

blue skies, green aviation



The tail-less, low noise, low drag, fuel-efficient planes of the future, being designed at Imperial

 **CENTRE PAGES**



NEW YEAR HONOURS

Imperial staff
recognised
for service to
science

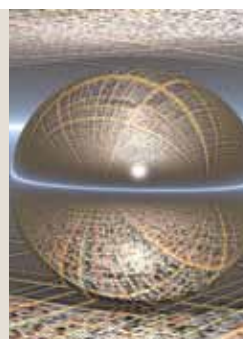
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MINI PROFILE

Salman Rawaf
on tackling
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QUANTUM COMPUTERS

What they can
do and how
they are set to
change our lives

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EDITOR'S CORNER

Our turn

Surveys, stats and feedback are part and parcel of modern life – from telephone operators to people you've bought a pair of shoes from on eBay, everyone wants you to 'rate their service'. Like most universities, the emphasis on evaluation at Imperial can seem focused on what students or research peers think, but this week the 2011 **Imperial Staff Survey** launched, giving staff the opportunity to have their say about the College and how well they are supported. In my experience Imperial staff aren't shy of giving their opinions – something which keeps *Reporter's* 'Inside Story' section interesting. This issue you can read comments on page 9 from **Debby Shorley, Director of Library Services** on her mission to change the landscape for university journal subscriptions. The last questions of the Staff Survey are the most intriguing. For example "If it were possible, what one thing would you change about working at Imperial?" I can't wait to hear your answers. While I'm guilty of averting my gaze from **supermarket volunteers** doing questionnaires, this is one form I'm going to be filling in.

EMILY ROSS, EDITOR

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\$1.5 million in Gates funding for neglected diseases

A group at Imperial dedicated to eliminating neglected tropical diseases (NTDs) has received \$1.5 million from the Bill and Melinda Gates Foundation to improve control of a disease passed to humans by pigs.

The Schistosomiasis Control Initiative (SCI) based in the School of Public Health will research how efforts to combat the tapeworm infection cysticercosis can be integrated into existing prevention programmes.

The tapeworm *Taenia solium*, acquired by eating infected pork, resides in the human gut, where it normally causes little harm to the affected person. Cysticercosis is caused by

consuming the eggs of the tapeworm, by contamination of food or water with faeces from infected humans. These eggs grow into cysts in the tissues, including the brain, where they can cause severe neurological problems such as epilepsy.

For the last eight years, the SCI has been involved in delivering drugs to treat NTDs across sub-Saharan Africa but until recently zoonotic diseases – those transmitted from animals to humans – have not been considered for funding as part of the programme.

"It's vitally important that we explore ways to further maximise the impact of existing NTD control programmes, to ensure that we're using the limited



Bill Gates, pictured on the South Kensington Campus during his visit to Imperial in May 2009.

resources available in the most effective way to benefit the most vulnerable communities," said Dr Wendy Harrison, Deputy Director of the SCI.

—SAM WONG, COMMUNICATIONS AND DEVELOPMENT

Tackling food related health inequalities in Indian populations



Researchers from Imperial, the Institute of Food Research, and the Universities of Mysore, Bangalore and Hisar in India have been awarded a £20,000 BBSRC grant to investigate food-related health issues that are specific to Indian populations in the UK and India.

There are several conditions which seem to exert disproportionate effects on the health of Indians living in India and the UK. These include cardiovascular diseases, which occur 10 to 15 years earlier in Indian populations than in Caucasian populations.

Another condition is obesity, which affects 55 million people in India. Associated with this, diabetes is on the rise and Indians have a higher risk of developing the condition than Caucasians.

The overriding aims of this research, which will investigate links between diet, income and health within Indian populations, is to inform new approaches to tackling health conditions that positively

affect Indian communities, for example by providing them with specific dietary advice.

Professor Peter Burney and Dr Vanessa Garcia Larsen (both NHLI) are co-investigators on this BBSRC project. Commenting on the award, Dr Garcia Larsen said: "Understanding the dietary habits of Indian populations in their native countries and after migrating into the UK will help us tackle the effect of diet and low income on diseases related to malnutrition in ethnic minorities." Professor Burney added: "This research will allow us to identify the main food-related health inequalities and their impact on diseases."

