by Jeff and his colleagues was adopted by Philips – one of the largest electronics companies in the world – for all their

audio-visual products, including television sets.

Jeff was promoted to Head of the Department (HoD) of Computing in 2004 and now follows in Stephen Richardson's footsteps as Faculty Principal. "I think appointing someone to this role who has experience of being a HoD is advantageous, as they really understand the needs of academics," says Jeff.

Joined up working

While Jeff is committed to maintaining excellence in each of the nine departments, one of his priorities for the Faculty is to contribute expertise to teams of academics across the College undertaking multidisciplinary research projects. "The Faculty of Engineering has begun to develop more of a collegiate ethos over the last few years, in the way we work together, but we can do better," he says.

Jeff points to the Medical Engineering Solutions in Osteoarthritis Centre of Excellence funded by the Wellcome Trust and the EPSRC, as an example of the huge opportunities for applying engineering solutions to healthcare.

Based in the Department of Bioengineering, the Centre aims to improve the quality of life for individuals with osteoarthritis – one of the most common cause of chronic pain in the UK today.

"In the Osteoarthritis Centre everyone's working towards the same goal," says Jeff. "They all want to do something to slow or halt the progression of this disease." At least nine different disciplines come together in the virtual centre: engineers, surgeons, rehabilitation therapists, chemists, imaging scientists, computer scientists, materials scientists and cell biologists.

"Those teams are stronger for having so many different perspectives on the problem. If just one of those people were working on their own, they would never imagine the solutions that the centre is coming up with."

Excellence in teaching

In addition to excellence in research, Jeff is keen for the Faculty to achieve excellence in teaching. Jeff explains that the Faculty has just come to the end of a five-year programme called *EnVision*, which looked at improving the way engineering education was delivered at Imperial.

One of the outcomes of the programme has been an approach that delivers teaching using a combination of traditional methods, new technologies and practical projects. A particular success to highlight is the *Constructionarium*, which offers hands-on experience to civil engineering students, with previous projects including the construction of bridges, involving teams of industry experts.

Due to funding cuts, many universities increasingly depend on computer modelling and simulation alone to educate engineers. "I worry that if we embrace this approach, we will lose the connection between engineering education and engineering practice," says Jeff. "The Faculty is committed to maintaining and providing world class engineering labs and workshops that support both its teaching and research," he adds, pointing to the newly refurbished and re-equipped labs in the Bessemer and Skempton Buildings on the South Kensington Campus.

Jeff says that getting the teaching right is a massive part of upholding the student experience and ensuring engineering degrees don't become sterile. "When students leave the College, I'd like them to be as proud of studying at Imperial as we are of them as graduates – that's how I'll know we, as a Faculty, have done a good job."

— EMILY ROSS, COMMUNICATIONS AND DEVELOPMENT

inside*

story

mini profile

Michael Liebreich

Michael Liebreich, Chief Executive of Bloomberg New Energy Finance, is presenting this year's Energy Futures Lab annual lecture, entitled Global Trends in Clean Energy Investment, on 29 March. He talks to *Reporter* about his experience as an Olympic skier and shares his vision for the future of green energy.

Can you describe what Bloomberg New Energy Finance does?

We help policy makers to make good decisions about green energy. In practice, this means providing them with information about industry, clean energy, carbon markets and upcoming areas of research in relevant fields.

What are you here at Imperial to talk about?

I'll be talking about what role money and markets play in driving change to green energy because it is through the combination of both engineering and financial expertise that real changes can be made.

What is your personal view on the future of energy?

My view, which is also the reason I set up this business, is that we must inevitably change from a dumb, centralised, insecure, high-carbon economy to a more intelligent, decentralised, low-carbon economy.



This is an unstoppable transformation because fossil fuel sources are inherently finite and because there are economic drivers pushing us, as a society, towards renewable forms of energy. There are opportunities to make, or lose, a lot of money in the process. I see my personal role in the business as describing what this clean energy future could look like and showing people some of the roads to get there.

You also used to be an Olympic skier – how did that happen?

