



Spray-on SCIENCE

The story behind fabric in a can ... CENTRE PAGES



JOINING FORCES
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EDITOR'S CORNER

Buzzing College

This month I was catapulted from the Cretian beach back into the bustling world of *Reporter*. Since I've returned, I've learnt about Imperial's exciting new collaboration with NTU and the **Singapore medical school** to be established in 2013 (see page 3); helped out with a photo shoot for the Imperial College Health Centre, meeting the **lovely staff** who gave up their lunchtimes to pose (see page 10); and have watched a male model being sprayed by academic visitor Dr Manel Torres, the **inventor of fabric in a can** (see centre pages). I've also enjoyed catching up on all the stories that Imperial staff and students have been sending me over the summer. From news of **multiple awards** that have been accepted at ceremonies across the world, to accounts of charity activities, exhibitions and outreach work people have been involved in. It proved to me that even over the summer **the College never sleeps**.

EMILY ROSS, EDITOR

Reporter is published every three weeks during term time in print and online. The next publication day is 7 October. Contact Emily Ross: reporter@imperial.ac.uk +44 (0)20 7594 6715

Cover photograph: Dr Manel Torres using spray-on fabric to design a T-shirt for model David.

Milestone for new research facility at Hammersmith

College staff, contractors and guests gathered at a topping out ceremony on the roof of the L Block development on 14 September, to celebrate a milestone in its construction. The occasion marked the point when the new building on the Hammersmith Campus reached its full height.

Former Deputy Rector, Sir Leszek Borysiewicz, also attended the ceremony in his capacity as Chief Executive of the Medical Research Council. He and the Rector, Sir Keith

O'Nions, planted a sprig of yew on the roof, following an ancient tradition to bring the new building good luck.

The new development will be a flagship building for the Academic Health Science Centre (AHSC), the College's partnership with the Imperial College Healthcare NHS Trust. Researchers and clinicians will work side by side, realising the AHSC's aims to translate research discoveries rapidly into advances in patient treatment and care.

Thanking contractors, funders and College staff involved in the project, the Rector said: "Looking to the future is something that is as important in times



Rector Sir Keith O'Nions tops out L Block.

of economic difficulty as outside of them, and developing world class facilities is crucial. The L Block development will ensure research on this campus goes from strength to strength in the years ahead."

—JOHN-PAUL JONES, COMMUNICATIONS AND DEVELOPMENT

Equality success for Imperial departments



The positive action of four Imperial departments in supporting female academics was celebrated last month. The Department of Materials and the School of Public Health collected two silver SWAN awards, while the Departments of Computing and Earth Science and Engineering each won bronze.

Athena SWAN (Scientific Women's Academic Network) awards acknowledge demonstrated commitment by an institution or department to recruit, retain and advance women academics.

Professor Neil Alford, Head of the Department of Materials, said: "Winning the Athena Silver SWAN award is tremendously important for our Department. Having now made this start with the Athena Award, it is the Department's intention to monitor progress against the targets outlined in the action plan."

Professor Elio Riboli, Director of the School of Public Health, which also won a Silver award, added:

"We are delighted that the Athena panel has recognised the efforts that we have put in place over the past few years for promoting women in science and academia in the fields of epidemiology, biostatistics, genetics, primary care and public health, and are fully committed to continuing to improve through implementation of the action plan we have developed."

The successful departments' activities varied from away days, which provide informal environments for discussing any concerns, to a staff intranet with a dedicated area for female staff.

Professor Dot Griffiths, Chair of the College's Academic Opportunities Committee, said: "These awards reflect the excellent work which the College is doing to support both its male and female academics."

—JOHN-PAUL JONES, COMMUNICATIONS AND DEVELOPMENT

"These awards reflect the excellent work which the College is doing to support both its male and female academics"

Imperial College London

Sign up, sign up!

Whether you are looking for a fresh challenge or want to pick up an old hobby, with more than 300 Imperial College Union clubs and societies, there is something out there for everyone. Staff and postdocs can join any of the clubs and societies – all you need to do is sign up and become an Associate Member of the Union.

Visit Freshers' Fair on 5 October between 11.00–16.00 to find out how you can get involved.



New Singapore medical school

A new medical school training undergraduate doctors in Singapore and awarding joint Imperial College London and

Nanyang Technological University (NTU) degrees is to be established by 2013, it was confirmed on 1 September.

The medical school, an autonomous school of NTU which will be jointly managed by NTU

and Imperial, will see the College developing and delivering a course overseas for the first time.

funded by NTU, will admit its first cohort of 50 students in 2013, the majority of whom will be Singaporean. At steady

state, over 750 students will be enrolled in the five-year Imperial-NTU undergraduate medicine degree course, and approximately 150 new students will be admitted annually.

The main aim of the medical school, which will be the third in Singapore, will be to train more high quality doctors and medical leaders.

“We are delighted to be joining forces with an institution that embodies many of our own aspirations”

View of Nanyang Technological University – Imperial's partner in creating the new Singaporean medical school

The students will gain the skills required to meet the present and future needs of Singapore's healthcare system to support a population that is living longer.

Sir Keith O'Nions FRS, Rector of Imperial, said:

“We are extremely proud to be working with Singapore, a country we have long admired for its support and application of world class science, engineering and medicine.

“We are delighted to be joining forces with an institution that embodies many of our own aspirations, to develop a new generation of Singaporean doctors.”

Dr Su Guanng, President of NTU, said:

“Combining NTU's core strengths in engineering and business with Imperial's world-renowned medical expertise, we are confident that the new medical school at NTU will become an outstanding reference point around the world.”

—CAROLINE DAVIS, COMMUNICATIONS AND DEVELOPMENT

For more details: www.imperial.ac.uk/medicine/teaching/singapore

Academic promotions 2010

The dedication of Imperial's academics to research and teaching has been recognised in this year's academic promotions exercise. Across the College, 84 academics have been promoted to positions of senior lecturer, senior research fellow, reader or professor.

Confirmation of the promotions is the culmination of a process that begins at the start of the academic year, when nominations for promotion are invited. Members of staff can nominate themselves or be nominated by their department. Nominations are then considered by the Faculty or the Academic Promotions Committee.

This year's exercise sees 25 academics receive professorships. The title of professor acknowledges academics who have achieved an international standing in their work and leadership.

Deputy Rector Professor Stephen Richardson, who chairs the Academic Promotions Committee, gives an insider's view of the academic promotions process:

What factors do you look for when considering an academic for promotion?

I would say that there are two essentials, research and teaching. What would we do about promoting someone like Einstein, who didn't have the teaching background? Well, there are always the odd exceptions, but in general we are convinced that both elements are vital. Other elements are considered too, of course.

What impressions of Imperial's academic staff do you get from the applications?

The overall impression is one of great strength. That quality has been very clearly reflected in the applications I have seen. They aren't always successful, but when promotions aren't agreed, it is often simply because they have been applied for a little too early in a career.

—JOHN-PAUL JONES, COMMUNICATIONS AND DEVELOPMENT

For the full list of academic promotions see: www.imperial.ac.uk/staff

in brief

NSS results

The results of the National Student Survey (NSS) were released at the end of August, showing an overall satisfaction rating of 85 per cent for Imperial, three per cent higher than the sector average, while satisfaction with the College's learning resources stands at 90 per cent, 10 per cent higher than the sector average. For the full story and to hear Professor Julia Buckingham, Pro Rector (Education and Academic Affairs), share her thoughts on the survey visit: www3.imperial.ac.uk/news/nssresults

Appointment of Deans

Following new appointments effective from 1 September, Deans for the academic year 2010–11 have been announced:

- Deans for the Faculty of Engineering, the Business School, Humanities and the School of Professional Development are Professor Morris Sloman (Computing) and Professor Richard Vinter (Electronic and Electrical Engineering).

- Deans for the Faculty of Natural Sciences are

Professor Robin Leatherbarrow (Chemistry), and Professor Chris Phillips (Physics).

- Professor Simon Taylor-Robinson (Medicine) has been appointed Clinical Dean for the Faculty of Medicine and will serve alongside the Faculty's Non-Clinical Dean, Professor Nigel Gooderham (Surgery and Cancer).

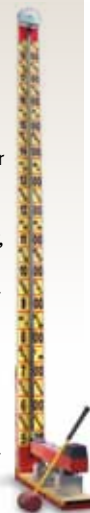
- Professor Jeff Kramer (Computing) will continue to serve as Senior Dean for a further year.