—RESPIRATORY EPIDEMIOLOGY AND PUBLIC HEALTH GROUP, NHLI

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\$150 million gift to Singapore medical school



On 4 January Nanyang Technological University (NTU) announced that the Lee Foundation has made a gift of \$150 million Singaporean dollars to the new Singapore medical school with half of the sum going directly to needy students. Thanks to the Singapore government's pledge to provide enhanced matching to endowed donations to the new medical school, NTU will receive a gift amounting to \$400 million.

The new medical school, a partnership by Imperial and NTU, was announced

by Prime Minister Mr Lee Hsien Loong at his National Day Rally speech on 29 August 2010. The agreement was officially signed by the two universities on 29 October 2010.

In recognition of the gift, the new medical school at NTU will be named the Lee Kong Chian School of Medicine, after Tan Sri Dato Lee Kong Chian who founded the Lee Foundation in 1952 to help the poor and needy and for the advancement of education, medicine and cultural activities.

A spokesman for the NTU Board of Trustees

said: "Tan Sri Dato Lee had a vision to use his wealth not for personal betterment but to improve society as a whole. His selflessness and generosity will be an inspiration to the students of this medical school named in honour of him."

Professor Stephen Smith, founding Dean of the new medical school and Pro Rector (Health) at Imperial, said: "To be bestowed a magnificent gift to help us fulfil our vision of attracting the most able students is a wonderful start to the life of the new school."

Half of the gift – \$75 million – is specifically designated for an endowment fund offering student financial aid in the form of scholarships, bursaries and other forms of student financial support. The remaining \$75 million will form another endowment fund for the advancement of medical education and clinical research at the new medical school.

—NANYANG TECHNOLOGICAL UNIVERSITY RELEASE

New Year Honours for Imperial staff and alumni



Staff from Imperial, both past and present, have been recognised in the Queen's New Year Honours for 2011.

Linda Jones, Faculty Projects Manager (Natural Sciences) and Operations Manager (Physics), has been made a Member of the Order of the British Empire (MBE) for services to science. Linda said: "I offer my sincere thanks to those who initiated and supported my nomination, and I am absolutely truly delighted to add this award to my Associateship of Imperial College. These are very exciting times, as I will also become a grandmother next month."

Lindsay Green has been awarded an MBE for services to science. He is the Administrative Director at the Medical

Research Council's Clinical Sciences Centre, which is part of the Faculty of Medicine. Commenting on the honour, Lindsay said: "I am not sure I deserve it above many other people. I got the letter in mid-November, I recall after a visit to the dentist! It was hard to keep it quiet and the only people I told in advance were my wife (who was delighted, although her immediate reaction was to burst into tears) and my mum."

David Gentry, the former Safety Manager in the Faculty of Natural Sciences, was also recognised with an MBE for services to science. David left the College recently after more than 40 years' employment, having first joined in 1966 as an electronics apprentice, before becoming a research technician, and then moving into health and safety work.

Several Imperial alumni were also recognised with Honours, including Sir Ron Kerr, former student at St Mary's School for Medicine, who received a knighthood for services to healthcare.

—SIMON WATTS, COMMUNICATIONS AND DEVELOPMENT

For the full list of honours visit: <http://bit.ly/ec1Wdf>

in brief



Head of the Department of Computing

Professor Susan Eisenbach, Professor of Computing and Dean of Learning and Teaching, has been appointed as Head of the

Department of Computing with effect from 1 January 2011 for a period of five years. Professor Eisenbach will succeed Professor Jeff Magee who has become Principal of the Faculty of Engineering.

Stonewall's Workplace Equality Index

Imperial has been named one of the UK's top 100 employers for lesbian, gay and bisexual people for the second year running. Imperial's place at number 87 in Stonewall's 2011 Workplace Equality Index makes it one of only five universities in the top 100. The Index is published annually to showcase the UK's best employers for LGB people, based on the steps they are taking to create a work environment in which all staff feel secure and valued. Read the full story at: <http://bit.ly/fs117w>

Director of Marketing

Ms Laura Barker has been appointed Director of Marketing. She will report to the Pro Rector (Enterprise), Mr Edward Astle, and be accountable to a stakeholder group, comprising the Faculty Principals, Pro Rector (Education), Pro Rector (International) and Director of Communications and Development, to develop Imperial's marketing strategy and support its delivery.