I learnt to ski when I was just three years old and after that I quickly became pretty obsessive about skiing. In 1992, I was selected to represent the British Olympic team. I may have only finished in the middle of the rankings at the Albertville Olympics, but I was certainly the highest placed management consultant!

—ANDREW PURCELL, MSc SCIENCE COMMUNICATION



Student callers pitch in for fundraising

Over the last eight weeks a team of 55 student callers has been involved in the College's bi-annual telephone fundraising campaign. Working evenings and weekends to contact alumni across the world, the students have spoken to over 10,000 alumni, gaining pledges of more than £300,000. The money raised will help to ensure that the most academically able are able to study at the College, regardless of their financial circumstances. Niharika Midha, a Master's student (Bioengineering), reports on her experience of being a student caller for the campaign:

“All that I was aware of is that I had to talk to a complete stranger and I had no clue how they would respond”

“I applied to work as a student caller as I thought it would be good to put my ‘love of talking’ to use. With the current economic climate, the idea of working for the College to help shape someone's future felt really worthwhile. At the same time, it was a chance to make new friends from completely different departments.

I chose three shifts a week – Monday, Tuesday and Saturday. It was a fun working environment and I loved being there each night.

The first call was the hardest and a million thoughts ran through my head. All that I was aware of was that I had to talk to a complete stranger and I had no clue how they would respond.

As the days passed, it got much easier and we started having some great conversations with alumni. The best

thing was when you were comparing what life was like at Imperial when the alumnus was here, with what it is like now, or hearing about their experiences of working in industry. I personally raised almost £16,000 in four weeks, which was a great feeling! Over the course of the telethon I laughed, shared,

cheered, made new friends and gained a mass of experience.”

Students keen to take part in the College's next telephone fundraising campaign should contact: rosaling.griffin@imperial.ac.uk

▶ SCIENCE FROM SCRATCH

As explained by Andrew Purcell, MSc Science Communication



Carrying capacity

It may surprise you to learn that the term ‘carrying capacity’ actually has nothing to do with how much shopping you can lug home from Tesco. Instead, it refers to the number of organisms any given ecosystem can support. The carrying capacity of a rainforest, for instance, is considerably greater than that of, say, a desert. Hence, the two per cent of the Earth's surface that is covered by rainforest is home to over half of all plant and animal species. By contrast, the world's deserts are relatively sparsely populated. With the human population set to break the seven billion barrier later this year, some scientists and politicians are starting to worry about what the Earth's ultimate carrying capacity could be. They speculate that maybe there isn't one; maybe technology can be used to increase the Earth's carrying capacity indefinitely. Perhaps advancements in GM agriculture, renewable energy or other as yet unforeseen technologies will enable us to support even more people on this planet.



IMPERIAL STUDENTS SHARE THEIR EXPERIENCES OF LIFE AT THE COLLEGE ON THE STUDENT BLOGGERS WEBSITE.

Student blogger Christopher on getting a bit of culture:

blog SPOT

“As students you should really be utilising those Wednesday afternoons: once you enter the real

world your employer is highly unlikely to give you an afternoon off a week to kick a ball around a park.

Why not get some people together and do something a little cultured like visiting the theatre? For a quiet

Wednesday matinée

(or even evening) performance, you can buy the worst seats in the house, then simply shuffle forward as the show starts, saving yourself a lot of cash. The ushers don't really seem to mind or notice. In the unlikely event that this backfires on you for some reason, my condolences.”

www.imperial.ac.uk/campus_life/studentblogs

Dual lives

By day, Andrew Codling works as an ICT service improvement manager, but, out of work hours he patrols London's streets as a special police inspector. He speaks to *Reporter* about his different roles.

“My role at Imperial, working in ICT, is to identify ways of improving computers, phones or the general way teams operate. I liaise with external companies and then suggest ways to make things more efficient. Four and a half years ago I began looking for some voluntary work to do my bit in the community. I had some friends who volunteered for the police and they seemed to really enjoy it, so I thought I'd give it a go myself.

“I was assigned a role as a police inspector, which is a great job. Every shift is different – you go out on the street never knowing what's going to happen.

People can approach you asking questions from “Where's Harrods?” to “Can you help me find my child?” We're there to help them. We're also used at major events, such as the London Marathon.

