

Count down



Imperial's torch
bearers ready to
carry the flame

◆◆◆ PAGE 4



ROYAL SOCIETY
Five Imperial
scientists
honoured for
research
PAGE 2



ANNA NYBURG
Memories of
volunteering
at the Munich
Olympics
PAGE 11



ROCKET MAN
Head of NASA
talks about his
experiences in
space
PAGE 12



EDITOR'S CORNER

Star quality

Last week I got the once-in-a-lifetime chance to meet and interview former astronaut Charles Bolden during his visit to Imperial to speak to schoolchildren about his career and the importance of studying science. Although I never dreamed of **flying to the moon** as a child – the words NASA and space still hold a lot of magic to me and I waited in anticipation for the event. Charles lived up to all my expectations. He was inspirational, incredibly enthusiastic, and even though his last mission was in 1994, his **awe and excitement** about his experiences was as colourful as if he had gone up two days ago. From going to space to competing at an international level, there is something amazing about meeting people who have done something incredibly rare. Over the next few weeks I'm looking forward to meeting some of the amazing Olympic triathletes training at Imperial who will undoubtedly have this same star quality. Look out for *Reporter's special Olympic edition* in September which will capture our community's stories of London 2012.

EMILY ROSS-JOANNOU, EDITOR

Reporter is published every three weeks during term time in print and online. The next publication day is 3 September. Contact Emily Ross-Joannou: reporter@imperial.ac.uk

Royal Society honours

Five Imperial scientists were honoured by the Royal Society on 10 July. Emeritus Professor Tom Kibble FRS (Physics) and Emeritus Professor and Distinguished Research Fellow Professor Andrew Holmes FRS (Chemistry) have received the Royal Medal, one of the Society's premier awards. The Royal Medals were founded by King George IV in 1825 and are awarded to just three top scientists each year.

Professor Kibble's award recognises his theories of symmetry breaking in quantum field theory. This research underpins the contemporary understanding of the standard model of particle physics, by predicting the existence of a mass-giving particle now known as the Higgs boson. Professor Holmes's medal rewards his contributions to organic plastic electronics, materials that are leading the way for new energy efficient lightweight products, such as flexible screens for portable computers and smartphones.

Professor Roy Taylor (Physics) has won the Rumford Medal, awarded once every two years, for his research into ultrafast lasers and non-linear fibre optics. His work has allowed the development of ultrashort pulse fibre lasers and low-cost white light lasers, both of which are widely used in practical technologies like medical imaging and remote sensing.

Professor Jenny Nelson (Physics) has won the Royal Society Armourers and Brasiers' Company prize for materials research. It recognises her work into the science of plastic electronic materials and their applications in low cost solar cells and other devices.



1. Tom Kibble
2. Andrew Holmes
3. Roy Taylor
4. Jenny Nelson
5. Molly Stevens

Professor Molly Stevens (Materials and Bioengineering) has been awarded a medal and prize from the Royal Society following her selection to deliver the 2012 Clifford Paterson Lecture entitled *Regenerating organs and other small challenges*. This honour is given to a scientist working in an engineering field once every two years. Professor Stevens's research focuses on regenerative medicine, including pioneering nanotechnology approaches to the regeneration of body tissues.

All the award recipients will be presented with their prizes at the Royal Society's Anniversary Day meeting in November 2012.

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

World's first centre to focus on bacteria that cause diseases

A new centre based at Imperial, funded by the Medical Research Council (MRC) and the College, will provide a 'centre of excellence' in the fight against bacterial infections, many of which have undergone a significant rise in recent years.

The new MRC Centre for Molecular Bacteriology and Infection (CMBI) will use multidisciplinary approaches and cutting edge techniques to study bacterial infections at the levels of atom, cell and organism, with the aim of finding ways of developing new antibiotics, combating antibiotic resistance and developing effective vaccines. The new centre will span Imperial's Departments of Life Sciences and Medicine.

Professor David Holden (Medicine), Director of the Centre, said: "This new Centre will be equipped with state-of-the-art facilities to help drive this work, and we expect that the insights gained will help in the rational design of new vaccines and antibacterial drugs, which are badly needed."

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

Alumni gather at Asian receptions

President & Rector Sir Keith O'Nions visited China and Hong Kong during the first week of July to meet Imperial alumni, industry leaders, government representatives and university counterparts.

Summing up the week-long trip, Sir Keith said: "It was terrific to meet over 300 alumni during the course of

the visit. I was also struck by the appetite on display from outstanding Chinese institutions to work more closely with the College, demonstrating the global reach of Imperial's reputation."

Marking the 30th anniversary of the Imperial College Alumni Association of Hong Kong (ICAAHK) was the focus for the last stop of Sir Keith's tour.

Dr Leonard Chow, Chairman of ICAAHK said: "Through the Association we stay connected with the mother university, meet friends, learn from each other and, most importantly, help and donate to the ICAAHK endowment fund."

—SIMON WATTS, COMMUNICATIONS AND DEVELOPMENT

Imperial College Health Partners launched

Imperial College Health Partners, a company that aims to improve the health and care of the population of 1.9 million people living in north west London, was formed on 19 June.

The partnership, which is a limited company, brings together health-care providers in north west London, including acute and specialist hospital, mental health and community care services, in partnership with the College to drive practical improvements to the quality of healthcare delivery. By coordinating the adoption of innovation, the partnership aims to bring benefits to the health of the local population and, through the dissemination of best practice, extend these more widely within the UK and beyond.

Collaborations to identify and share innovations that will make an impact on healthcare will draw on the nationally and internationally recognised expertise of individual partners in clinical service, research and education.

The partners will work closely with the planned North West London Local Education and Training Board to embed new practices through the training and education of healthcare workers.

Lord Darzi, holder of the Paul Hamlyn Chair of Surgery at Imperial, developed the proposal to establish an AHSP and has been appointed



Chairman of Imperial College Health Partners. He said: “The rationale for establishing the partnership is strong. Each partner brings unique and distinctive capabilities to the wider collaboration. Every partner has a stake in raising the performance

“Each partner brings unique and distinctive capabilities to the wider collaboration”

of one another and the approach unlocks new opportunities for research and teaching. Our shared mission is to ensure that as many patients as possible benefit from innovations in healthcare.”

The foundation of Imperial College Health Partners follows the announcement in November 2011 of plans to establish an Academic Health Science Partnership.

—CAROLINE DAVIS, COMMUNICATIONS AND DEVELOPMENT

For the full story see: <http://bit.ly/imperialcollegehealthpartners>

Birthday honours for Imperial staff

Five members of Imperial have been recognised in this year’s Queen’s Birthday Honours. The awards include academic and support staff, honouring their service to higher education, research and medicine.

Adjunct Professor Tom Hughes-Hallett, the new Executive Chair of the Institute of Global Health Innovation, received a knighthood for his services to palliative care.

Two members of the National Heart and Lung Institute were also honoured: Professor Margaret Hodson has been awarded an OBE for her services to respiratory medicine, while Professor Duncan Geddes received a CBE for his services to medical research, charity and education. Professor Geddes said:

“One of the most fortunate parts of an academic medical career is the space to be an all-rounder and to combine clinical care with research, teaching and charitable work. I have not excelled in any single one of these but have been ably helped by colleagues in all three. CBE therefore stands for ‘Colleagues at Brompton Earned it’.”

Mr David Nott, an Honorary Clinical Senior Lecturer in the Department of Surgery and Cancer who is also a Wing Commander in the Royal Auxiliary Air Force, receives an OBE in the military honours for his medical work in war regions. Mr Nott said:

“It is such an honour to receive an OBE for something that I am passionate about. Going to Buckingham Palace and being handed the Order is going to be an amazing experience and I am still in a daze.”

Former College Secretary Dr Rodney Eastwood has been made an MBE for his services to education. Dr Eastwood worked at Imperial for 25 years, until his retirement in April this year. He said:

“I am very grateful to those at the College who put me forward, and look forward to hearing of other administrative, as well as academic, members of staff receiving awards in the future.”