Imperial's website gets the thumbs up

Imperial's website has been rated among the very best for prospective students by sixth formers, as revealed in a *Times Higher* survey last month. The students rated university websites on a range of factors, including websites' accessibility and the amount of useful insight into campus life. Imperial's site achieved an overall score of 24/25, placing it joint second with two other institutions. The survey results showed that applicants want to hear more from students on university websites via platforms such as Imperial's student blogs.

Annual Fund reaches donor target

The College's Annual Fund reached its donor target of 1,700 donors during the College's 2009–10 financial year, which ended on 31 July. Thanks to the fantastic support of our alumni, it has raised £474,465 from 1,706 donors. The Annual Fund provides a constant stream of philanthropic income to key College projects.



Stamp your feet!

Award winning eco ideas unveiled

Champion energy saving ideas have been selected following a competition at Imperial. The first phase of the College's carbon reduction campaign, *StepChange*, invited suggestions for reducing energy waste, with the five winning ideas chosen from over 300 submissions.



The successful suggestions included sharing more high energy lab technology among institutions, from Tim Scott (Life Sciences), and covering the

Ethos swimming pool to save heat from Vincent Gilbert (Physics). Felicia Line (Mechanical Engineering), medical student Herjyot Dharni and Dr Mary Matthews (Physics) also won for their suggestions that Imperial introduce compost bins for food waste.

The winners have each received £100 in vouchers. Speaking about her idea, Dr Matthews said:

"I'm pleased that College takes this subject so seriously, particularly given that we are a scientific institution. Hopefully we will become a model for other organisations, showing that large employers can cut carbon emissions effectively."

The judges, from the College's Carbon Management Steering Board, assessed the suggestions based upon their originality, practicality and impact. The Facilities Management Division is currently reviewing how the ideas can be implemented around the College.

The *StepChange* campaign, which began in April this year, seeks to reduce the College's carbon emissions by 20 per cent by 2014 from the 2008–09 baseline. One aspect of the campaign is to engage every member of the College community, promoting the message that all staff and students can play their part in making Imperial greener and more energy efficient.

—JOHN-PAUL JONES, COMMUNICATIONS AND DEVELOPMENT

Imperial tops London universities in national sports rankings



Imperial has won pole position among London universities and has climbed five places from 22nd to 17th in the British Universities and Colleges Sport (BUCS) Championships' national rankings since last year.

The BUCS championships see university clubs and individuals competing in a range of sports, from hockey to clay pigeon shooting. The points from all of their games provide the grand totals for the participating universities. Imperial's new position marks a climb from 48th place 10 years ago.

This year Imperial

took part in a wider range of sports than ever before. Among the highlights are gold medals for the College's snooker and men's water polo teams, and an array of individual medals for judo and fencing participants. A strong performance in rowing saw a number of wins for the College, including achieving second place overall in the BUCS regatta.

Neil Mosley (Commercial Services) said: "I'm really delighted with

the continued success we've had in BUCS competitions. We are now competing successfully with massive universities who focus on sport. The pleasing thing is the range of sports that

"We are now competing successfully with massive universities who focus on sport"

we are now competitive in. Our fencers proved we are the number one university in that sport and, as well as continued high performance in

rowing, we have excelled in squash, judo, water polo and volleyball to name a few".

— JOHN-PAUL JONES, COMMUNICATIONS AND DEVELOPMENT

Engineers and scientists celebrate new EPSRC Fellowships

Researchers focusing on state-of-the-art eco engines, gloopy cells, and nanoscale light are amongst the Imperial scientists who were awarded Engineering and Physical Sciences Research Council (EPSRC) Fellowships worth up to £8 million in July.

The researchers were awarded two different kinds of Fellowships: Career Acceleration Fellowships, which give support to early stage researchers, and Leadership Fellowships, which provide support for

talented researchers with the most potential to develop into international research leaders.

Rector Sir Keith O'Nions congratulated the new Fellows:

"Here we have nine star researchers, some at the start of their careers and others already established leaders in their fields, awarded by the EPSRC to carry out important work in engineering and physical sciences, which could make a real difference to all our lives.

"The Leadership Fellowships

will help established researchers to make great progress in their fields, giving them the opportunity to strengthen their research groups and make exciting new discoveries. Starting out in science can be tough and the Career Acceleration Fellowships will help the next generation of science and engineering leaders to kick-start their careers and overcome the obstacles that can hamper progress.

"Today's news is a testament to the hard work and commitment



shown by our scientists and engineers. I look forward to seeing the results of these Fellowships," added Sir Keith.

— COLIN SMITH AND LUCY GOODCHILD, COMMUNICATIONS AND DEVELOPMENT

Read more about the new fellow: www3.imperial.ac.uk/news/nextgeneration

media mentions

—AGNES BECKER, INSTITUTE OF GLOBAL HEALTH INNOVATION



✉ **JOIN OUR MAILING LIST** for regular news, information and website alerts:
www.imperial.ac.uk/media/jointsignon

THE GUARDIAN ▶ 2.9.2010

Sugar may not relieve pain in newborns



Doctors should stop giving newborn babies sugar to relieve the pain of minor medical procedures because it does not work and the pain may damage their brains, reported *The Guardian*. These conclusions, from a new study published in *The Lancet*, directly challenge existing medical practice. Infants are routinely given tiny amounts of sugar in hospitals to limit the pain they feel when they undergo short but painful procedures. Professor Neena Modi (Medicine) said: “Sucrose is given because it seems to work. If it’s confirmed that sucrose doesn’t work, we have a problem because we don’t have any effective treatments for acutely painful procedures in newborns.”

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SCIENCE NEWS ▶ 3.9.2010

String theory equations get tangled up

Physicists looking for a way to test their theory about strings might make more progress if they tangle them up, reported *Science News*. String theory – equations that aspire to explain all of nature’s particles and forces – has extended its reach to the strange quantum behaviour known as entanglement, according to a new study led by Imperial’s Professor Michael Duff (Physics). Repurposing the mathematics of string theory has enabled physicists to solve a hard problem involving entanglement. In doing so, the new study points out a way to test whether the string theory equations are actually correct. “String theory has not had a lot of success in making falsifiable predictions,” said Professor Duff. “But in the field of quantum information theory, it can.”

THE GUARDIAN ▶ 3.9.2010

I’m in heaven with my telescope



After taking his telescope to Cumbria, Dr Stephen Curry (Life Sciences) wrote in *The Guardian* about the elation of seeing the stars and planets with his own eyes. “Further north, the skies didn’t darken until about 10 p.m. but when they did, what magnificent illumination was made visible...stars galore, everywhere I looked...and, stretched across it all, the luminous swathe of the Milky Way. [Although] my simple observations are nothing compared with the work of professional astronomers...for me there is nothing to compare with the elation felt as I leaned...into the eyepiece on those Cumbrian nights, to discover new things about the night sky, not for the world, but for myself.”

THE INDEPENDENT ▶ 3.9.2010

Fuelling transport’s revolution

As we use up the world’s natural resources, we have no choice but to embrace alternative ways to power cars, wrote Dr Gregory Offer (Earth Science and Engineering) in *The Independent*. “Electrification of transport is probably the most important alternative. We can produce electricity from anything – wind, solar, tides and waves, nuclear, fossil fuels... Even with our current electricity generation mix, mostly based on natural gas, electric vehicles would reduce emissions by roughly 40 per cent if charged at the correct time. Moving forward, with increasing amounts of renewable electricity they become zero-emission, but the most important point is that there are no limits to the expansion of electricity production.”



awards and honours

ENGINEERING

Skea wins Melchett Award



Professor Jim Skea, Chair in Sustainable Energy (Environmental Policy), has received the Energy Institute’s 73rd Melchett Award for his significant contribution to the energy industry. A fellow of the Energy Institute and one of the UK’s leading experts in energy policy and climate change, Professor Skea received the award on 1 July at an

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evening reception in London, where he addressed guests and presented the Melchett Lecture. Professor Skea is a founding member of the UK Committee on Climate Change and a Vice-Chair of the Intergovernmental Panel on Climate Change Working Group III. The award was presented by James Smith FEI, President of the Energy Institute and Chairman of Shell UK.