“Every shift is different – you go out on the street never knowing what's going to happen”



The uniform really helps me to make my transition from my day job – people react in a different way when they see someone in a uniform and you've got to be aware of what's going on around you and be more alert on the street.

“I've developed lots of skills that can apply in both worlds, in particular dealing with people, which is much harder on the street as people who approach you for help are usually emotional or distressed. The best thing about my role is that I can do it when it suits me. People ask why I don't swap careers but I like my job at the College!”

Creative approaches to education

This year's Education Day, organised by Imperial's Strategic Education Committee and the Educational Development Unit, will take place on 7 April. The event aims to raise the profile of teaching throughout the College. Dr Philip Kilner, Consultant and Reader in Cardiovascular Magnetic Resonance (NHLI) and teacher in the Science and Patient module of the second year undergraduate medical course, shares his view on the theme of this year's event – the importance of embedding research in university education.

“I think embedding research in university education is fundamental, although I would choose slightly different words. I believe that processes of inquiry, observation and experimental engagement should be integral to individual and group processes of discovery. Contemplative reflection should also be part of the cycle. University life could be seen as a privileged and hopefully invaluable part of a lifetime of discovery and engagement.

I may have a poor

memory, but I don't suppose I'm alone in looking back and finding that what I learned for the sake of passing exams has been all too forgettable compared with what I discovered and placed in context through my own interests, inquiries and practical engagement. But equally important should be the question of how effectively each student is engaged

“Each individual has original discoveries and contributions to make”

and contributing to their own and their university's progress. Each individual has original discoveries and contributions to make. If students learned only what their tutors knew, progress would be limited.

Partly through dissatisfaction with what I perceived as constraints, and because I was drawn to artistic work, I took a career 'break' after qualifying in medicine. Amongst other



things, I studied and worked with the sculptor John Wilkes at Emerson College in Sussex. He specialised in designing shaped surfaces to enhance flowing water's tendencies to move rhythmically. Creative engagement with form and flow led me back into medical research, which included making models to study fluid dynamics in relation to heart surgery. I later moved to non-invasive imaging of the heart and circulation.

My career detour had introduced me to ways of inquiry more enjoyable and, I think, more fruitful than those I had ever achieved in medical school. My ideal university would be driven by open-minded inquiry and creative, practical engagement, with opportunities for the arts to challenge and enliven the sciences.”

For more information about Education Day visit: www.imperial.ac.uk/edudev/events/educationday2011



INVENTOR'S CORNER

Virtual surgery

Dr Roger Kneebone is Reader in Surgical Education (Surgery and Cancer) and runs the UK's only Master's course in Surgical Education. He started his career as a trauma surgeon, spending five years in southern Africa. On returning to the UK he worked as a GP in Wiltshire for 12 years before moving to Imperial in 2001. His research since the 90s has focused on highly realistic medical simulations.

What have you developed?

A simulated surgical environment used to train surgeons.

How have you achieved this?

With the help of Studiohead, a creative engineering design consultancy, we have developed an inflatable operating theatre by recreating key elements of the surgical environment. The inflatable theatre includes pop-up furniture and an overhead LED operating lamp. There are also built-in cameras and microphones, allowing surgeons to look back on recorded footage and consider how they could have done things differently.

How does it work?

The pop-up surgery unit is designed to be entirely controlled from a laptop and allows a trainer to control elements, such as realistic background noise or the heart rate of the patient. This, alongside using professional actors in the roles of patients with highly realistic prosthetics, can train surgeons how to deal with realistic stressful situations such as challenging patients or surgical teams.



Top: Dr Kneebone's inflatable operating theatre. Bottom: A simulation of abdominal surgery.

Why does your research stand out?

Currently there are few simulation centres in the UK, all of which are very costly. The portable operating theatre, which inflates in three minutes, is designed as a lower cost version which, when packed away, is small enough to fit in the boot of a car.

—ANOUSHKA WARDEN, IMPERIAL INNOVATIONS

www.imperialinnovations.co.uk

course review



By course attendee Dr Maurice Farmer, IT Programme Manager (Business School)

Decision-Making

What did the course cover?