—JOHN-PAUL JONES, COMMUNICATIONS AND DEVELOPMENT

in brief



New Pro Rector (Education)

Professor Debra Humphris, a leading innovator in higher education and healthcare, has been announced as the new Pro Rector (Education) at Imperial. Currently the Pro Vice-Chancellor Education and Professor of Health Care Development at the University of Southampton, Professor Humphris will take up the new role on 15 October, succeeding Professor Julia Buckingham, who has been appointed Vice-Chancellor of Brunel University. As Pro Rector (Education) Professor Humphris will be responsible for the College’s overall educational strategy, and will focus on the quality of teaching and its assessment, and the promotion of the most effective methods to enhance learning.

Head of the Department of Bioengineering

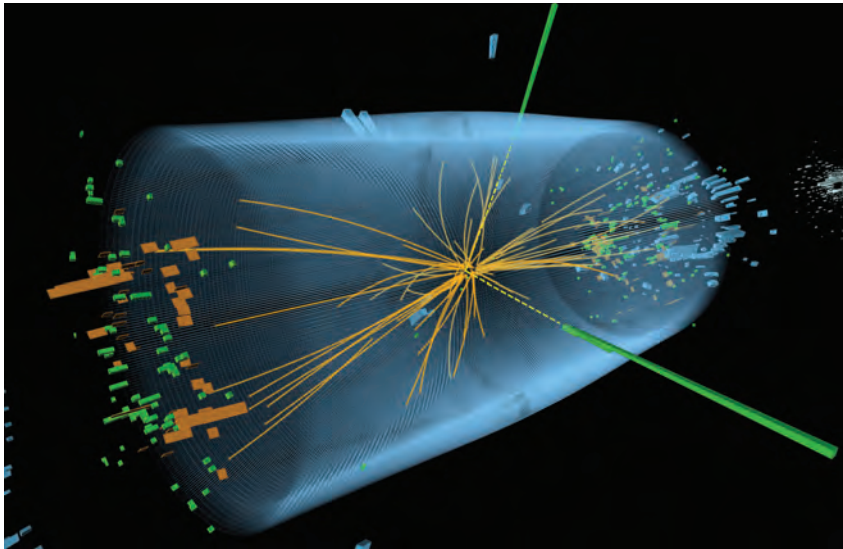
Professor Anthony Bull, Professor of Musculoskeletal Mechanics, has accepted appointment as Head of the Department of Bioengineering with effect from 1 August 2012. He will succeed Professor Ross Ethier, who has been appointed to a Chair in the Wallace H. Coulter Department of Biomedical Engineering at Georgia Institute of Technology, USA. Professor Bull’s research focuses on the area of the mechanics of muscles, bones and joints and he leads the Royal British Legion Centre for Blast Injury Studies at Imperial.

Celebrating sport

On 21 June, Sport Imperial held the annual Imperial ARCS (Appreciate, Recognise and Celebrate Sport) event bringing together over 140 guests including students, staff, coaches, officials, volunteers, sponsors and partner organisations, as well as alumnus Simon Dennis, Great Britain team rower and Olympic gold medallist. The evening closed with the recognition of students Adam Scholefield and Melanie Wilson, who have been selected to compete in the Olympics. Adam is the Vice Captain of the water polo team and Melanie forms part of the rowing squad.

Post during the Olympics

During the Olympics, Royal Mail collections will be made up to two hours earlier than normal. This means they will collect from the South Kensington Campus at 14.20 instead of 16.20 from 23 July–7 September. All departments should have their external mail ready for collection by 13.00. Afternoon collections at St Mary’s and Royal Brompton Campuses will take place around 13.00.



Imperial scientists celebrate Higgs boson announcement

On 4 July, officials from the Large Hadron Collider (LHC) including Professor Tejinder Virdee (Physics), announced they had discovered a new particle that they believe to be the Higgs boson. This particle is believed to convey mass to the fundamental particles that form the building blocks of the universe.

Researchers from Imperial are amongst those who designed, engineered and built the Compact Muon Solenoid (CMS) detector and are now heavily involved in the analysis of data since the 12,500 tonne, 21-metre-long structure began operating in 2009.

CMS measures the properties of new particles that are created when protons collide with one another whilst travelling at just under 300 million metres per second around the LHC.

In a statement to the media, Professor Virdee said: "Today is an historic day. A new heavy particle, the first of its kind, has been observed in CMS. This result is a tribute to the talent and dedication of thousands of scientists and engineers from about 40 countries that built and now operate the CMS detector.

Within the experimental precision achieved so far, the results appear consistent with expectations for a Standard Model Higgs boson. The Higgs boson is the last and key missing element of the highly successful Standard Model, one of the great achievements of twentieth-century science. I believe this observation opens the door to a new vista of physics that will take many more years to explore."

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

New tools for lecturers

Imperial academics will soon have access to a system allowing them to record their lectures and make video tutorials.

The initiative, which is being rolled out over the next three years, will enable staff to record their lectures and presentations, enhancing the quality of material shared online with students. It seeks to address suggestions from students in Imperial College Union's response to the 2011 National Student Survey report, in which students requested a College-wide approach to capturing lectures.

"I piloted the new lecture recording software last autumn and was impressed by the results," said Dr Andreas Kogelbauer (Chemical Engineering). "It gives students the flexibility to review lecture content wherever and

whenever they need it. My students found it incredibly useful for reviewing the most complicated ideas and concepts," he added. The College's ICT Division will begin introducing the system, called Panopto, into some lecture theatres this autumn, with the aim being to equip all lecture theatres eventually. The new system will also enable staff to record tutorials and demonstrations with a webcam and a computer in their own office from the end of the summer.

Another new development to support student learning is the introduction Blackboard 9.1, an improved version of the College's existing virtual learning environment for students, which allows them to access course materials, take part in surveys, communicate with fellow students and receive feedback.

—JOHN-PAUL JONES, COMMUNICATIONS AND DEVELOPMENT

"It gives students the flexibility to review lecture content wherever and whenever they need it"



See Franca (left) and Alison (centre) carry the flame in Greenwich, and head to Waltham Forest to see Kaushali (right): www.london2012.com/torch-relay/route

Olympic torch run

On 19 July, the three Imperial torch bearers – Professor Alison McGregor (Surgery and Cancer), third year mathematics student Franca Hoffman and fifth year medical student Kaushali Trivedi – posed enthusiastically in front of the Olympic clock at Trafalgar Square, just days before they carry the flame in the Olympic torch relay on Saturday 21 July.

Professor McGregor was nominated by the College for her work supporting students at Imperial's Boat Club – treating injuries and helping students organise and run conferences. Kaushali was nominated for her work running a charity called KEEN London, which

is a playgroup for children with special needs, and Franca was nominated for organising a small team from Imperial to run a mathematics camp for high school students in Accra, Ghana, as well as contributing to a range of College societies.

All three runners admitted they are a little worried about dropping the torch but were really excited about the day. Kaushali said she is looking forward to seeing the boss of her lab and her project supervisor along the route. "It will be awesome to be able thank them for the support they've given me over the past five years."

—EMILY ROSS-JOANNOU, COMMUNICATIONS AND DEVELOPMENT

Rector's Awards 2012

The highest ever number of staff have been recognised by the 2012 Rector's Awards and Medals for Excellence in Teaching, Pastoral Care, Research Supervision and Supporting the Student Experience. A total of 40 awards have been announced, with record numbers of nominations received from staff and students.

Commenting on the teaching awards, Professor Denis Wright, Dean of Students, said: "Rector's Awards, together with faculty teaching awards, highlight the strength and depth of teaching across all parts of the College, and reflect the importance placed on teaching excellence."

Dr Ian Goodfellow (Medicine) was awarded a Rector's Award for Excellence in Research Supervision. "Working with the next generation of scientists is one of the most rewarding parts of my job. It gives me the unique opportunity to help them develop their lab skills and encourage their independence," he commented.

"I was really touched to get this Rector's Award," said Dr Tilly Collins (Natural Sciences), who was recognised for her role in pastoral care at the College. "The university years are full of challenges, both personal and academic, and I am very proud to be part of the team that tries to make these as smooth as possible."