ICON results

Imperial Consultants, which provides external organisations with access to research equipment and experts at the College for consultancy work, recently announced its results for the year 2009–10. The company helped to generate nearly £5 million of additional income for departments over the year through negotiating the provision of services to external organisations, and made an additional £1.1 million profit, which was gifted to the College for distribution as unencumbered funds. With an annual turnover of £15.1 million, Imperial Consultants generated more income than their Oxford, Cambridge and UCL counterparts combined.

media mentions

—LAURA GALLAGHER, COMMUNICATIONS AND DEVELOPMENT



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www.imperial.ac.uk/media/jointsignup



BBC NEWS ▶ 13.12.2010

Bee seeing you

A new database is offering a glimpse into the ultraviolet world of the bumble bee, enabling researchers to 'see' plant colours through a bee's eyes. The Floral Reflectance Database shows how bees use a different colour detection system from humans and can see in the ultraviolet spectrum. The research could have commercial applications in the greenhouse, enabling growers to understand the best light climate for maximising pollination. Speaking to *BBC News* about other benefits of the research, Professor Vincent Savolainen (Biology) said: "We hope this work can help biologists understand how plants have evolved in different habitats, from biodiversity hotspots in South Africa to the cold habitats of northern Europe."

SCOTSMAN ▶ 29.12.2010

I'm a celebrity – keep me out of the lab

Some celebrities' scientific savvy, or lack of it, has been put under the microscope by the charity Sense about Science, which looked at some of the strange claims made by celebrities in the last year. These included statements about hologram bracelets boosting energy and magnets helping with weight loss. Speaking of his objection to mobile phone masts, former Harrods owner Mohamed Al-Fayed said: "All that radiation – it causes cancer." Dr Mireille Toledano (School of Public Health) told the *Scotsman*: "Mobile phones masts work by transmitting non-ionising radio waves. There is no convincing evidence to associate this with an increased risk of cancers."

THE OBSERVER ▶ 2.1.2011

Imperial Prof peers into her crystal ball



Professor Georgina Mace (Biology) was one of 20 experts asked by *The Observer*

to predict how the world is likely to change in the next 25 years. She wrote: "We all want to live in a world where species such as tigers, the great whales, orchids and coral reefs can persist and thrive and I am sure that the commitment that people have to maintaining the spectacle and diversity of life will continue... But it is going to become much harder. The human population has roughly doubled since the 1960s and will increase by another third by 2030."

THE HERALD ▶ 3.1.2011

Fight against Parkinson's goes back to the future

Researchers will explore the way Parkinson's disease progresses in a major new study launched by the actor Michael J. Fox this month, involving patients across Europe and the US. Professor David Brooks (Medicine), who will lead the study in the UK, told *The Herald*: "To develop life-transforming treatments for the millions of people living with Parkinson's disease worldwide, we need consistent and reliable biomarkers – measurable indicators of disease risk, onset and progression. This study will leverage our group's expertise in developing imaging-based biomarkers, and allow us to take our Parkinson's biomarker programme to the next level through open collaboration with The Michael J. Fox Foundation and top-flight investigative teams throughout Europe, as well as the United States".

awards and honours

MEDICINE

Young Scientist of the Year



PhD student Stephen Holland (Medicine) was runner up in the prestigious British Society of Immunology (BSI)

Young Scientist of the Year Award winning £500. This new prize was awarded at the ASI's Annual Congress, held in Liverpool in 2010. Abstracts were selected and those shortlisted gave short talks during the plenary sessions. Stephen is in the third year of a PhD supported by

the Wellcome Trust PhD programme in 'Infection and Immunity'.

MEDICINE

Medics research projects awarded

Imperial medical students Jack Penn and Evgenia Petrides presented their 2010 BSc research project data at the annual meeting



Jack (left) and Evgenia (right) with their supervisor Dr Daqing Ma (Surgery and Cancer) (middle) at the Royal College of Anaesthetists.

of the Anaesthetic Research Society (ARS) held at the Royal College of Anaesthetists on 11 November 2010. Jack was awarded first place in the President's Prize for the best undergraduate research project on surgery and anaesthesia and Evgenia was awarded second place for her project on reproduction and development.

ENGINEERING

Dickinson wins Mapleson Medal

Dr Robert Dickinson, Lecturer (Surgery and Cancer) was awarded the Mapleson Medal at the Anaesthetic Research Society meeting held on 11 November 2010 at the Royal College of Anaesthetists. Dr Dickinson received the award for his presentation on his research into

the anaesthetic gas xenon which can protect brain cells from lack of oxygen, such as occurs during a stroke or neonatal asphyxia.