As a project manager I have to make decisions all the time, for example, I have to work out which IT projects in the Business School should be prioritised, as we have limited resources. Sometimes these decisions are very rational but sometimes they're intuitive and based on previous experience of similar situations. I hoped the course would guide me on the best approach to take.

What did you learn from the course?

I learned a framework for making decisions and about some common failures, like jumping in at the deep end, taking shortcuts and group thinking.

How has it been helpful to you in your role?

For me, one of the most useful parts of the decision framework that we discussed has been implementing the first step – define the decision to be taken. This asks you to think about what you need to decide, take a broad view of the issue and decide what criteria you'll use to choose between options. It also helps you to understand the context within which you're making the decision and the different drivers for the decision. For example, is this a reaction to something and is the original problem clearly understood?

For more information about the course, visit: <http://bit.ly/98xj2x>

Consultancy matters



Professor David Nethercot, Head of the Department of Civil and Environmental Engineering, is an active Imperial consultant. Professor Nethercot consults on the structural framework of commercial buildings, often acting as an expert witness in high profile trials where the design of a structure has been brought into question. He speaks to *Reporter* about the benefits of consultancy to industry and academia.

"It seems to me that there are a number of benefits in doing this. Firstly I think that industrial relevance is vital

for academics working in a practical subject like engineering. While incidental conversations with people engaged in engineering are helpful, there is nothing like being involved in a real piece of work. Also when giving lectures or tutorials, you can illustrate a point with an anecdote from your experience, which reinforces what you are teaching.

Secondly consultancy may lead to collaborations in the future. For example where academics in fluid dynamics have

established their credentials with the oil industry through consultancy projects, funding or research can follow.

Finally there is the financial benefit – if you've got a PhD student who needs a few extra months of funding or you want to go to a conference, you've got the money from your consultancy work to use at your discretion. The so-called Imperial Consultants' dividend gives us the opportunity to spend in constructive and imaginative ways."

www.imperial-consultants.co.uk/consultants

“There is nothing like being involved in a real piece of work”

An evening with the Royal Institution

On 26 January, the Royal Institution of Great Britain (RI) held a fundraising event. Instead of its usual Friday Evening Discourses on controversial areas of science or its Christmas Lecture series, for one evening only, the RI concentrated on the work the organisation itself does to connect people with the world of science. Pippa Goldenberg, who is studying for an MSc in Science Communication, describes her experience of volunteering at the event:

“When I arrived at the RI, I joined the group of volunteers and we were shown how to make ice cream using liquid

nitrogen to serve during the interval. The ice cream was made using pre-mixed lemon juice, lemon zest, sugar and water which we combined with liquid nitrogen to make the ice cream. The process looks awesome as the liquid nitrogen evaporates off really fast so there is a lot of vapour. The end product is perfectly safe to eat and tastes great!

After setting everything up, we made our way over to the lecture theatre to watch the first half of the event. Quentin Cooper, from Radio Four's *Material World* programme, talked about the history of the RI,



focusing on four of the main players: Humphry Davy, Michael Faraday, John Tyndall and James Dewar. He talked about their inventions, their personalities and their contributions to the RI, looking at them not only as scientists

but also as men who made mistakes.

The best parts of the evening for me, however, were the demonstrations that interspersed Quentin Cooper's talk on the RI's history. For example, one of them showed Faraday's work with hydrogen; dry ice was added to water and indicator solution,

showing how oceans become more acidic as more CO₂ is absorbed.

We had to leave early to prepare the refreshments for the guests during the interval. After some thorough taste testing, the guests arrived and seemed to really enjoy watching us make the ice cream, as well as eating it!”

“[He focused] on four of the main players, looking at them not only as scientists but also as men who made mistakes.”

long service

Reporter features staff who have given many years of service to the College. Staff listed below celebrate anniversaries in the period 15–21 April.

Data is supplied by HR and is correct at the time of going to press.