MEDICINE

WHO Pesticide Evaluation Scheme recognised

Imperial was presented with two awards on 24 June during a two-day meeting in Geneva attended by industry, academic and government research institute scientists. The event was hosted by the World Health Organisation (WHO),



who set up the Global Collaboration for Development of Pesticides

for Public Health, to celebrate the 50th anniversary of the WHO Pesticide Evaluation Scheme. The first award was presented to the International Pesticide Application Research Centre in the Department of Biology at Silwood Park Campus, which started evaluating equipment for the WHO in 1955. The second award was for Emeritus Professor Graham Matthews (Biology), pictured above right, who was given a personal award for assisting the WHO throughout the 50 years of the WHO Pesticide Evaluation Scheme.

MEDICINE

Bueter wins New Investigator Award

Dr Marco Bueter (Medicine) has won the New Investigator Award at this year’s International Congress on Obesity in Stockholm for his work uncovering how patients benefit from gastric bypass operations. Dr Bueter’s research has revealed that surgery changes the perception of food in both rats and humans, which contributes to reduced feelings of hunger. His more recent studies have shown that gastric bypass operations also increase the body’s energy expenditure. Dr Bueter is the first surgeon to win the award, which is given every four years to the most outstanding young researcher in the field of obesity research.

The friend of my enemy is my enemy



A new study analysing interactions between players in a virtual universe game has for the first time provided large-scale evidence to prove an 80-year-old psychological theory called structural balance theory. The research, published on 19 July in *PNAS*, shows that individuals tend to avoid stress-causing relationships when they develop a society, resulting in more stable social networks.

The study, carried out at Imperial, the Medical University of Vienna and the Santa Fe Institute, analysed relationships between 300,000 players in an online game called *Pardus*. In this open-ended game, players acted as spacecraft exploring a virtual universe,

where they could make friends and enemies, and communicate, trade and fight with one another. Scientists currently study data from people's electronic interactions, such as emails, mobile phones and online retail behaviour, to improve our understanding of human societies.

Structural balance theory suggests some networks of relationships are more stable than others in a society. In the study, information about interactions between players in the game is more detailed than that from other electronic sources, because it includes data on the types of relationship and whether the interactions are positive or negative.

One of the authors of the study, Dr Renaud Lambiotte (Mathematics), said: "I find it fascinating to understand how we all interact with one another to form complex social networks. I think it is astounding that I'm this tiny point in such an enormous network of people. Our new study reveals in more detail than ever before the key ingredients that make these networks stable".

—LUCY GOODCHILD, COMMUNICATIONS AND DEVELOPMENT

"I think it is astounding that I'm this tiny point in such an enormous network of people"

Laser-based method for growing carbon nanotubes

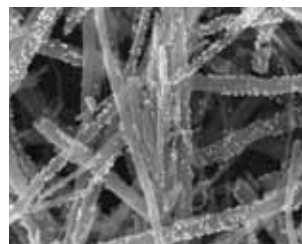
Imperial researchers have developed a new method for activating sites on the surface of carbon nanotubes (CNTs) and subsequently binding a wide range of molecules to them at an industrial scale.

The new method, reported during August 2010 in *Chemical Science*, overcomes a major hurdle in the development of industrial-scale applications for CNTs. It provides manufacturers with a method that, in principle, can be used to modify the surface chemistry of the underlying nanotube structure on a large scale. Surface modification can provide new properties or enable subsequent processing steps: for example, molecules

grafted to the CNTs may introduce catalytic activity or provide compatibility with particular solvents.

Lead author of the study, Professor Milo Shaffer (Chemistry), said: "Our approach is potentially a very significant step towards manufacturing carbon nanotubes with specific chemical characteristics, at an industrial scale. Our method is extremely practical because, in principle, it can exploit existing infrastructure and yet it remains extremely versatile; the huge range of molecules that can be bound to the CNTs makes the technology adaptable to almost any application."

The method that Professor



Shaffer and his team have developed should enable CNTs to be tailored readily to potential applications, such as sensor networks, filters, electrodes for electrochemical devices, advanced catalysts and to improve CNT compatibility in, for example, composite materials, solvents, and electrolytes.

—RAY MATHIAS, COMMUNICATIONS AND DEVELOPMENT



Vaccine cuts hospital admissions for children with bacterial pneumonia

The number of children admitted to English hospitals with bacterial pneumonia decreased by a fifth in the two years following the introduction of a vaccine to combat the disease, according to a new Imperial-led study published on 27 August in the journal *Thorax*.

Bacterial pneumonia is a serious illness, caused by *Streptococcus pneumoniae* bacteria, that mostly affects babies, children and elderly people. It usually develops as a complication following a respiratory tract infection, such as influenza.

“We hope more parents will be encouraged to have their children vaccinated”

In September 2006, a vaccine known as PCV7 was introduced into the childhood primary immunisation programme across the UK, to protect against seven different strains of *Streptococcus pneumoniae* bacteria.

The pneumococcal vaccine is administered at two, three and 13 months of age. Take-up of the vaccine over the study period was high. It was administered to an average of 84 per cent of eligible children in England in the first year following its introduction and 91 per cent the following year.

The study showed that the numbers of older and younger children admitted with bacterial pneumonia decreased following introduction of the vaccine. This suggests that vaccinating young children can also protect older, non-vaccinated children, by providing 'herd immunity'. Dr Sonia Saxena (Public Health), who led the study, said: "The success of any vaccination programme depends on vaccinating as many people as possible. Now that we have clear evidence about the benefits of the pneumonia vaccine, we hope more parents will be encouraged to have their children vaccinated".

—LAURA GALLAGHER, COMMUNICATIONS AND DEVELOPMENT

Scientists call for a global nuclear renaissance



Scientists have outlined a 20-year master plan for a global renaissance of nuclear energy in a review paper published on 13 August in the journal *Science*.

The plan could lead to nuclear reactors with replaceable parts, portable mini-reactors, and ship-borne reactors supplying countries with clean energy. The scientists, from Imperial and the University of Cambridge, suggested a two-stage plan in their review paper that could see countries with existing nuclear infrastructure replacing or extending

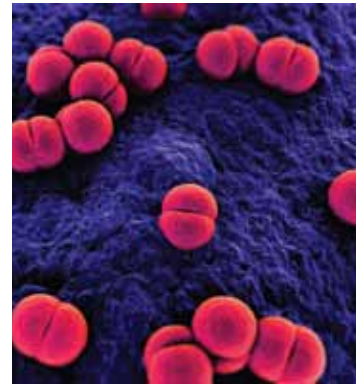
the life of nuclear power stations, followed by a second phase of global expansion in the industry by the year 2030.

The researchers say their roadmap could help to reduce the planet's dependency on fossil fuels, and fill an energy gap as old nuclear, gas and coal fired plants around the world are decommissioned.

Professor Robin Grimes (Materials) said: "Our study explores the exciting opportunities that a renaissance in nuclear energy could bring to the world. Imagine portable nuclear

power plants at the end of their working lives that can be safely shipped back to the manufacturer for recycling, eliminating the need for countries to deal with radioactive waste. With the right investment, these new technologies could be feasible. Concerns about climate change, energy security and depleting fossil fuel reserves have spurred a revival of interest in nuclear power generation and our research sets out a strategy for growing the industry long term, while processing and transporting nuclear waste in a safe and responsible way."

—COLIN SMITH, COMMUNICATIONS AND DEVELOPMENT



Genetic differences make some people more susceptible to meningitis

Genetic differences that make some people susceptible to developing meningococcal meningitis and septicaemia, and others naturally immune, were revealed in a new study of over 6,000 people, published on 9 August in *Nature Genetics*.

The research, led by Imperial and the Genome Institute of Singapore, is the largest ever genetic study of meningitis and septicaemia caused by meningococcal bacteria. It suggests that people who

develop these diseases have innate differences in their natural defences, which leave them unable to attack meningococcal bacteria successfully.

The researchers hope their new findings will boost the development of vaccines to combat the group B strain of the bacteria, for which there is currently no vaccine. Every year, this strain causes thousands of deaths in children and adults.

Most people carry meningococcal bacteria in their throat intermittently during their lives without ever developing the disease. Until now, it hasn't been known why some people develop meningococcal meningitis and septicaemia, while others appear to be naturally immune to the bacteria.