—JESSICA ADAMS, COMMUNICATIONS AND DEVELOPMENT

For the full list of winners, see: <http://bit.ly/rectorsawards2012>

Inspirational lessons

On 26 June, eight postgraduates graduated from Imperial's INSPIRE scheme, which aims to bridge the gap between scientific research at universities and schools by placing top postgraduate research scientists in schools.

Based at Imperial, INSPIRE (Innovative Scheme for Postgraduates In Research and Education) began in 2002 to tackle the shortage of physics and chemistry teachers in state schools. It has evolved into a project offering a seven-month PGCE (Postgraduate Certificate in Education) course for postdocs, PhD graduates and postgraduates who are coming to the end of their research. It is organised in partnership with Canterbury Christ Church University.

An awards ceremony was held at 58 Prince's Gate to mark the occasion – attended by the scheme's participants: Dr Jennifer Lardge (UCL), Dr Ruth Carley (University of Edinburgh), Dr Jason Green (Cardiff University), Dr Asma Qazi and

Sultana Khanam (Queen Mary University of London), Dr Helen Miller (Lancaster University), and Dr Katherine Flack and Alex Bishop (University of Warwick), in addition to funding bodies and representatives from the 14 schools involved.

The PGCE is combined with two months of INSPIRE activities for young people, where the postgraduates run science clubs, provide university-level training for school students over 16, and organise visits to Imperial research laboratories for pupils.

Dr Naheed Alizadeh (Outreach), Director of the INSPIRE scheme, spoke about this year's cohort: "We had a fantastic bunch this year – five of our students got distinctions and I'm so proud that all of



One of the INSPIRE participants, Alex Bishop, receiving his certificate from David Hall, Chief Executive of the Foyle Foundation.

them have teaching jobs lined up for September."

Lord Winston, Professor of Science and Society (Humanities), spoke at the event: "The INSPIRE postgraduates are not only great role models for school pupils but also create a lasting benefit for both pupils and teaching staff in the schools."

NASA head visits Imperial



On 11 July, over 300 schoolchildren got the chance to put their questions to a real live astronaut, as the head of NASA, Charles Bolden, came to Imperial to encourage schoolchildren from under-represented groups to follow a career in science, technology, engineering and medicine (STEM).

The event also featured talks from Imperial alumni Dr Maggie Aderin-Pocock and Professor David Southwood, the former head of the Department of Physics who went on to become Director of the European Space Agency. The day was organised by the Outreach Office and Senior Teaching Fellow, Dr Mark Richards (Physics).

Dr Aderin-Pocock revealed that as a child she had always imagined she would become a space scientist and, although she hasn't made it into space, she describes herself as doing the next best thing – building things which do go into space, such as satellite parts.



She admitted that, despite her ambition, she struggled with dyslexia at school and still found maths really hard when she arrived to begin her undergraduate physics degree at Imperial. "Luckily my tutors nursed me through the course – I found it an incredibly nurturing environment."

Charles Bolden was similarly enthusiastic about studying science. "If a child takes a STEM-related course, there is no door that is closed to them. They can do anything they want," he said.

Charles said he was really excited about NASA's Mars Space Laboratory mission in which Imperial's Professor Sanjeev Gupta (Earth Science and Engineering) is involved. "On 5 August, the Mars Rover called Curiosity will land on Mars. Then we can begin to discover what the atmosphere is like and, importantly, if there is life out there."

—EMILY ROSS-JOANNOU, COMMUNICATIONS AND DEVELOPMENT

For an interview with Charles Bolden, see page 12

media mentions

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT



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After the downfall of Rome

THE WASHINGTON POST ▶ 19.06.2012

When Mario Monti became president of Italy, people believed he would save the country from economic ruin but, seven months on, his government's efforts are being heavily criticised, according to *The Washington Post*. A former academic who served as a member of the European Commission, Monti has tried to bring savings through hard-hitting policies including property tax rises and state pension cuts. A second set of economic reforms passed in June are proving equally unpopular. Professor Tommaso Valletti (Business School) told the newspaper he thinks that Monti is too dry and formal when speaking to the public about the crisis: "Where Monti has failed is in communications. He has not been able to convince people he has things under control, even when he does."

It's hip to be square

DAILY MAIL ▶ 19.06.2012

People who suffer pain over a long period, such as osteoarthritis patients requiring a hip transplant, have fewer brain cells, according to a report in the *Daily Mail*. Studies showed that the longer people experience pain, the more cells are lost. Neurophysiology expert Dr Paul Strutton (Surgery and Cancer) explained in the newspaper: "We think the plasticity that occurs in the brain is as a result of the pain and not a cause of it. The big question is whether this loss of nerve cells in the grey matter can be reduced or even reversed by treating the pain."

The openness revolution

NEWSCIENTIST ▶ 21.06.2012

Climate scientists share vast amounts of data collected from weather stations, balloons, aeroplanes and satellites. The internet now allows them to share this information with the public too. Professor Joanna Haigh (Physics) writes in *New Scientist*: "It has been a big week for the project to make science more open. On Tuesday the UK government's Finch Committee came out strongly in favour of making research results freely available to all. Today, the Royal Society releases its long-awaited report on all aspects of openness, 'Science as an open enterprise'. The report rightly points out that science is undergoing an openness revolution as important as that triggered by the creation of the first scientific journals."

Saving livestock

WESTERN MAIL ▶ 26.06.2012



Farmers, vets and politicians all hope to be able to prevent diseases in the country's livestock

populations, although they do not always agree on what approach to take, reported the *Western Mail*. New research by Dr Abigail Woods (Humanities) shows that strategies to prevent disease will only be implemented in preference to measures that cure disease when veterinary, farming and political wills coincide, and economic conditions are also favourable. She told the newspaper: "Although everyone acknowledges that prevention is better than cure, willingness to act on this principle depends on all the right factors being in place. Attitudes among key players must be right for any policy to succeed."

awards and honours

GRANTHAM INSTITUTE

Imperial aids Sainsbury's

Sainsbury's has recognised the pivotal role played by Imperial through the Grantham/Imperial partnership, which has enabled them to win the top award at the UK Energy and Environmental Awards. The Sustainable Business of the Year award acknowledges Sainsbury's industry-leading work on carbon and energy reduction, as well as its technological innovation.

NATURAL SCIENCES

Space researchers recognised

Dr Jonathan Eastwood and Dr Peter Wass (both Physics) have been awarded medals by the Committee On Space Research (COSPAR), one of the main international space science organisations. The academics have received the Zeldovich medal, which is awarded (in conjunction with the Russian Academy of Sciences) every two years to young scientists for excellence and achievement in space science: Eastwood for advancing our understanding of the basic physics that underpins geomagnetic storms and space weather, and Wass in the field of fundamental physics in space.



MEDICINE

Fenwick's honorary membership

Alan Fenwick, Professor of Tropical Parasitology (Public Health), pictured above, has been elected as an honorary member of the American Society of Tropical Medicine and Hygiene. Honorary membership is conferred in recognition of outstanding accomplishment by "an individual not an American citizen who has

made eminent contributions to some phase of tropical medicine and hygiene". Professor Fenwick directs the Schistosomiasis Control Initiative (SCI) at Imperial. The SCI is a collaborative project to help countries in sub-Saharan Africa control schistosomiasis, a disease caused by parasitic worms, and other neglected tropical diseases.

NATURAL SCIENCES

Gibson appointed advisor to MOD

Professor Vernon Gibson, who held the Sir Edward Frankland BP Chair of Inorganic Chemistry at Imperial until 2008, became the new Scientific Advisor to the Ministry of Defence on 2 July.

On the origin of music by means of natural selection

A computer program powered by Darwinian natural selection and the musical tastes of 7,000 website users may be on the way to creating a perfect pop tune, according to research published on 19 June in the journal *Proceedings of the National Academy of Sciences (PNAS)*.



Evolutionary biologist Professor Armand Leroi and mosquito genomics bioinformatician Dr Bob MacCallum (both Life Sciences) have devised a way of producing music from noises without a composer. The co-authors of the paper programmed a computer to produce loops of random sounds and analyse the opinions of musical consumers, who decided which ones they liked.