20 years

- Miss Carol Barlow, Experiments Manager (Physics)
- Dr Varnavas Serghides, Senior Lecturer (Aeronautics)

30 years

- Dr Mohammed Aslam, Clinical Vascular Scientist (Surgery and Cancer)



Long servers' party

On 28 February, Professor Terry Tetley, Professor of Lung Cell Biology (NHLI), who has worked at Imperial for 30 years, attended a celebration for staff marking 25 or 30 years of service to the College in 2010. She describes her experience:

“When I received my invitation it was quite shocking to realise how long I have been here! But when I arrived at the event it was good to see other members of staff I know and to reminisce about how we got where we are now. It is very rewarding and gratifying to have one's contribution to the College recognised. It has not all been easy and there have been many changes along the way, as the Rector noted in his speech.

Apparently, 'long servers' account for over 25 per cent of what goes on in the College; it was good to discover that we are still a significant force! Having said that, one of the best things about being at Imperial is its diversity, and working with people of all ages and backgrounds. The evening made me reflect on how much I have enjoyed doing research and teaching medical students for all these years.”

obituaries



AIDEN DONNELLY

Aiden Donnelly, Car Park Security Officer (Security Services), died on 7 January 2011. Nick Roalfe, Director of Facilities Management, pays tribute to his colleague: “Aiden was a long-serving member of the Security Car Parking Team, having worked on the South Kensington Campus for 18 years. He was a very loyal and hard-working member of the team, who made many friends and was very dedicated to his work. Aiden was well-known to staff, visitors and contractors, and was one of the first members of the College anyone would

see when visiting the main campus. Outside of work, Aiden was a keen fisherman until his health failed him.

“Aiden retired from Imperial due to ill health in September 2009. He will be greatly missed by his colleagues for his unique sense of humour. He is survived by his wife Bernadette, daughter Sinead, and son David.”

Welcome new starters

Mr Gebreselassie Asefa, Life Sciences
 Dr Mark Bannister, NHLI
 Ms Sara Barnett, Medicine
 Dr Konstantinos Bourdakos, Life Sciences
 Mr Tim Burnett, Business School
 Dr Jochem Caris, Surgery and Cancer
 Dr Desmond Chow, NHLI
 Mr Rupert Clark, Library
 Mrs Terezia Clarke, Engineering
 Miss Sophie Clarke-Hackston, Sport and Leisure
 Miss Arminster Deol, Public Health
 Mrs Katherine Dominy, Medicine
 Dr Lydia Durant, NHLI
 Dr Jonathan Dusting, Chemistry
 Dr Carol Fitzgerald, Medicine
 Mr Attila Gajdacsi, Mechanical Engineering
 Dr Joachim Hamm, Physics
 Mr Tobias Hannes, NHLI
 Mr Torsten Hartwig, Medicine
 Ms Raunaque Hasnat, Public Health
 Ms Melanie Ikeh, Medicine
 Dr Nathanael Jarrasse, Bioengineering
 Dr Beatriz Jimenez, Surgery and Cancer
 Miss Joana Kettner, Chemical Engineering and Chemical Technology
 Dr Antonios Konitsiotis, NHLI
 Mr Matthew Laffan, Aeronautics
 Dr Tony Lawrence, Finance
 Mr Thomas Lyscom, Civil and Environmental Engineering

Dr Ruth Martinez Casado, Chemistry
 Mr Daniel Maskell, Medicine
 Miss Alike Mavromoustaki, Chemical Engineering and Chemical Technology
 Dr Christopher McDermott-Roe, Clinical Sciences
 Mr David Mooney, Educational Quality Office
 Ms Deborah Navarro Rosenblatt, Public Health
 Miss Komal Nayak, Medicine
 Dr Alistair Nunn, Medicine
 Dr Giuseppina Ortu, Public Health
 Dr Georgios Papageorgiou, Public Health
 Mr James Patterson, Computing
 Dr Michael Petersen, Physics
 Miss Stephanie Plant, Medicine
 Ms Sian Polley, Medicine
 Dr Vanessa Raymont, Medicine
 Dr Paul Rutter, Public Health
 Mr Griffin Ryder, Medicine
 Dr Katherine Scott, Medicine
 Dr Way Way Sim, Civil and Environmental Engineering
 Miss Antonia Solomon, NHLI
 Dr Irina Spulber, EEE
 Miss Rowan Stace, Engineering
 Mr Richard Starkey, Surgery and Cancer
 Dr Kate Tatham, Surgery and Cancer
 Mr Kieran Thompson, Natural Sciences
 Dr Lochran Traill, Life Sciences
 Ms Irina Valtcheva, Chemical Engineering and Chemical Technology
 Mr Marco Visentini Scarzanella, Computing
 Miss Sarah Waechter, Natural Sciences