"Our findings provide the strongest evidence so far that there are genetic factors that lead to people developing meningitis"

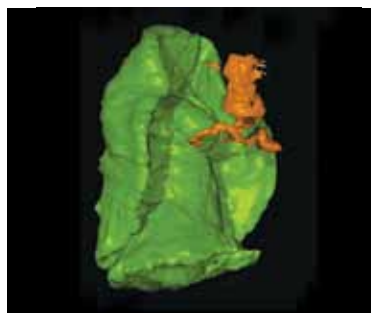
Professor Michael Levin (Medicine), who led the international research effort, said: "Our study set out to understand what causes this small group of people to become very ill, whilst others remain immune. Our findings

provide the strongest evidence so far that there are genetic factors that lead to people developing meningitis".

—LAURA GALLAGHER, COMMUNICATIONS AND DEVELOPMENT

Ancient blob-like creature of the deep

A unique blob-like creature that lived in the ocean approximately 425 million years ago was revealed in a 3D computer model in research published by Imperial scientists on 4 August in the journal *Biology Letters*. The model is helping researchers to understand what primitive species on early Earth looked like and how they might have evolved into the types of creatures which inhabit the Earth today.



oped a detailed 3D model of the only known fossilised specimen of a creature called Drakozoon. The specimen was found by one of the research team approximately six years ago in the Herefordshire Lagerstätte, one of England's richest deposits of

soft-bodied fossils.

The research reveals that Drakozoon lived 444 to 416 million years ago. It was a cone-shaped, blob-like creature with a hood and it probably had a leathery exterior skin. The creature appears to have survived in the ocean by attaching itself to hard surfaces such as rock. It was approximately 3mm long, and used filament-bearing tentacles to catch and eat organic particles in seawater. It pulled its hood down over its body

for protection against predators, pulling it back again to expose its tentacles when the danger had passed.

"Our 3D model brings back to life a creature that, until recently, no one knew even existed"

Dr Mark Sutton (Earth Science and Engineering) said: "Excitingly, our 3D model brings back to life a creature that, until recently, no one knew even existed and provides us with a window into the life of Drakozoon. By looking at this primitive creature, we also get one tantalising step closer to understanding what the earliest creatures on Earth looked like."

—COLIN SMITH, COMMUNICATIONS AND DEVELOPMENT


Imperial scientists from the Department of Earth Science and Engineering have devel-



“I realised that if string could be produced in a can, why couldn't I do the same thing with fabric?”



Fabricating the future



Dr Manel Torres (Chemical Engineering and Chemical Technology) is goggled-up and spraying intently with an aerosol, stopping occasionally to check the temperature of a row of beakers full of polymers. From his ease in the laboratory, you'd never suspect that his title relates to a fashion degree and that, 10 years ago, he swapped his designer wear for a white smock to fulfil his dream of creating the future.

Manel has always been obsessed with the future and, as a child, he often escaped into sci-fi films, which fuelled his active imagination. “There are no limits to how far you can take things when you're looking into the future – you can literally create your own world,” he explains. Coming from a traditional Spanish village called Tornabous in Catalonia – the streets lined with apple and pear trees – he certainly wasn't influenced by his rural environment but instead by his grandma, who was the village seamstress. Leaving home at the age of 16, he decided to follow his dream of determining what the public will wear in the future and becoming a fashion designer.

Manel started a BA in women's fashion at Escuela de Artes Técnicas de la Moda in Barcelona in 1994 and designed a collection based on the theme of ‘life in the year 2020’. To research his designs, he talked to sociologists to find out what everyday life would look like in the

future, went to technology conferences and heard about emerging trends, like online shopping and 3D technology, and spoke to fortune tellers to hear their speculations about life in the new millennium. Then he combined all his findings into his designs.

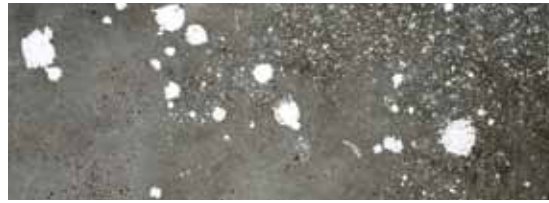
Seed of an idea

With his degree behind him, Manel was accepted onto an MA in Fashion Women's Wear at the Royal College of Art (RCA) and he moved to London in 1995.

During his studies, Manel's curiosity about the future never waned. “I felt like everything in the world was speeding up and information was becoming instantly accessible but the fashion industry was lagging behind – design is still such a long-winded process,” he explains. “I was intent on finding a way to speed up the process of manufacturing patterns without compromising on quality or comfort.”

In 1996, Manel attended the wedding of two of his friends back in Barcelona and, alongside the traditional confetti and rice that guests were throwing at the newly weds, a couple of people sprayed silly string. “Watching them spray suddenly triggered an idea,” Manel remembers. “I realised that if string could be produced in a can, why couldn't I do the same thing with fabric?”

Manel went on to do a PhD at the RCA, with the aim of producing a spray-on fabric T-shirt from an aerosol can. Under the supervision of Dr Susannah Handley, Manel began his research by looking at what spray-on products were already on the market: from spray-on plasters to spray-on leggings. “It was so exciting to discover that, despite the brand names, none of the products actually sprayed a solid product from a can. It confirmed I'd come up with a truly futuristic idea!”



Coming to Imperial

Once Manel had a formal plan and had spoken with a number of product designers, he decided to call upon academics at Imperial, located around the corner from the RCA, for some scientific advice. Here, he was fortunate to meet Professor Paul Luckham, Professor of Particle Technology (Chemical Engineering and Chemical Technology), who agreed to supervise Manel's PhD as a technical advisor and gave him lab space to work on the project.

"Manel emailed me about his idea and I thought it was an absolutely brilliant concept," says Paul. "While I knew that the process was chemically possible, I had no idea how to get the formulation to work in an aerosol but we agreed to give it a go."

Paul advised Manel to perfect the formulation and make a prototype using a less complex type of spray, before focusing on getting the liquid into an aerosol.

"Paul totally embraced my idea," says Manel, "and his knowledge of polymers has been invaluable. But the best thing about the project is that he allowed me to be myself, get to know the lab and to live out my project in the way I envisaged."

To create the right formulation, they milled down old fabrics

and mixed the fibres with a polymer to bind them together. Then a solvent was added that evaporates before it hits the surface, so that the spray turns into a solid on contact.

Like with all research projects, there was a lot of trial and error in their experiments – but by 2000, Manel was able to use a car paint spray gun to project a thin fabric onto a mannequin, which could be peeled off seconds later, leaving a washable, seamless, non-woven top. With Paul's help, Manel had proved that his concept could be made a reality and was able to complete his PhD.

New way of dressing

Since then, Manel has remained at Imperial as an academic visitor, working on getting the formulation to work as an aerosol with Paul's help. He has also been experimenting with a range of fibres, including lace and rubber, as well as adding dyes using nanoparticles of colour. In 2008, he achieved a working prototype for spray-on fabric in a can.

"Spray-on fabric will allow people to change their clothes instantly to meet the latest fashion trend and also allow them to make quick alterations. It's a totally new way of dressing," he explains. The technique has

already been picked up by the film industry and Manel was brought in to spray outfits onto the stars of the forthcoming blockbuster *Mr Nobody*.

Fabrican

While the original idea was to utilise spray-on fabric in the fashion industry, Manel and Paul realised that the technology had an even broader appeal. "From the first time we experimented with spraying it directly onto human skin, it applied easily and peeled off cleanly. I thought that if it worked for such a challenging application, we could make it work anywhere," explains Manel. In 2000 Manel and Paul set up a company called Fabrican to help commercialise the product.

Paul says: "I see the fashion application of spray-on fabric as a fantastic way of advertising the material as a concept, but I think the other applications are going to prove to be even more commercial."

Fabrican is now beginning to establish long-term development agreements with multinational industries – for example, the company has been contacted by an automotive company, which wants to use the formula for upholstery or interior surface repair or renewal. And there are also exciting potential

applications for spray-on fabric in the field of medicine – the formula is kept in a sterilised can and is very cold on application, which means it could be useful for burns victims and also for new types of patches or slow-release drug products.

Fabrican is a clear example of the scope of successful multi-disciplinary partnerships at Imperial. As Deputy Rector and Principal of the Faculty of Engineering, Stephen Richardson, says: "Paul and Manel's collaboration represents many of the characteristics that define research at Imperial, such as creative ideas and novel products. Their work has opened up a new area of research in the Department, and is a popular stopping-off point for visitors and students at open days. It's a good illustration and reminder of how we can all apply scientific principles to produce surprising and sometimes beautiful results."