The scientists set out to test a theory that cultural changes in language, art and music evolve through Darwinian natural

selection, in a similar way to how living things evolve. They simulated this cultural evolution by harnessing the power of a 7,000-strong internet audience in an experiment that was designed to answer questions such as, “Can music

“A million choices is a million creative acts – that’s how natural selection created all of life on earth”

exist without being the product of a conscious, creative act? If so, what would it sound like?”

The result is music filled with chords and rhythms familiar from modern songs.

Professor Leroi said: “Every time

someone downloads one track rather than another, they are exercising a choice, and a million choices is a million creative acts. That’s how natural selection created all of life on earth and, if blind variation and selection can do that, then we reckoned it should be able to make a pop tune.”

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

Take part in the DarwinTunes experiment at <http://darwintunes.org>

Amniotic fluid yields alternatives to embryonic stem cells

Stem cells found in amniotic fluid can be transformed into a more versatile state similar to embryonic stem cells, according to a study published on 3 July, in the journal *Molecular Therapy*.

Scientists from Imperial and the UCL Institute of Child Health succeeded in reprogramming amniotic fluid cells without having to introduce extra genes. The findings raise the possibility that stem cells derived from donated amniotic fluid could be stored in banks and used for therapies and in research, providing a viable alternative to the limited embryonic stem cells currently available.

Amniotic fluid surrounds and nourishes the fetus in the womb. It can be extracted through the mother’s abdomen using a needle in a process called amniocentesis, which is sometimes used to test for genetic diseases. The fluid contains stem cells that come from the fetus. These cells have a more limited capacity to develop into different cell types than stem cells in the embryo.

The researchers used stem cells from amniotic fluid donated by mothers undergoing amniocentesis for other purposes during the first trimester of pregnancy.

Dr Pascale Guillot (Surgery and Cancer), said: “Amniotic fluid stem cells are intermediate between embryonic stem cells and adult stem cells. They have some potential to develop into different cell types but they are not pluripotent [capable of developing into any cell type in the body]. We’ve shown that they can revert to being pluripotent just by adding a chemical reagent that modifies the configuration of the DNA, so that genes that are expressed in the embryo get switched back on.”

—SAM WONG, COMMUNICATIONS AND DEVELOPMENT

Super-sensitive tests

Scientists have developed an ultra-sensitive test that should enable them to detect signs of a disease in its earliest stages, in research published in the journal *Nature Materials* on 25 May.

The scientists, from Imperial and the Universidade de Vigo, Spain, have created a test to detect particular molecules, or biomarkers, that indicate the presence of disease, even when these are in very low concentrations. Tests are already available for some diseases that look for biomarkers using biological sensors, or biosensors. However, existing biosensors become less sensitive and predictable at detecting

biomarkers in very low concentrations, such as when a disease is in its early stages.

In the study, the researchers demonstrated that the new biosensor test can find a biomarker called prostate specific antigen, which is associated with prostate cancer. However, the team say that the biosensor can be easily reconfigured to test for other diseases or viruses where the related biomarker is known.

Professor Molly Stevens (Materials and Bioengineering), senior author of the study, said: “It is vital to detect diseases at an early stage if we want

people to have the best possible outcomes – diseases are usually easier to treat at this stage, and early diagnosis can give us the chance to halt a disease before symptoms worsen. However, for many diseases, using current technology to look for early signs of disease can be like find-

“It is vital to detect diseases at an early stage if we want people to have the best possible outcomes”

ing the proverbial needle in a haystack. Our new test can actually find that needle.”

—COLIN SMITH, COMMUNICATIONS AND DEVELOPMENT



Competitive edge

This month, nine Olympic triathlon teams, including 23 of the highest ranking triathletes in the world, will be arriving at Imperial to train at *Ethos*, just a few minutes away from the Olympic course in Hyde Park. *Reporter* asked the experts for an insider's view of Britain's fastest growing sport.

Triathlon is one of the most demanding Olympic sports, as competitors have to excel in three different disciplines. An Olympic triathlon starts with a 1.5km swim, followed by a 40km bike ride and finishes with a 10km run.

"The time between these sections, called the transitions, counts towards the total time as well, so you have to be quick to change from your wetsuit into your biking kit and from the biking kit into your running shoes," explains Pit Pillatsch, a second year PhD student (Electrical and Electronic Engineering) and treasurer of Imperial's Triathlon Club, TriIC.

Having competed on most of the course that

"I have to admit that the swim in the Serpentine might be tough, but let's hope the water warms up a little before then"

the Olympians will be covering in Hyde Park, Pit thinks it is the perfect venue for the sport. "There are no major hills and the tarmac is smooth, which makes for a quick bike section too. I have to admit though that the swim in the Serpentine might be tough, but let's hope the water warms up a little before then!"

Introducing the Brownlee brothers

Jonny (top) and Alistair (bottom) are, respectively, the two time and reigning World Sprint Triathlon champion and winner of the 2011 Dextro Energy Triathlon ITU World Championship Series.



With the GB team training in the *Ethos* pool in the run up to the Olympics, Pit is pinning his hopes on either Alistair or Jonny – the infamous Brownlee brothers – winning the men’s triathlon. Indeed, the pair came first and second in the final world series triathlon circuit in Austria last month.

Malcolm Brown, British Triathlon’s Olympic Performance Group Manager, who has been coaching the Brownlee brothers for the last seven years, will be coming with the brothers to train at

Ethos later this month.

He described a typical day’s training: “Their day starts with a swim session from 7.00–8.30, then cycling for two to four hours, followed by

a run for an hour and a half. Between the core triathlon disciplines, they do strength and conditioning work in the gym, have massage and physio sessions, and answer questions from journalists!”

With their intense training schedule, Malcolm says that the biggest challenge for the brothers is getting enough food on a regular basis.

“They are burning around 6,000 calories a day, so finding time to eat in addition to training for over 35 hours a week can be tricky. We encourage them to eat as much as they can at every opportunity.”

Such dedication clearly requires determination of Olympic proportions. Malcolm says that, in his opinion, what makes the boys so motivated is that they really enjoy training in the open air in Yorkshire, where they are based. “While, of course, they are motivated by success, by competition and by winning, the amount of training triathletes have to

do to become world class is enormous. It really is a way of life, so you have to enjoy the lifestyle.”

Being brothers, the boys know each other inside out and there is a natural air of competition. “When you get to a high level of sport, finding a training partner as good and committed as you is a massive advantage,” confirms Malcolm.

Alistair and Jonny will spend their last month at an altitude training camp in Switzerland before heading to London.

Altitude training is known to be good for athletes as the human body produces more red blood cells at higher altitudes. The theory is that the presence of these oxygen-hungry cells

boosts athletic performance for a few weeks after an athlete returns to sea level – putting them at a competitive advantage. The brothers won’t be coming to London until the final few days before the event. “By that point there will be a wind-down stage where they will be doing just enough training to tick over, and keep the muscles used to the movement.”

Malcolm says that the boys are looking forward to testing themselves on home ground and, given their recent performances, he is hopeful of a good result. “The guys are in really good shape – I have high hopes to see them on the medal podium – but in what order has yet to be seen!”

—EMILY ROSS-JOANNOU,
COMMUNICATIONS AND DEVELOPMENT

For the Olympic triathlon schedule:
www.london2012.com/triathlon/schedule-and-results

To learn more about triathlon at Imperial: www.union.ic.ac.uk/acc/triathlon



Aileen Morrison

Another of the triathlete stars coming to train at *Ethos* this month is Aileen Morrison, a 30-year-old Irish Olympian who ranks seventh in the world for women’s triathlon. *Reporter* spoke to her last month to find out more about her.

What are your aspirations?

I want to make it to that start line in London in one piece and in good shape. A top 10 finish would be nice! After that I’m looking forward to the 2014 Commonwealth Games in Glasgow, and the Rio Olympics in 2016. Hopefully I can continue to build on my fitness and strengths, and work on the weaknesses to move up the world ladder!

Are you always 100 per cent motivated?

No. Like anybody else there are days I don’t want to get out of bed or go out in the rain or put on three layers of clothes. Luckily, I have people who help me snap out of it.

What’s your favourite part of training?

That feeling after a hard two-hour early morning swim – when you finish clean and exhausted – perfect to send you back to sleep at 8.30.