Dr Philip Webster, Clinical Sciences
 Mr Joseph Wright, Medicine

Farewell moving on

Dr Erlend Aasheim, Medicine
 Dr David Albesa-Jove, Life Sciences
 Dr John Armitage, ESE
 Ms Mandana Baghai, Humanities
 Dr Michael Beaton, EEE
 Mr Rodolphe Bernard, Life Sciences
 Mr Fabrizio Bonci, Medicine
 Dr Valerie Borel-Vannier, NHLI
 Ms Michele Brunton, Biomedical Engineering
 Dr Suzanne Carreira, Medicine
 Dr Wai Chan, EEE
 Mr Amir Chasson, Communications and Development
 Dr Navpreet Chhina, Institute of Clinical Sciences
 Dr Karen Chu, Medicine
 Dr Charlotte Combs, Medicine
 Miss Paige Daniel, Medicine
 Miss Emily Dixon, Medicine
 Dr Mei-Li Fang, Humanities
 Mrs Rachel Flatt, Civil and Environmental Engineering
 Dr Lynsey Flowerdew, Surgery and Cancer
 Dr Jan Gebauer, Life Sciences
 Mr Bjorn Gerlach, Medicine
 Dr Vaibhav Gowadia, Computing
 Mr Ian Hansen, Humanities
 Miss Susan Hines, Medicine
 Dr Stefan Iglauer, ESE
 Dr Marc Ingram, Mechanical Engineering

Miss Rui Li, Bioengineering
 Mr Bruce Machan, Catering
 Mr Jan Marchant, Life Sciences
 Miss Kay McNamee, Kennedy Institute
 Mr Steven Michael, Security Services (8 years)
 Mr James Milsome, Estates (13 years)
 Dr Hajime Niwa, Life Sciences (8 years)
 Mr Tawanda Nyabango, Estates (5 years)
 Mr Kieran O'Donnell, Surgery and Cancer
 Dr Julien Pansiot, Computing
 Mr Tassanai Parittotokkaporn, Mechanical Engineering
 Dr Joseph Parker, Life Sciences
 Dr Matthew Parsons, Bioengineering
 Dr Yvonne Pinto, Environmental Policy
 Mrs Alexandra Potier, Humanities
 Miss Dovile Rickeviciute, Catering
 Mr Richard Ritchie, Business School
 Mr Robert Saunders, Environmental Policy
 Dr Vikas Sharma, Clinical Sciences
 Miss Harriet Smith, Accommodation
 Dr Sheung So, Chemical Engineering and Chemical Technology
 Dr Tim Szeto, Medicine
 Mr John Tovey, Physics
 Dr Jon Turney, Humanities (5 years)
 Dr James Uprichard, Medicine
 Dr Mark Wass, Life Sciences
 Mr Tim Watts, Physics
 Dr Alexandra Wormit, Life Sciences

This data is supplied by HR and covers the period 15 February – 6 March. This data was correct at the time of going to press.

PHOTO EXPO

Varsity 2011 finished on the rugby pitch as the two 1st XV teams competed for the JPR Williams Cup at the Stoop Stadium in Twickenham, home to Harlequins RFC. A crowd of approximately 1,400 students, staff and guests witnessed some of the best rugby seen in Varsity history.

For the full story: <http://bit.ly/1stLEo>



Speak out

Story ideas?