— EMILY ROSS, COMMUNICATIONS AND DEVELOPMENT

Fabrican will be holding a fashion show on 20 September at Imperial. Keep your eyes peeled for pictures and videos from the event on the College website: www.imperial.ac.uk

Photo caption: 1. Dr Manel Torres sprays fabric in a can onto model David. 2. Collaborators Professor Paul Luckham (left) and Manel. 3. Manel adjusts the finished spray-on T-shirt.



The Rolls-Royce of general practice

Whether it be treating ‘freshers’ flu’, supporting those with exam anxiety, bandaging fingers cut on pipettes, or administering travel jabs and sexual health advice, the 30-strong team at the Imperial College Health Centre on the South Kensington Campus are kept on their toes all year round.

Housed in the immaculate two-year-old facilities developed as part of the restoration of Prince’s Gardens, the Centre boasts consulting and physiotherapy facilities, plus a fully equipped minor surgery room. Despite becoming independent of the College in 1987, the Centre performs the same function as when it was set up in the 1960s as a College department – providing healthcare for all students on the South Kensington, Royal Brompton and St Mary’s Campuses, as well as those staff and their families who live in the Centre’s catchment area. Today, staff make up 25 per cent of the Centre’s patients and staff and students (registered with the Centre or not) can access the service if they fall ill or need medical advice during a weekday – in person, by phone or via email.

Alongside five GPs, the Centre also provides access to a range of holistic practitioners, from osteopathy and aromatherapy, to acupuncture. “At Imperial, staff and students

tend to think holistically about problems, so our practice reflects this,” explains the Centre’s Senior Partner, Dr Irene Weinreb (pictured above).

The Centre’s impressive range of services has also made it a popular choice for local residents in the SW7 area, leading a local consultant from the Chelsea and Westminster Hospital to describe it as “the Rolls-Royce of general practice”.

“We are so much more than an ordinary NHS general practice,” says Irene, who has been with the College for 25 years. “Most of our services are geared towards the needs of the university population and our large practice team specialises in treating young adults.”

“We are so much more than an ordinary NHS general practice”

Key services

Like all university health services, the Centre plays an important role in providing sexual health advice to students, offering a full range of contraceptive options, as well as antenatal and postnatal care.

Another major priority for the Centre is mental healthcare and the Centre employs four psychotherapists and a visiting psychotherapist. “Today, not only are students expected to be successful in their academic work, they also want to look good and be popular. And, on top of that, many are dealing with financial pressures,” explains Irene. “It is important for us to give them as much support

as we can, as these pressures can lead to anxiety and depression, as well as drink problems,” she adds.

In order to keep on top of students’ needs, there is a College liaison officer for the Centre – Dr Sarah Freedman, who meets regularly with staff members who have pastoral responsibilities at the College. Her key contacts include the College Counselling Service, the Chaplaincy, College Tutors, Wardens, staff working in accommodation and disabilities, and the Union’s sabbatical officers. Sarah uses these meetings to find out about any emerging problems and encourages staff to get in touch if they have any concerns about students. “Imperial students arrive at the College with a history of straight As, so if they are continually doing badly, it is often worth trying to work out if there are any other factors affecting their performance,” says Irene.

Funding

One of the main challenges for the Centre in the future will be the uncertainty of public sector funding and, in particular, the weighting of NHS funding in favour of elderly and chronically sick patients. “As our patients are predominantly male and under 40, the amount we are allocated is being reduced year on year, which is really worrying,” Irene explains.

This is a generic problem for university health services in the UK and, over the last year, several have closed down, forcing students to sign up with local doctors. “My worry is that students won’t get the same understanding and expertise that they would at a university practice,” Irene says.

In July, Irene became President of the British Association for Health Services in Higher Education – an umbrella organisation for all those who work in university health services. “We are working to make sure that students do not lose the health services they need. It makes no sense to persuade people into higher education, with all the attendant academic pressure and financial stress, and then not nurture them,” she explains.

Over the next year, the Centre will have to work even harder to ensure it gets the money it needs, and Irene has plans to attract new funding by setting up a separate sexual health clinic and introducing “Fit for Life” seminars for students, as well as expanding the popular exam stress and back pain seminars. This will help to ensure the Centre continues to maintain its high standards and cater for the ever growing Imperial population.

— EMILY ROSS, COMMUNICATIONS AND DEVELOPMENT

For a full list of services and joining information visit: www.imperialcollegehealthcentre.co.uk or email healthcentre@imperial.ac.uk

inside

story

mini profile

David McCarthy

Dr David McCarthy, Senior Lecturer (Business School), on using super speed computers, pre-empting multiple decisions and why pensions aren't for everyone.

What's your research area?

My main interest is the economics and finance of pension plans. One of my recent projects has been to investigate investment strategies for people with defined contribution pension plans.

Doesn't that depend on the person's individual circumstances?

Yes, for that problem there are many variables you have to take into consideration – for example, how old you are, how much money you have outside your pension and how much you earn. I try to take account of the broad features of each individual, assume a trade-off between benefits and costs, and then perform calculations to give the most cost-effective strategies for individuals to follow.

Why do you use the College's high performance computing system?

I recently used it to look at the benefits of buying derivatives and whether they actually protect people from falls in the stock market in a cost effective way. High performance computing allows



you to create a much more precise formulation of people's preferences and, therefore, a more accurate calculation of the cost and benefits of different strategies, than would be the case with a slower computing system.

Should everyone have a pension?

Private pensions aren't sensible for everyone. Many individuals benefit from pensions provided by employers, and the state will provide a certain amount of pension. For many this amount will be sufficient, so under-consuming now to put more aside for the future may not be the best option. People should examine all of their finances, including the equity in their house, their state pension and the pension they get from their employer, if any, when deciding how much, and in what form, they should save.

—EMILY ROSS, COMMUNICATIONS AND DEVELOPMENT

Summer school for climate change innovation

Earlier this month, students from across Europe completed a summer school, designed to show how to develop economically sustainable and innovative solutions to climate change.

The students spent six weeks learning, from leaders in academic, corporate and public spheres, about tackling climate change and how to make a business case for doing so. They spent a fortnight in Paris before travelling by train to London, where they were hosted by Imperial for two weeks, then they travelled on to Zurich for the final part of the project.

The summer school is the first project to come out of the Climate Change KIC, a European Institute of Innovation and Technology initiative to drive innovation in the area of climate change. Six Imperial students earned a place, including Alistair McVicar (Earth Science and Engineering), who shared his experience:

"I am one of about 50 international students who embarked on a six-week contextual learning journey over the summer. I started this experience uncertain as to what, exactly, a contextual journey is but I soon found that it involved some exceptional experiences and a lot of work. Part of the EU Climate-KIC initiative, one of the aims



of the journey is to allow students to interact with the scientific and business communities on climate change mitigation and adaptation.

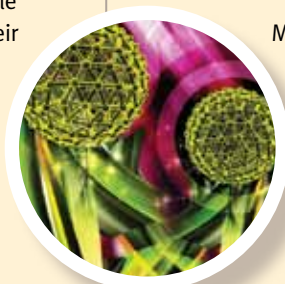
I discussed the greenhouse effect at a leading science institute in France, worked out the correct sustainable water management systems to maintain agriculture yields in Spain, visited the Stade de France, France's national stadium, gained insights into the leading climate science from Professor Sir Brian Hoskins, Director of the Grantham Institute for Climate Change at Imperial, talked to Lord Stern about the current political situation in Europe and, sometimes, even squeezed in lunch! In addition, we innovated, pitched and discussed our own entrepreneurial concepts, with the aid of dedicated business coaches, to compete in a presentation of our ideas at the end of the journey."

For further information: www.climate-kic.org

▶ SCIENCE FROM SCRATCH

As explained by Naomi Thorne, Biology postgraduate

Mutation



Mutation? No, I'm not talking about X-Men. Whilst the comic does take its theory from a scientific principle, I'm sorry to say the chances of mutations granting you super-powers are slim. Mutations are permanent changes to our DNA sequence and happen every time a cell replicates. They can be inherited from parents, or occur in somatic cells (anything that's not an egg or a sperm) due to the environment – a bite from a radioactive spider or a mistake when DNA is copied during cell division, for example. Usually, mutations occur in sections of DNA that don't affect essential bodily functions but, very occasionally, a mutation crops up in an important gene and leads to conditions like cancer and Down's syndrome, or the next evolutionary step of a species.