What’s your least favourite part of training?

The part of a cycle session when I get a sore neck and numb bum! It’s no secret that I don’t love cycling.

What was your most memorable race and why?

The ITU World Championships Series in Hamburg 2010 where I got a bronze. But the 2010 European Championships in Athlone was a pretty close second. The Irish turned out to support their own, and you could hear the crowds cheering and banging on the hoardings – it felt fab. My mum and dad were there to watch and were so proud.

What is the most unusual thing that has happened to you during a triathlon and where was it?

I crashed in a race in London in 2009 and got whisked off to hospital in an ambulance. My poor mum, dad, brother, aunties and uncles were all there to watch. Worse still, I brought down another six girls, some of whom ended up in hospital with me. Over a million people were watching on telly and it was all my fault.

What advice would you give for someone’s first triathlon?

Don’t do anything, wear anything or eat anything that you haven’t tried already in training. Also, bring toilet paper to all races!



The digital landscape

Alessandra Poggiani, Visiting Lecturer (Business School), explains why students today should embrace all things digital in learning.

“Back in the 1990s, when I was Head of Communications for WWF International, most of my time was spent on planes, touring the Mediterranean coasts to meet my staff in countries like Tunisia, Spain, France and Turkey. While sounding glamorous, in reality it was tiresome and inconvenient having to travel every time we needed to meet.

Email was around but I was only able to read messages when I was physically at my computer in the office, meaning that there were long periods while travelling when I couldn't access them. Today, businesses have been transformed with the introduction of mobile devices and video conferencing technologies.

Indeed, iPads, smartphones and tablets are now a staple in many boardrooms across the world. From front-line sales forces to top executives, many are choosing these products over laptops as they offer a light, portable means of accessing information and presenting to clients. Apple says that 93 per cent of Fortune 500 companies are deploying or testing iPads to add the devices to their line-up of tools.

In addition, there is an emerging trend of using web-based portals and hubs. For example, many

of the top global companies such as Cisco, Nationwide, AstraZeneca and Alcatel-Lucent are using web platforms such as Yammer, which provides their employees with a private, secure web space to connect, work and exchange information, avoiding all together the use of emails and paper documents. This helps companies enhance communication between colleagues, manage information and boost productivity, begging the question of how relevant email will be in the next few years.

Business schools have a duty to immerse their students in this environment from day one. In this era of intense competition and fast-changing business scenarios, students need to be aware of all the available tools and platforms, and be fully practised and prepared to take advantage of the new digital landscape when they enter their professional career.

Social media is a key factor. For students, this is already familiar territory. Many do not even check their email inboxes anymore, preferring instead to exchange information via Facebook and other social networks. By incorporating these into our teaching and project working, we can ensure regular communication and engagement with our students, and make them comfortable using and thinking about social media as a powerful business tool.

Used in this way, students can start to consider how businesses might best use social media to capture information from their customer base. For example, Ford has evolved its approach from simply asking its customers about their experience, to inviting them to share their ideas for designing new models and innovations to improve their existing range. By doing this, Ford can legitimately claim that it produces cars ‘validated’ by their customers.

In response to this changing landscape, at the Business School, we have run a pilot scheme on the MSc Strategic Marketing programme,

providing all students with an iPad and redesigning all programme material to make full use of the applications and the scope of the device. The results were very positive and we are now looking to extend the iPad scheme to our other programmes from October 2012.

Learning was taken beyond the barriers of the classroom, with students continually creating content by searching the web to find appropriate resources for their work), making annotations, using editing and note-sharing applications (such as Evernote), and accessing faster and better feedback from their lecturers. By providing a digital focus and combining it with topical courses, we were able to get students to think beyond theory and work together as any professional creative marketing team would.

This was put into practice with a project for the Met Office, as part of the Digital and Interactive Marketing module led by Dr Steven Moxey. Students were tasked with marketing a web-based platform for environmental data. They were immediately able to get to grips with a new and complex idea that had previously been hard to explain and, in a short time, were able to use their knowledge and experience of digital services and social media, to come up with innovative ideas to grow the community and social aspects of the platform. The work impressed executives so much that the Met Office is now considering how to incorporate these ideas in the next phase of the project.

Essentially, the digital age is about open communication. By bringing this into the heart of teaching, we can also enhance the student experience, allowing for information and knowledge to flow more freely. This helps students interact more effectively with each other, with their lecturers and, crucially, learn more as a result.”

“Social media is a key factor. For students, this is already familiar territory”

inside*

story

mini profile

Michael Bell

The major redevelopment of South Kensington's Exhibition Road was officially unveiled this February but has it succeeded in achieving its goals? Professor Michael Bell, Chair in Transport Operations (Civil and Environmental Engineering) and lead consultant on the traffic monitoring project, shares his insights.



Why was there a need for a redesign?

The streetscape before was poor and unfriendly to pedestrians. The resulting design is far better for pedestrians and cyclists.

It's not unreasonable to think that cars and people together might make a dangerous combination. How has your work helped to dispel this idea?

Our studies before implementation of the scheme covered vehicle-pedestrian interactions and conflicts, the quality of the pedestrian environment and pedestrian perceptions. The layout clearly left a lot to be desired and pedestrians spilling out onto the roadway constituted a hazard. We also looked at

“Pedestrians have gained significantly, at only a slight cost to drivers”

the skid resistance of the chosen granite paving, demonstrating that it was superior to and, therefore, safer than the road surface being replaced.

Since completion, we have used traffic simulation to compare the new and old road layouts to see if vehicles and pedestrians are being delayed

in their journeys. This shows that pedestrians have gained significantly, at only a slight cost to drivers.

The Olympics will bring an unprecedented influx of people to central London. How has the redesign improved Exhibition Road's ability to cope?

Though we will not be monitoring the impact of the Olympics, we are sure that the new design can cope with increased pedestrian and cycle flows. One advantage of space sharing is that Exhibition Road is able to adapt flexibly to surges in demand from one or other road user group.

—ANNE COLEMAN, IMPERIAL CONSULTANTS

Memories of the Munich Olympics

Dr Anna Nyburg, Coordinator of Evening Classes and Socrates/Erasmus (Humanities), shares her experience of being an usherette at the Munich 1972 Olympic Games.

“While I was spending my own year abroad at Munich University, I applied for a job at the 1972 Olympic Games, which the city was then preparing for. To qualify for the job, I needed to be able to speak German and English, and one other language (in my case Italian or French).

The other usherettes were from all over the world and we were put up in a local primary school. We had a couple of weeks' training beforehand and then took up our positions in the Olympic stadium. My job was to show spectators to their seats and generally give information. We all wore orange uniforms designed by André Courrèges, you couldn't miss us! We were given lunch at the BMW factory nearby and were incredibly well-fed.

The best thing about the experience was the fabulous festival atmosphere. It was probably the last Olympics before security became a serious concern. The other usherettes and I



Anna in her uniform from the Munich Olympics, holding her original 1972 volunteer's manual.

used to go to the disco in the Olympic Village to dance with all the losers, in the literal sense of the word! We weren't really supposed to but security wasn't as tight as it is today. And of course, I got to watch the athletics, some gymnastics and other events.

The reason the Munich Olympics are so well-remembered is the horrific attack on the Israeli athletes that occurred near the end of the Games. After that, there were armed police everywhere and we attended an incredibly sad candlelit ceremony.

I haven't been involved in the 2012 Olympics – it seems a very different, much larger, operation these days. In Humanities, some of the students who have been studying Japanese with us are going to be assisting Japan's Olympic team – we are very proud of them!”

Students get an ideal Olympic taster

On 13–15 June, over 200 students from four universities got a taster of what it might be like to participate in the London Olympics at the annual IDEA League sports event.

From handball to table tennis and triathlon, the students from league members Imperial, TU Delft, ETH Zürich and RWTH Aachen competed in a range of sports at Ethos and in Hyde Park, where the Olympic triathletes will compete.

Commenting on the event, the Assistant Director of Commercial Services and Head of Sport Imperial, Neil Mosley, said: “Imperial was very happy to host the IDEA League event once again, with the theme ‘played in the spirit of the Games’ very much a focus. The highlight for me was seeing Imperial students winning the men's handball challenge and Civil and Environmental Engineering undergraduate Sophie Kirk winning the triathlon.”