We welcome contributions from across the College. The next publication day is 14 April. *Reporter* is published every three weeks during term time in print and online at www.imperial.ac.uk/reporter

Contact Emily Ross:

✉ reporter@imperial.ac.uk

☎ +44 (0)20 7594 6715



29 MARCH ▶ TALK

Global trends in clean energy investment

In 2010, global investment in clean energy shrugged off the recession and soared 30 per cent to a record \$243 billion. This is nearly five times the level of 2004 and halfway to the volume

of activity that is needed if the world is to see greenhouse gas emissions from the energy sector peak by 2020. In the Energy Futures Lab Annual Lecture, Michael Liebreich, Chief Executive of Bloomberg New Energy Finance, looks at the flow of money into the sector.

Read an interview with Michael on page 10 of this issue.



7 APRIL ▶ COURSE

Education Day 2011

Education Day aims to raise the profile of teaching throughout the College, bringing together staff to discuss ideas and practice, and to honour outstanding teachers from across the College. This year's theme is 'Embedding research in university

education' and Professor David Radcliffe, Kamyar Haghighi Head of the School of Engineering Education at Purdue University, Indiana, USA, will be opening the day. Dr Jonathan Leape, Director of the LSE100 course at the London School of Economics, will also be a keynote speaker. The day will conclude with the presentation of the College Awards for Excellence in Teaching, Pastoral Care and Research Supervision.

take note

Championing postdocs

The Postdoc Development Centre is looking for academic champions – staff appointed to promote transferable skills development for postdocs within their departments. Functioning as a conduit between postdocs and the academic community, champions also help to ensure continuity in information given to postdocs by their departments.



For more information, contact:
e.elvidge@imperial.ac.uk

24 MARCH ▶ MUSIC

Lunchtime concert

Schubert Ensemble of London



24 MARCH ▶ TALK

How I learned to love laminin

Inaugural lecture by Professor Erhard Hohenester (Cell and Molecular Biology)

29 MARCH ▶ TALK

St Mary's campus meeting

Professor Sir Anthony Newman Taylor, Principal of the Faculty of Medicine

29 MARCH ▶ WORKSHOP

Chemical Engineering PhD Symposium

Professor Sir Bill Wakeham, former Deputy Rector of Imperial



30 MARCH ▶ SEMINAR

Immune memory to viral infections

Professor Rafi Ahmed, Director, Emory Vaccine Centre, Atlanta, USA

31 MARCH ▶ SEMINAR

Extreme weather events

Workshop hosted by the Business School

31 MARCH ▶ TALK

Public engagement with science

Dr Alice Bell (Graduate Schools)



5 APRIL ▶ TALK

Images of tribology

Inaugural lecture by Professor Andrew Olver (Mechanical Engineering)

5 APRIL ▶ WORKSHOP

The future of automated container terminals

Hosted by the Port Operations Research and Technology Centre at Imperial

7 APRIL ▶ TALK

Surgical innovator and educator

Inaugural lecture by Professor Nigel Standfield (Surgery and Cancer)



12 APRIL ▶ TALK

High velocity incubation

Panellists include Dr Nick Leon, Director of Design London

13 APRIL ▶ TALK

Hammersmith campus meeting

Professor Sir Anthony Newman Taylor, Principal of the Faculty of Medicine

16 JUNE ▶ SEMINAR

Integrating infection prevention into healthcare delivery

Annual Scientific Meeting of the National Centre for Infection Prevention and Management



MEET THE READER



Peter Pesl, Research Assistant (Electrical and Electronic Engineering)

What are you doing in the picture?

I'm at the ExCeL Centre in East London for the NHS Healthcare Innovation Expo 2011, where, with my colleagues, I presented technology used in our artificial pancreas project. We use a bio-inspired approach to develop an automatic system that senses glucose and delivers insulin to Type 1 diabetics.

What would you do if you were the editor of Reporter for a day?

I would create a special sports edition, as I love doing outdoor sports. I recently participated in the Hyde Park Relays, which is an annual relay running event organised by the Imperial College Cross Country Club.

Who would be your cover star?

I would put the guys from the cafeteria at the EEE Building on the front cover. They are always having fun which creates a great atmosphere. And they make excellent coffee!

Want to be the next reader featured in Reporter? Send in a picture of yourself with a copy of Reporter in your location of choice to:
 reporter@imperial.ac.uk

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