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

Student blogger Courtney's advice to freshers: how not everyone's a genius

blog SPOT

"I felt bad when I realised that I'm not Peter Hatfield, Sarah Flannery or any of the other thousands of young scientists who are objectively better than me. Now I'm trying to get over this sort of thing, and you should too. Remember that most people here will have been the top students at their school and when all the top people are put together the top of the top is even... toppier. There will always be someone better than you, but don't let that get you down. You're probably better than you think you are. Yes, even you. Start believing it. It will save you the trouble of a mental breakdown later on."

Recommend a student in your department to join this year's Imperial student blogging team: email studentblogs@imperial.ac.uk

Race for life

On 25 July, a team of eight women from the Department of Primary Care and Public Health (PCPH) participated in a Cancer Research UK Race for Life five-kilometre run. Sherry Morris, Administrator of the Dr Foster Unit, reports.

"Since learning that a dear colleague of ours from Dr Foster Intelligence had been diagnosed with ovarian cancer, staff at the Dr Foster Unit wanted to show our support and, joined by colleagues in the wider PCPH, took part in a Cancer Research UK run.

We decided to run in fancy dress and, on Saturday 25 July, a fairy, a schoolgirl, an alligator, a dalmatian, a pirate, a cavewoman, a she-devil and a cowgirl turned up in Finsbury Park. Our costumes attracted a lot of attention and Heart FM posted several pictures of us on their site. We had perfect race weather – cool and a bit over-



Team members from the Dr Foster Unit: Anna Renz (alligator), Carmen Tsang (cavewoman), Min Hua Jen (fairy), Roxana Alexandrescu (pirate) and Sherry Morris (cowgirl). From PCPH: Alex Williams (schoolgirl), Monique Dingli (she-devil) and Laura GarciaAlvarez (dalmatian).

cast – and by the end of the race the sun was shining on all the winners. For several of us this was our first charity race and we enjoyed it so much that we are considering making this a yearly event. While it was great to receive a medal for our efforts, the real reward is knowing that

we're helping others survive cancer. Our colleagues, family and friends have been fantastic in supporting us and so far we've raised over £1,700."

For more information on the Dr Foster Unit please visit: www.imperial.ac.uk/medicine/drfoosterunit



INVENTOR'S CORNER

Shedding light on new cancer treatment

Dr Mahendra Deonarain (Life Sciences) is developing targeted anti-cancer agents and cancer treatment using photodynamic therapy – a process that uses photoactive drugs to target cancer cells.

What research area do you specialise in?

My research area is antibody technology. Antibodies are molecules produced by the body, which are used by the immune system to recognise and neutralise foreign substances, such as bacteria and viruses. My work covers a whole range of ideas in terms of antibody therapy, antibody diagnostics and antibodies in infection and in cancer. The central theme of my research is recombinant antibodies, which are artificially produced using fragments of other antibodies. They are used in some of the most popular cancer drugs on the market to produce antibodies that target a specific antigen.

You have set up a company, Photobiotics, to commercialise the research – what is its aim?

I'm one of the four founders of Photobiotics, along with Lionel Millgrom, former Senior Lecturer in Chemistry at Imperial, Gokhan Yahioglu, formerly a postdoc at the College, and Emeritus Professor David Phillips (Chemistry). The aim of Photobiotics is to develop antibody-targeted photodynamic therapy (PDT), specifically for the treatment of cancer. Antibodies can recognise and home in on cells, so they're an excellent targeting vehicle. We attach photoactive drugs to the antibodies in such a way that the drugs are potent and the antibody still functional. These antibodies target cancer cells and deliver the drugs to the tumour, but the drugs aren't activated until the light of a specific wavelength –

delivered by lasers – hits them. When the light hits them, they produce singlet oxygen – a highly reactive form of oxygen molecule, which reacts violently with biomolecules, such as, in this case, cancer cells, and kills them.

What's the potential of photodynamic therapy?

Our long-term vision is to develop an agent, which can be used to image and treat the cancer using the same molecule. This is a new area called theranostics. For example, we're developing a drug for prostate cancer by which we can deliver the targeted antibody to the cancer, image it using an MRI and then target the laser on that site. So when you find the cancer, you can treat it then and there, which will be significantly less invasive than traditional cancer therapies.

—ANOUSHKA WARDEN, IMPERIAL INNOVATIONS

"Antibodies can recognise and home in on cells, so they're an excellent targeting vehicle."



Celebrating 50 years of collaboration with IIT Delhi

Last month, Professor Mary Ritter, Pro Rector (International Affairs), joined the Indian Institute of Technology (IIT) Delhi to celebrate the beginning of its golden jubilee year.

Professor Ritter (pictured above with the Chairman of the Board of Governors, IIT Delhi), shared the stage with the Institute's Director and the President of India at the celebrations. She offers a potted history of Imperial's relationship with IIT Delhi.

"Imperial's involvement with IIT Delhi began in the 1950s, when Professor Sir Willis Jackson, who was Professor of Electrical Engineering here, was Chair of the Technology Committee of the Delhi College of Technology, which was established by the British government. In February 1964, the then Rector, Sir Patrick Linstead, travelled to Delhi to present the institute's founding director, Dr Dogra, with a charter celebrating the formal partnership between our two institutions.

This partnership took several forms. For example, the founding Head of the Mechanical Engineering Department in Delhi was Imperial's

Professor Peter Moore – on a five-year secondment out there – while many College staff visited for shorter periods to lecture to students and give seminars on their research. Conversely, many IIT Delhi staff visited London to work and study at Imperial.

The relationship between IIT Delhi and Imperial continued through the 1960s and 70s and into the 1980s, with our governments stepping back a little and a joint IIT Delhi-Imperial Committee set up to oversee collaborative activities.

Today, both institutions face similar challenges – this time not only on a national but also on a global scale – and both need to continue to undertake world class research and to train world class scientists and engineers. In the years ahead, we look forward to renewing our partnership in this collaborative research and education enterprise."

“We look forward to renewing our partnership in this collaborative research and education enterprise”

IIT Delhi perspective

Professor R.C. Malhotra from IIT Delhi shares his experience of working with UK expatriates in Delhi in the 1960s.

"My association with IIT Delhi began in July 1964 on joining the Institute as an Assistant Professor in the Department of Applied Mechanics. I was closely associated with the development of the fluid mechanics and aerodynamics laboratories, as well as the formulation of the curriculum for the BTech degree programme in mechanical engineering.

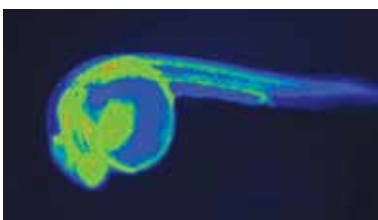
My wife and I had close social interaction with the expatriate faculty from Imperial working at the Institute and, although they were all considerably older than us, we were like a close knit family. I remember the great fun we had when we took all of them and their wives to a local movie hall to watch the classical Hindi film *Guide*.

In the 1970s my family and I spent nine months in London, where I was a Visiting Fellow at Imperial, while working on the manuscript of a laboratory manual on fluid mechanics experiments for undergraduate students.

Looking back over the past five decades since its establishment, the whole experience of working hand-in-hand with the expatriate UK faculty to develop a fledgling institute of technology into a global brand has been both invigorating and exhilarating."



From left to right: Professor Surendra Prasad, Director, IIT Delhi; Indian government minister Mr Kapil Sibal; and President of India, Mrs Pratibha Devisingh Patil.



Beautiful science

In July, Dr Alice Shia (Life Sciences) was awarded a postdoctoral researcher grant for her transferable skills project called *Beautiful Science*, which brings together artists and scientists to display data in different ways. Alice explains where the idea for the project came from.

"*Beautiful Science* emerged from discussions between Dr Marta Archanco and Dr Marjet Elemans (both Medicine) and myself – we all wanted to explore the artistic view of real scientific data. We wanted to challenge the views of the general public and scientific community about what they consider to be art.

Scientists are widely perceived as working in a systematic and essentially non-creative linear mode towards increasingly incomprehensible conclusions, while artists are generally thought to channel the free flow of the creative imagination.

Our project aims to get scientists and artists to work in parallel creating their own

interpretations of Imperial research. For example one of the scientists involved will present a series of graphs based on mathematical equations modelling HIV infection. The artists will then represent the data from an artistic point of view. The project will culminate in an exhibition in April 2011."

obituaries



PROFESSOR JOHN NELDER FRS

Visiting Professor John Ashworth Nelder FRS died on 7 August 2010. Professor David Hand (Mathematics), who worked closely with John, pays tribute.