See a slideshow of pictures from the event: <http://bit.ly/idealolympics>

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

Student blogger Keou on the British summer:



“This London weather is literally driving me INSANE! I take the tube to university,

it’s raining... I get out of the tube, it’s sunny! Go to class, get out of class, it’s hailstones, then back to rain, then sun again! If you are looking to study in England, get ready for some intense weather change! I really think the UK is the only country where you can experience the four seasons in one day! Oh well... I just have to live with it!”

www.imperial.ac.uk/campus_life/studentblogs

blog SPOT

Innovation insights



On 25–26 June, Research Fellow Dr Anne ter Wal (Business School), pictured left, attended a two-day conference on open innovation to celebrate the 10th anniversary of Henry

Chesbrough’s groundbreaking book *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Henry is an adjunct professor at the University of California, Berkeley, and is widely regarded as a pioneer in the field. The conference at Imperial was hosted by the Innovation and Entrepreneurship Group and the UK Innovation Research Centre (UK~IRC). Anne shares his thoughts on the event:

“My research focuses on the role of networks within and between organisations in the innovation process, so this was an exciting opportunity to meet some of the world’s leading open innovation scholars, presenting the most cutting edge and best work in the field.

Open innovation involves the exchange of knowledge between organisations and individuals in order to jointly develop new technologies, products and services. Besides a presentation from Henry Chesbrough on his recent work on new business models for open innovation, there were presentations on the management of intellectual property in open relationships, motivations for partnership building, as well as on best practice models for managing and commercialising external knowledge within the firm. Professor Ben Martin from the University of Sussex also gave an overview of 20 challenges for innovation

“This was an exciting opportunity to meet some of the world’s leading open innovation scholars”

studies, including examining ‘mundane’ innovations such as household appliances that help to liberate people who undertake domestic work, or moving from innovation for personal gain to that which benefits society.

The conference will result in a special issue of *Research Policy*, a journal that will be guest edited by Professor Ammon Salter (Business School), who helped organise the event.”

Read more about the conference: <http://bit.ly/Lob8TR>

Rocket Man

Reporter met with Head of NASA and former astronaut Charles Bolden on 11 July and asked him to describe what it felt like to be in space.

How does it feel when you blast off?

You lie on your back during the countdown, then you hear the ‘5,4,3,2,1’ and then three main engines fuel up loudly and you feel like the space shuttle is falling over. Suddenly it straightens up and you lift off really gently. The force is only 1-G and it takes just eight and a half minutes to get into space.

What does it sound like when you go into space?

It is very loud! My experiences have all been on the space shuttle and the shuttle has lots of pumps and motors churning all the time – it is a pretty noisy place like being on a factory floor but after a while you kind of ignore it – your ears become attuned to it so it doesn’t sound as loud as it really is.

How do you feel once you are up in space?

The first thing you experience is a floating feeling and then you get a really fuzzy head as all of the fluid in your body rushes to your head, making you feel like you have the worst head cold. The best way to overcome this is to go to the toilet which helps get rid of the headache.

Can you describe the view from space?

In a space craft you circle the Earth once every 90 minutes and so you see the sun rise and set 16 times every normal Earth day. It is incredible! Also the



Charles Bolden on a mission to space

constellations in space are brilliant – it is like an incredible exhibition. As an African American before my first mission I wanted to study the continent of Africa before I left so I could identify it from above. Seeing it from space with no political divisions was very emotional for me – it all looks very peaceful.

– EMILY ROSS-JOANNOU, COMMUNICATIONS AND DEVELOPMENT



INVENTOR'S CORNER

Mini circuits

Dr William (Tom) Pike is a Reader in Microengineering (Electrical and Electronic Engineering). His recent project focuses on increasing integration within three-dimensional circuits, whereby multiple layers of electronic components are incorporated into a single circuit. If more components were integrated into one circuit, devices such as printed circuit boards used in PCs could be made smaller, meeting the continuous push for miniaturisation.

What have you developed?

We have been using a machine called a deep reactive-ion etcher to carve precise holes through silicon wafers. We inject liquefied metal solder into the holes to produce a conductive pathway through the wafer connecting devices on each side. These vertical connections mean we can produce stacks of devices.

What challenges have you faced?

We are trying to make the holes small enough to produce the interconnects for micromachined

sensors, and getting the solder into them is challenging. We use surface tension, as well as gas pressure, to produce a force strong enough to push the liquid solder through the tiny holes. And to make the solder flow, we have had to work in a controlled atmosphere – replacing the air with nitrogen – to prevent oxidation.

How is this innovative?

The strength of our invention is melting very small balls of solder and using surface tension to direct their flow. With this, we can take various chips that have gone through different processing routes and stack them together. This has been done before, on an individual level, but using the ion etcher and molten solder gives a more reliable and accessible method that can be mass produced.

—KAILEY NOLAN, IMPERIAL INNOVATIONS

Imperial Innovations may be able to help you find an alternative commercial application for your research. Please visit www.imperialinnovations.co.uk or contact the technology transfer team at info@imperialinnovations.co.uk

Olympic welcome party

Third year Electrical and Electronic Engineering student Matthew Tan is the Team Liaison for the Swedish men's handball team.



What will be your role at the Olympics?

I'll be informing the Swedish men's handball team of their schedule, and making sure they are in the right place at the right time. I wasn't a big handball fan before but I think I'm being converted!

How did you get involved?

I initially applied through CV2012 (Imperial's award scheme for volunteers) and had an interview on campus, and then one with LOCOG (London Organising Committee of the Olympic and Paralympic Games). I was asked to help at an official handball test event and was selected from that.

How do you think London will shape up as the Olympic city?

The only thing I'm nervous about is London's infrastructure, which may not be able to cope with the number of people travelling about. However I think London is going to be a great host city – the organising committee have done so much planning, and the dissemination of information has been excellent.

What are you most looking forward to?

I'm looking forward to being part of such a big event. I'm also hoping the team have a few breaks in their schedule so I can watch some other sports, ideally around the time when I've got tickets to the taekwondo!

VOX POP

What are you looking for in a university ?

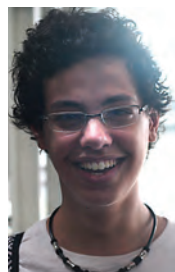
Reporter spoke to a number of prospective students and parents, who were enjoying a very sunny Science and Engineering Open Day on 28 June 2012.



like they are enjoying being at university – that's the best proof!"

MARIA AFONSO

"Coming somewhere where people are welcoming and there is a happy atmosphere is so important. I want to see students looking



environment, even if we aren't hearing anything about science."

YASINE EL-ASHMAWI

"It's really cool to get the opportunity to even just sit in a lecture theatre and see what it would feel like to be in a university



the accommodation. I want to get a feel for the university as a whole – first impressions really count!"

STEPHEN LITHERLAND (PARENT)

"I want to hear clear information about the degree, hear about employment prospects and get an idea of the quality of



to see how far the university is from my house to see if it is feasible."

CHAHESH PERINDANATHAN

"I'm after a good atmosphere, great courses, research and it's also important for me

Travel during the Games



Professor Stephen Glaister, Senior Research Investigator (Civil and Environmental Engineering), shares his views on how London's transport system will cope during the Olympics.

"More than four years ago, London's transport planners had to convince the technical advisors to the International

Olympic Committee that they had a detailed plan that would work, before London could be selected to host the Games. Now that plan is to be put to the test.

For most of us, this is going to be a once in a lifetime party and it would be silly to pretend that there will not be disruption to normal daily life. Yet Transport for London's Transport Commissioner has suggested that 70 per cent of roads and 65 per cent of tube stations will be unaffected, and it is only for two periods of two weeks. The planners have also mapped in detail how the effects on regular traffic and public transport will vary considerably day by day, depending on the particular events.

The key is the planning, which TFL has already done, and public communication, which is already underway. If people need to make an important trip through an area likely to be affected, they should not assume that things will be normal: www.getaheadofthegames.com will help people plan day by day. Things will go wrong but one of London's great features is the redundancy in its transport network. When something fails, as it does on a daily basis, there is almost always a good alternative.