“John Nelder was one of the most influential statisticians of his generation. He read Mathematics and took the Diploma in Mathematical Statistics at Cambridge. Later, in 1968, he became Head of the Statistics Department at Rothamsted Experimental Station.

In 1972, he accepted a visiting professorship at Imperial and, when he took mandatory civil service retirement in 1984, he made Imperial his base.

John developed the ideas of general balance in experimental designs. With Robert Wedderburn, he developed the theory of generalised linear models, later described in the bestselling book of that name, written with Peter McCullagh, a PhD from Imperial. He continued extending these ideas, especially in collaboration with Korean statistician, Youngjo Lee.

The well-known Nelder-Mead simplex algorithm, which John originally described in a paper published in 1965, continues to be one of the most widely used of all optimisation methods.

Amongst the accolades John received were the Royal Statistical Society’s silver and gold Guy Medals, Fellowship of the Royal Society, and an honorary degree from Toulouse University. His enthusiasm for statistics continued throughout his entire life.”

To read the full obituary and to share your memories of Professor Nelder visit: www3.imperial.ac.uk/news/johnnelder

Early Years international day

On 30 July, the Early Years Education Centre (EYEC) held an international day to celebrate the diversity of its community. Parents and children were invited for an afternoon of music, food and dancing. Dr Massimo Marenzana (Bioengineering) and his wife, Margherita, attended the celebrations. Margherita reports:

“Our son, Issu, just started attending the EYEC a few weeks ago and is really enjoying his three days a week at the nursery. We came to the international day and enjoyed the vibrant atmosphere, meeting other parents from Issu’s group and having a good

chat with his carers. For our family, the international day has had an added value: we are a really international family, as my husband and I are Italian, while Issu, whom we adopted last February, is Ethiopian.

We value his Ethiopian heritage and are always searching for ways to help him understand his background (and sometimes we run out of ideas, given that he is only 18 months old). The day was a real celebration of diversity, incorporating a huge range of costumes, music and food, and it was great to see our child enjoying himself so much. He tasted all kind of different foods, danced



to different music, and was even given a chance to try and play an African drum bigger than he is. His enthusiasm was particularly clear when he ran at great speed through the grass to join his beloved carer, Gloria, in a traditional Colombian dance! Next year, we will make sure we bring some Italian food to share (we are not very good at cooking Ethiopian yet) and that Issu wears his very smart Ethiopian traditional dress.”

long
service

Reporter features staff who have given many years of service to the College. Staff listed below celebrate anniversaries in the period 3–27 September. Data is supplied by HR and is correct at the time of going to press.

20 years

- Mrs Sharon Baker, PA to Faculty Operating Officer and Office Manager (Medicine)
- Dr Christopher Cheeseman, Reader in Waste Management (Civil and Environmental Engineering)
- Mrs Linda Childs, Administrative Officer (Security)
- Mrs Mandy Hipwell, Technician (NHLI)
- Mr Ciaran Mckeown, Research Technician (Life Sciences)
- Mr Vimmendra Patel, Audio Visual and Electronics Coordinator (Mechanical Engineering)
- Mr Daniel Wells, Technician (Medicine)

30 years

- Miss Sally Hockley, Secretary (NHLI)
- Mr Richard Mattin, Deputy Divisional Manager (NHLI)

figuring it out

5,800

The number of *Welcome 2010* leaflets that Commercial Services has distributed to academic departments ▶ The

Welcome 2010 leaflet provides students with information on what will happen in the first week at Imperial and where to go for more information.

Data is correct at the time of going to press. If your department has some statistics you’d like to share with the rest of the College, please forward them to: reporter@imperial.ac.uk

New signage for Imperial’s boathouse

New signage has been painted onto the College’s boathouse to promote Imperial from the prime location of the River Thames on the Putney Embankment. “It is a wonderful way to increase the visibility of the College and its pride in its Boat Club.” said Beth Elzer, Creative Director (Communications and Development).



Welcome new starters

Dr Maria Ahmed, Surgery and Cancer
 Ms Sope Amidu, NHLI
 Dr Anna Andreou, Medicine
 Miss Vintetta Archer-Dyer, NHLI
 Ms Josie Baker, NHLI
 Mr Alessandro Barbarulo, Medicine
 Dr Rebecca Bell, ESE
 Miss Amy Brenner, Surgery and Cancer
 Ms Christine Buicke, Medicine
 Mr Keith Cann, Medicine
 Dr Benoit Chachuat, Chemical Engineering and Chemical Technology
 Dr Sylvain Champonnois, Business School
 Dr Victoria Chen, Medicine
 Dr Caroline Collins, Public Health
 Dr Jennifer Connolly, Surgery and Cancer
 Dr Michael Cox, NHLI
 Mr Brian Daughton, Humanities
 Mr Daniel Engstrom, Materials
 Dr Tariq Fellous, NHLI
 Dr Francesca Fiorentino, NHLI
 Mrs Rachel Flatt, Civil and Environmental Engineering
 Mr Ajay Gambhir, Grantham Institute
 Dr Amin Gholampour, Mathematics
 Mr Calum Handforth, Environmental Policy
 Mr Paul Hooper, Mechanical Engineering
 Dr Martin Hornung, Chemistry
 Mr Alexander Jader, Business School
 Dr Helen Johns, Medicine
 Dr Ilse Jongerius, Medicine
 Dr Aleksandra Kata, NHLI
 Miss Anjna Kaul, Registry
 Mr Colin Keyworth, Chemistry
 Ms Emilia Kot, Chemistry
 Miss Marta Krokos, NHLI
 Dr Malgorzata Letachowicz, Mathematics
 Dr Klio Maratou, Clinical Science
 Dr Laura Martinez Suz, Biology
 Dr Stephen McAdoo, Medicine

Ms Maria McQuillan, Humanities
 Dr Brian Mitchell, Humanities
 Mr Wren Montgomery, ESE
 Mr Gareth Morgan, ESE
 Dr Ilaria Nisoli, Life Sciences
 Dr Thomas Oates, Clinical Science
 Dr Mayca Onega, Medicine
 Dr Francisco Orozco Cano, Computing
 Miss Lauren Pae, Public Health
 Mr Eugene Pashuck, Materials
 Professor Annette Peters, Public Health
 Dr Jennifer Podesta, Surgery and Cancer
 Dr Stuart Pollitt, Grantham Institute
 Mr Stefan Prieske, Medicine
 Mr Michael Rayner, Humanities
 Dr Frank Romer, Chemistry
 Mrs Priscilla Ryder, Medicine
 Miss Harriet Smith, Accommodation Services
 Mr Steve Tauroza, Humanities
 Mr Xiang Tian, EEE
 Dr Simon Tindemans, EEE
 Dr Katrin Tinn, Business School
 Mr Greg Tunn, Humanities
 Dr Anthony Uren, Clinical Science
 Ms Evin Uzun, Business School
 Dr Ignazio Viola, Aeronautics
 Mr Timothy Watts, Physics
 Dr Sebastien Weber, Physics
 Mr Ed Whisker, Business School
 Ms Angela Whitehead, Humanities
 Miss Katy Wilson, Environmental Policy
 Dr Zhi Wu, Clinical Science
 Dr Ghasem Yadegarfar, Public Health
 Dr Zahida Zahoor, Surgery and Cancer

Farewell moving on

Dr Ekundayo Adeosun, Medicine
 Mr Emmanuel Agoye, Catering Services
 Mrs Aiysha Armstrong, ICT