London is a big and endlessly flexible city, experienced at staging large state occasions and world class events with panache. The weather may let us down, but the chances are that the London Olympics will be a transport success!"

To read the TFL Transport Commissioner's presentation visit: www.tfl.gov.uk/assets/downloads/2012-games-hotspots.pdf



long service

Staff featured in this column have given many years of service to the College. Staff listed below celebrate anniversaries during the period 1–30 June.

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

20 years

- Dr Peter Norsworthy, Divisional Manager, Medicine
- Professor Christopher Pain, Professorial Research Fellow, ESE
- Mrs Ewa Szyrkowska, Head of Financial Accounting, Finance

30 years

- Professor Jordan Nash, Professor of Physics, Physics

SPOTLIGHT

Emeritus Professor Robert Spence, Senior Research Investigator (Electrical and Electronic Engineering) 50 years



Bob Spence completed his postgraduate studies in the Department of Electrical and Electronic Engineering in 1954 and, apart from a three-year hiatus when he worked in the United States, he has been at the College ever since.

His work spans engineering design, human-computer interaction and information visualisation. He says one of

his biggest achievements was the invention of the bifocal display, also known as the fisheye lens, which enables computers to simultaneously visually represent a large body of data in its entirety, and a portion in full detail.

He says: "I really enjoy my teaching work and particularly like it when students have lots of questions, so it's a two-way interaction."

Talking about his interest in the upcoming Olympic Games, Bob says: "I'm not too fussed on sports. My biggest sporting achievement is that I once came second in a slow bicycle race but unfortunately, it's not an Olympic sport yet!"

Student champion



Professor Julia Buckingham, Pro Rector (Education and Academic Affairs) is leaving

Imperial at the end of September to take up the role of Vice-Chancellor and Principal at Brunel University in October. Julia, who is also Chairman of the College's Centre for Integrative Mammalian Physiology and Pharmacology (CIMPP), joined Charing Cross and Westminster Medical School in 1987 as Professor of Pharmacology. The medical school merged with Imperial 10 years later and she became a Pro Rector in 2007.

What has been your biggest challenge in the role?

Some colleagues haven't always appreciated that teaching is as crucial as research. Fortunately things have changed over the years, and a lot of hard work has gone into establishing the ethos that teaching at Imperial is very important. I am thrilled that next term we will be offering our first year students a broader curriculum through the new Imperial Horizons programme and I wish my colleagues every success in taking the programme forward.

How will higher education change under the new fee system?

I think students' expectations will be even greater under the new fee system. It will be very important for our support services to continue to develop their customer-focused approach to meet the student needs. However, I am not convinced that a provider-customer approach is right for education. Yes, of course we have a responsibility to provide the best teaching, feedback and academic

support we can, but it will only be through partnership and mentoring that we will nurture the talents of individual students and enable them to maximise their potential.

Do you still find time to do research?

Theoretically, I have one day a week for my research, which is focused on the the biology of stress, and to look after the CIMPP, which is very dear to my heart. It hasn't always worked out like that but there are always evenings, weekends and the middle of the night!

Did your own student experiences inform how you approached your role?

I have always thought that a university education should extend well beyond academic study. When I was a student at Sheffield, I was very involved in the music society and the university's choir and orchestra. Since becoming Pro Rector, I've sought to nurture music and the arts at Imperial. I have even rediscovered the joy of the piano during my time as a Pro Rector.

–JOHN-PAUL JONES, COMMUNICATIONS AND DEVELOPMENT

Welcome new starters

Miss Suzanne Alsters, Medicine
Dr Dhekra Annuzaili, Public Health
Mr Charles Arber, Clinical Sciences
Mr Akshay Asthana, Computing
Miss Susan Avery, Aeronautics
Dr Anja Baresic, Clinical Sciences
Dr Alejandro Barroso Gonzalez, Surgery and Cancer
Ms Victoria Bennett, Mechanical Engineering
Ms Emily Bloomfield, NHLI
Dr Peter Bohm, Computing
Dr Loubna Bouarfa, Computing
Miss Stephanie Brims, Communications and Development
Miss Hannah Butler, Accommodation
Miss Claire Byrne, Medicine
Dr Ute Cappel, Chemistry
Dr Tanai Cardona Londono, Life Sciences
Dr Massimiliano Cattafi, EEE
Miss Mahalia Chambers, Accommodation
Dr Ching-Mei Chen, Computing
Dr Marios Christou, Civil and Environmental Engineering
Dr Shaun-Paul Cordoba, Life Sciences
Dr Mayeul d'Avezac de Catera, Chemistry
Mr Robin De Cock, Business School
Dr Julio Delgado Valencia, Mathematics
Miss Ubah Dirie, Accommodation
Mr George Doody, Accommodation
Miss Kate Dooley, Accommodation
Dr Jennifer Dougan, Chemical Engineering
Mrs Helena Draberova, Medicine
Mr Valentinos Evripidou, Computing
Mr Xiuyi Fan, Computing
Dr Osama Farid, Materials
Miss Zsofia Feltoti, Medicine
Dr Valeria Garbin, Chemical Engineering
Ms Sabrina Gea-Sorti, NHLI
Mr Tim Gordon, Business School
Miss Gemma Grayshon, NHLI
Miss Tahlia Greatbatch, Accommodation
Professor Roger Gunn, Medicine

Dr Hamza Hamouchene, Surgery and Cancer
Mrs Alison Harker-Smith, Business School
Miss Quasirat Hasnat, Accommodation
Miss Francine Heatley, Surgery and Cancer
Professor Alan Heavens, Physics
Dr Emmalina Hollis, Chemistry
Miss Sophie Hughes, Medicine
Mrs Imogene Inge, College Archives and Corporate Records
Dr Shrawan Jha, Physics
Mr Jeremy Jones, Faculty of Medicine
Mr Muhammad Kamel, Accommodation
Dr Sarah Kandil, Surgery and Cancer
Mr Surag Khadka, Accommodation
Dr Julius Klein, Bioengineering
Miss Sophie Lee, Accommodation
Dr Eli Leinov, Mechanical Engineering
Miss Emily Leung, Accommodation
Mr Errikos Levis, Aeronautics
Ms Amy Lewis, NHLI
Miss Jennifer Lewsey, Accommodation
Dr Binbin Liu, Medicine
Mrs Abigail Lloyd-Pack, Communications and Development
Mr Michael Lynn, ICT
Dr Yajie Ma, Computing
Miss Snayt Malaki, Accommodation
Mr Jowayne Marks, Accommodation
Mr Malcolm Martin, Imperial College Union
Miss Jacqueline McDonald, Medicine
Mr Duncan McLachlan, ICT
Mr Michael Merlin, EEE
Miss Emilia Michael, Accommodation
Ms Faye Minshall, Human Resources
Mr Edward Mullins, International Office
Mr Aruna Munasinghe, Surgery and Cancer
Dr Danielle O'Donnol, Mathematics
Mr Paul Pahiti, Finance
Ms Natalia Palasz, NHLI
Ms Hristina Palikareva, Computing
Mrs Stephanie Pendlebury, Chemistry
Miss Elizabeth Perry, Accommodation
Dr Dimitar Peshev, Chemical Engineering
Mr Allan Petersen, Chemistry

Mr Yousef Pipelzadeh, EEE
Dr Elizabeth Powell, Medicine
Dr Rosario Privitera, Medicine
Dr Annabella Procktor, Medicine
Mrs Sunami Putt, Life Sciences
Dr Jiahui Qi, Materials
Miss Ana Ramos Bento, Public Health
Dr Guillermo Rein, Mechanical Engineering
Dr Richard Roberts, Medicine
Mr Mohammad Rouhani, EEE
Dr Katia Ruggero, Medicine
Dr Loic Salles, Mechanical Engineering
Miss Sinead Savage, Accommodation
Miss Jennifer Scriven, NHLI
Ms Bina Shah, Medicine
Miss Siti Shamsuddin, Chemical Engineering
Dr Romain Silhol, Public Health
Ms Chris Silvers, Library
Dr Timothy Simpson, Life Sciences
Miss Elzbieta Siwy, Accommodation
Dr Vicky Skoulou, Chemical Engineering
Miss Anu Solanki, Materials
Dr Aivar Sootla, Bioengineering
Mr Simran Sroya, Accommodation
Miss Christine Strachan, Accommodation
Mr Vlady Studinski, Accommodation
Mr Andrew Styles, Accommodation
Ms Florencia Tettamanti, Mathematics
Dr Emile Touber, Mechanical Engineering
Dr Rachel Troke, Medicine
Miss Jacqueline Twitchett, Public Health
Mrs Pinar Volkan, Finance
Miss Irene Votta, Materials
Mr Adam Walters, Medicine
Professor Roberta Ward, Medicine
Dr Michael Weston, Faculty of Engineering
Dr John Williams, Public Health
Dr Kevin Woollard, Medicine
Dr Thomas Zlosnik, Physics

Farewell moving on

Dr Anthony Abbott, Chemical Engineering
Dr Ola Aberg, Surgery and Cancer
Dr Raheelah Ahmad, Medicine

Mrs Margit Alexy, Business School
Dr Nadire Ali, NHLI (7 years)
Mr Oliver Anderson, Surgery and Cancer
Dr Nuria Andreu Martin, Medicine
Miss Appitha Arulappu, NHLI
Mr Pascal Assani, Catering
Mr Peter Barry, Mechanical Engineering
Dr Jeremy Bartosiak-Jentys, Life Sciences
Ms Fatima Bibi, Business School
Dr Ariane Blum, NHLI
Mr Martins Bruveris, Mathematics
Mr Thomas Carter, Library
Mr Joao Pedro Carvalho da Purificaco Rocha, NHLI
Dr Marta Castagnini, Medicine
Dr Anthony Centeno, Materials
Dr Andrew Chew, Clinical Sciences
Miss Laura Coates, Surgery and Cancer
Dr Andrea Cortini, Medicine
Dr Rachel Culley, Faculty of Medicine
Dr David Damerell, Life Sciences
Miss Sheetal Dandgey, Medicine
Dr Joanna Day, Medicine (10 years)
Dr Clea Denamiel, Physics
Dr Ahmed El Sheikh, ESE
Dr Paul Elkington, Medicine (6 years)
Miss Leah Ensell, Life Sciences
Mr James Erickson, Chemistry
Dr Patricia Fletcher, Medicine
Mr Justin Gagen, ICT (6 years)
Dr Francisco Garcia Garcia, Chemical Engineering
Dr Nikolay Gaubitch, EEE (6 years)
Ms Samantha Gibson, Library
Ms Vera Gielen, NHLI
Dr Thorsten Grohsjean, Business School
Miss Laura Harreman, Commercial Services
Ms Lisa Hau, EYEC
Mr Menashe Hazan, Aeronautics
Miss Julia Hogg, Faculty of Medicine
Miss Farhana Hussain, NHLI
Professor Tracy Hussell, NHLI (17 years)
Dr Paul Kinsler, Physics (10 years)
Dr Helga Laszlo, Public Health
Dr Fabrice Laval, Surgery and Cancer
Dr Qiao Li, Public Health
Mr Marcin Lignowski, Surgery and Cancer

Ms Hazel Lofthouse, Faculty of Medicine (12 years)
Dr Thierry Lutz, Chemistry
Professor Robert MacCullch, Business School (7 years)
Dr Mehdi Motallebipour, Medicine
Mr Adrian Mylne, Public Health
Mr James Patterson, Computing
Mr David Pearson, Aeronautics
Mr James Petteward, Humanities
Mr Chin Phuah, Materials
Dr Kaisa Piipari, Clinical Sciences
Ms Nisha Pillai, Bioengineering
Dr Koen Reesink, NHLI
Dr Katy Rezvani, Medicine
Professor Sylvia Richardson, Public Health (11 years)
Dr Fouzia Sadiq, Medicine (8 years)
Mrs Michelle Sclanders, Surgery and Cancer
Mr Kyle Shackleton, Environmental Policy
Dr Vikas Sharma, Medicine
Dr Dianna Smith, Public Health
Dr James Smith, ESE
Ms Aggeliki Spentzou, Medicine (7 years)
Miss Pinyuan Tian, Materials
Miss Danlu Tong, Chemical Engineering
Dr Ryo Torii, Chemical Engineering (6 years)
Miss Claire Wenden, NHLI
Mr Samuel Wilkinson, Clinical Sciences
Mr Joel Winston, Imperial College Union

retirements

Mr Jonathan Barton, Chemistry (19 years)
Dr Atul Purohit, Medicine (24 years)
Mr Jim Straw, ICT (19 years)

This data is supplied by HR and covers the period 28 May–24 June. 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.



→ Local summer events



1 JULY–8 SEPTEMBER

BBC Proms Music Walk

The BBC Proms Music Walk features 10 new pieces of music inspired by unusual locations close to the Royal Albert Hall, including locations in and around the College. The music can be listened to at home or at the composers'

chosen locations, such as the view through the window of the Mechanical Engineering workshop and the bicycle park on Queen's Gate. A curated music walk will take place on 17 August. For more information and to download the music and map, visit www.bbc.co.uk/proms/cage



28 SEPTEMBER

Science Uncovered

Celebrate European Researchers' Night as Science Uncovered returns to the Natural History Museum in September, promising to be bigger and better than ever. Imperial researchers will join over 350 museum scientists demonstrating

their work to the public through displays, behind-the-scenes tours, debates, bar sessions and more at this free and unique open evening. Families are welcome in the early evening and there will be a Meet the Scientist reception for students and young people.

take note

Ethos use during the Olympics

Staff using facilities at *Ethos* are asked to note two key changes to opening hours that will enable Sport Imperial to cater for the seven Olympic teams training at the College during the Olympic period.

- The sports hall and climbing wall will be closed for Olympic use from 16 July–13 August.
- The swimming pool will be available every day but only at certain times.
- All other facilities will be open as usual.

Visit <http://bit.ly/olympictimetable> for more information

21 JULY ▶ OLYMPIC

Torch relay

Imperial staff and students take the torch through Greenwich and Waltham Forest

UNTIL 31 JULY ▶ EXHIBITION

Codebreaker – Alan Turing's life and legacy

Special exhibit at the Science Museum

7 AUGUST ▶ OLYMPIC

Men's triathlon

Hyde Park

26 JULY–12 AUGUST ▶ OLYMPIC

Russia Park

A family friendly, open air festival where you can immerse yourself in Russian culture and Olympic spirit. Kensington Gardens, London

28 JULY–5 AUGUST ▶ FESTIVAL

Exhibition Roadshow

Music and art along Exhibition Road

9 AUGUST ▶ OLYMPIC

Women's 10km open water swimming

Serpentine, Hyde Park

4 AUGUST ▶ OLYMPIC

Women's triathlon

Hyde Park

SEPTEMBER–NOVEMBER ▶ ART

Cass Sculpture Foundation

Sculptor Tony Cragg displays along Exhibition Road

MEET THE READER



Nicola Pogson, Head of Alumni Relations (Business School)

What are you doing in the picture?

I've volunteered to be one of 8,000 official London Ambassadors, so I'm checking out Hyde Park, which is where I'll be stationed for six days in August.

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

I would take advantage of my journalist status to go up the Queen's Tower, which has been a goal since I joined Imperial. Then I'd tweet and Facebook my appreciation for Sir John Betjeman, the English Poet Laureate who helped save it from demolition in the 1960s.

Who would be your cover star?

I'd profile one of our inspiring alumni like Chioma Onyenwe (MSc Management 2011), a young film entrepreneur. She helped fund-raise for the Rector's Scholarship Fund, and was so inspired by the experience that she's helping to establish an alumni and fund-raising office for her university in Nigeria.

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

PHOTO EXPO

Last month visitors to Exhibition Road Music Day got the chance to see over 100 performances taking place along and around Exhibition Road. Imperial staff and students were responsible for four events this year, including performances from a *cappella* groups Techtonics and Scopes, pictured right, as well as a lecture from Professor Henrik Jensen (Mathematics) and a sitar performance from PhD student Shama Rahman (Physics) pictured left.



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