Dr Pierre-Arnaud Artola, Chemical Engineering and Chemical Engineering
 Mr James Ballantyne, Surgery and Cancer
 Miss Agnesska Benjamin, NHLI
 Dr Nicola Bianco, Civil and Environmental Engineering
 Dr Laurence Billingham, ESE
 Dr Thomas Bond, Civil and Environmental Engineering
 Mrs Doreen Bravery, Business School
 Mr Daniel Brookes, Medicine
 Mr Yuri Castillo, Security Services (8 years)
 Dr Themistoklis Charalambous, Bioengineering
 Dr Alexander Chroneos, Materials
 Dr Sandrine Claus, Surgery and Cancer
 Ms Emily Cook, Medicine
 Ms Amanda Cunningham, Medicine
 Dr Brice Dattee, Business School
 Dr Patrick Degenaar, Biomedical Engineering (8 years)
 Mrs Mandeep Dhaliwal, NHLI
 Dr Rachael Duff, NHLI
 Mr Richard Edgington, Communications and Development
 Mrs Nikki Elliott, Natural Sciences
 Dr Thomas Ezard, Biology
 Dr Rob Fenton, Biomedical Engineering
 Miss Raquel Fonseca, Computing
 Dr Costas Foudas, Physics (9 years)
 Mr Christopher Gaskell, Environmental Policy
 Mrs Angela Glyes, Biomedical Engineering (7 years)
 Mr Andrew Greenhalgh, Surgery and Cancer
 Dr Alexander Haupt, Physics
 Mr Seyyed Hosseini, Chemical Engineering and Chemical Technology
 Mr Lucio Iannone, NHLI
 Mr James Inglis, Mathematics
 Dr Piers Ingram, Mathematics
 Dr Etienne Jacotot, Surgery and Cancer
 Ms Terri Jacques, Humanities
 Dr Louisa James, NHLI
 Dr Kelsey Jones, Medicine
 Miss Eleanor Jones, NHLI
 Dr Rashed Karim, NHLI

Miss Sarah Kearey, Medicine
 Ms Lisa Kearey, NHLI
 Dr Panagiotis Keivanidis, Physics
 Dr Liam Kelly, Molecular Biosciences
 Dr Okanya Kokas, Chemistry
 Mr Pantelis Koutroumpis, Business School
 Dr Pascale Kropf, Medicine (12 years)
 Dr Yuan Lei, Bioengineering
 Dr Julius Leyton, Clinical Science (7 years)
 Ms Cindy Lisica, Library Services
 Dr Esther Lorente, Chemical Engineering and Chemical Engineering
 Dr Jean Mari, Bioengineering
 Miss Maria Marquez Daza, Catering Services
 Mr Andrea Maurano, Chemistry
 Dr Jarlath McKenna, Physics
 Dr Lyoong Oh, Civil and Environmental Engineering
 Dr Rajesh Patel, Surgery and Cancer
 Dr Marta Pellizon Birelli, Civil and Environmental Engineering
 Mr Damian Phelan, Accommodation Services
 Dr Maria Picouto Gonzalez, Medicine
 Ms Wanda Pilipkiewicz, Biomedical Engineering
 Miss Emma Powell, Communications and Development
 Dr Ying Rao, ESE
 Dr Claire Ryder, Physics
 Dr Henri Schildt, Business School
 Dr Iqbal Shadi, NHLI
 Dr Anand Sharma, Surgery and Cancer
 Dr Radim Skapa, Civil and Environmental Engineering
 Ms Abigail Smith, Communications and Development (9 years)
 Mr Ashley Spencer, Catering Services
 Dr Patrick Stacey, Business School
 Ms Katie Stilwell, Kennedy Institute
 Miss Katie Stone, Library Services
 Dr Jonathan Swann, Surgery and Cancer
 Dr Frederic Toulza, Medicine
 Mr Steve Trapmore, Sport and Leisure

Mr Peter Trowell, Mechanical Engineering
 Ms Gemma Walker, Medicine
 Dr Christina Wasmeier, NHLI (8 years)
 Dr Karl Wennberg, Business School
 Dr Gillian Wills, Medicine (13 years)
 Ms Beatrice Yankson, ESE (15 years)

retirements

Mr Bertie Langan, Security Services (35 years)
 Mr Michael Talbot, Security Services (19 years)

This data is supplied by HR and covers the period 17 August–3 September. It was correct at the time of going to press. Years of service are given where an individual has been a member of College staff for over five years. Asterisk (*) indicates where an individual will continue to play an active role in College life.

For *Moving in Moving on* covering the period 7 July–16 August, visit the online supplement to this edition at: www.imperial.ac.uk/reporter

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

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

speak out

Story ideas?

We welcome contributions from across the College. The next publication day is 7 October. *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



11 OCTOBER ▶ CONFERENCE

The first annual Junior Research Fellows' conference

Imperial set up its Junior Research Fellowship (JRF) scheme in 2008 to appoint the brightest and best early-career researchers to positions in the College, and to give them freedom to focus

on their research. On 11 October the 2009–10 Junior Research Fellows will be presenting their research at this one-day conference. This is an excellent opportunity to find out about the exciting research that these exceptional scientists are doing and find out about their first year at Imperial. You will also have a chance to welcome the second cohort as they begin their Fellowships.



25 OCTOBER ▶ VINCENT BRISCOE ANNUAL SECURITY SCIENCE LECTURE

Science, technology and secret intelligence

Join MI5's first official historian, Professor Christopher Andrew, as he explores the

interaction between science, technology and secret intelligence over the last century, from the world wars to the era of transnational terrorism. To mark the centenary of the founding of the British Security Service (MI5) in 1909, Professor Andrew was given exclusive access to files and archives in order to produce an authorised history of the intelligence agency: *The Defence of the Realm*.

take note

Audio feedback

Imperial's podcast is evolving and the producers want your input. The podcast gives listeners a taste of work and play at the College and it is presented by Gareth Mitchell, lecturer on the Science Communication MSc course. All Imperial's podcasts can be downloaded from www.imperial.ac.uk/media/podcasts, including the September edition, which features a discussion about how the podcast is changing.



Please contact Laura Gallagher on L.gallagher@imperial.ac.uk to share suggestions and feedback.

20–21 SEPTEMBER ▶ CONFERENCE

SID Organics Electronics UK 2010

A two-day meeting of the Society for Information Display (SID)



29 SEPTEMBER ▶ CONFERENCE

Sustainable Energy Futures Conference

Inaugural conference of the 2010 Sustainable Energy Futures MSc class.

4–8 OCTOBER ▶ VARIOUS ACTIVITIES

Welcome Week 2010

A series of talks and events for new Imperial students.



5 OCTOBER ▶ LAUNCH

Imperial launch of Singapore medical school project

Professor Martyn Partridge, Senior Vice Dean Designate of the new Singapore medical school, and Professor Jenny Higham, the Faculty of Medicine's Director of Education.

11 OCTOBER ▶ CONFERENCE

The first annual Junior Research Fellows' conference

Junior Research Fellows present their research

13 OCTOBER ▶ TALK

Launch of Healthcare Special Interest Group (SIG)

Dr Andrew Vallance-Owen, BUPA Group Medical Director, and Sir Muir Gray, NHS Chief Knowledge Officer



13 OCTOBER ▶ LECTURE

Antibodies and lectins that inhibit viral entry: new tools for the prevention of AIDS

Dr Alex Wlodawer, National Cancer Institute

20 OCTOBER ▶ GRADUATION

Commemoration Day

Graduation ceremonies held at the Royal Albert Hall

25 OCTOBER ▶ VINCENT BRISCOE ANNUAL SECURITY SCIENCE LECTURE

Science, technology and secret intelligence

Professor Christopher Andrew, official historian of MI5 and Professor of History, Cambridge University

26–28 OCTOBER ▶ COURSE

Graduate Schools Tutoring Training Course

For researchers wishing to expand their teaching experience

3 NOVEMBER ▶ SEMINAR

Robotics in surgery – state of the art

Emeritus Professor Brian Davies and Dr Ferdinando Rodriguez y Baena (both Mechanical Engineering)

15–19 NOVEMBER ▶ CONFERENCE

Neonatal update 2010

Presentation of new research data and clinical practice



VOLUNTEERING

Hosts for international students

Project id: 1032
 Organisation: HOST UK
 Date(s): Ongoing
 Time(s): Any day
 Location: Home-based

HOST introduces international students in the UK to friendly British residents, who welcome students into their homes for short visits. The organisation is looking for volunteers to open their homes to over 18-year-old international students from UK universities and colleges for a day, weekend or to attend an event. Hosts can offer the organisation just one, or more, invitations per year for one, or more, guests at a time. Hosts and students are matched, based on mutual interests, by a regional organiser. A small contribution at a set rate can be made towards expenses after the visit. For more information visit www.hostuk.org.uk.



For more information

To take part in a scheme or to hear more about volunteering in general, contact Marco Benozzi:

☎ 020 7594 8141
 ✉ volunteering@imperial.ac.uk

For full details of over 250 volunteering opportunities please visit: www.imperial.ac.uk/volunteering

✉ Subscribe to the weekly newsletter by emailing volunteering@imperial.ac.uk

Stay in the loop

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