NATURAL SCIENCES

Philbin's research recognised

Dr Simon Philbin, Programme Director for the Institute of Shock Physics and Visiting Fellow in the Business School, has been announced as the winner of the 2010 best paper award by the Society of Research Administrators. He has been recognised for his case study 'Investigation of the Development and Management of a University Research Institute'. His award will be presented this October at the society's annual meeting in Montreal, Canada.



A new green industry for the UK

The UK has the capacity to develop new green industries for capturing harmful carbon dioxide (CO₂) emissions from industry and storing them deep underground, but more investment is needed to further develop the relevant technologies and infrastructure, Imperial scientists revealed in research papers published on 7 December.

The authors, from the Grantham Institute for Climate Change, have published two briefing papers that highlight the potential opportunities associated with adopting Carbon Capture and Storage (CCS) technologies and also the challenges involved. The researchers say that developing CCS on a large scale in the UK could promote economic growth, spawning new green technology companies and services that would build and maintain the CCS infrastructure.

CCS technologies are designed to trap and transport CO₂ from industry, via pipelines, and store it in offshore underground reservoirs. CCS technology has been used extensively in the oil industry to recover fossil fuels from reserves and trap waste emissions in rock. However, it has never been used on a large scale to capture emissions from industry and power plants.

Dr Paul Fennell (Chemical Engineering and Chemical Technology), one of the briefing paper authors, said: "The transition to full scale usage of CCS is quite a challenge as we'll need to store several thousand times more CO₂ than we do at the moment for CCS to have a significant impact on our environment. We need to design CCS systems that can cope with holding, transporting and storing these vast CO₂ loads from our industries and power stations."

—COLIN SMITH, COMMUNICATIONS AND DEVELOPMENT

Quantum computers a step closer

Our flawed understanding of how decisions in the present restrict our options in the future means that we may underestimate the risk associated with investment decisions, according to new research by Dr Ole Peters from the Department of Mathematics and the Grantham Institute for Climate Change.

The research, published on 17 December in the journal *Quantitative Finance*, suggests how policy makers might reshape financial risk controls to reduce market instability and the risk of market collapse.

Investors know that there are myriad possibilities for how a financial market might develop. Before making an



investment, they try to capture these possibilities in a single number to represent likely market performance. They can do this in one of two ways, with the ensemble average being the most commonly used approach. This is based on imagining multiple scenarios that all begin from the same starting conditions, and then averaging their outcomes. The alternative, time averaging, imagines all possible scenarios playing out over time.

As we live on a timeline, previous decisions cannot be undone as time passes. Any new decision constrains our choices when making subsequent ones.

Time averaging provides the more accurate prediction for the real world outcome of an investment decision.

"In the investment world, ensemble and time averages give different results, with ensemble averages systemically ignoring the effects of fluctuations," said Dr Peters. "If investors routinely used time averages, it would help to avoid scenarios such as the excessive leveraging of investments that contributes to market instability and the likelihood of market collapse."

—RAY MATHIAS, COMMUNICATIONS AND DEVELOPMENT

Your genome in minutes



Imperial scientists from the Department of Chemistry are developing technology that could sequence a person's genome in mere minutes, at a fraction of the cost of current commercial techniques.

The researchers have patented an early prototype technology that they believe could lead to an ultrafast commercial DNA sequencing tool within 10 years. Their work is described in a study published last month in the journal *Nano Letters* and is supported by a Wellcome Trust Translational Award and the Corrigan Foundation.

The research suggests that scientists could

eventually sequence an entire genome in a single lab procedure, whereas at present it can only be sequenced after being broken into pieces in a highly complex and time-consuming process. Fast and inexpensive genome sequencing could allow people to unlock the secrets of their own DNA, revealing their personal susceptibility to diseases such as Alzheimer's, diabetes and cancer. Medical professionals are already using genome sequencing to understand population-wide health issues and research ways to tailor individualised treatments or preventions.

One of the authors of the study, Dr Joshua Edel (Chemistry), said: "Compared with current technology, this device could lead to much cheaper sequencing: just a few dollars, compared with \$1 million to sequence an entire genome in 2007. We haven't tried it on a whole genome yet but our initial experiments suggest that you could theoretically do a complete scan of the 3,165 million bases in the human genome within minutes, providing huge benefits for medical tests, or DNA profiles for police and security work. It should be significantly faster and more reliable."

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

Greening the airways



Aviation is a passion that has dominated Dr Varnavas Serghides' career.

His office in the Roderic Hill building on the South Kensington Campus is adorned with posters of aircraft gliding through bright blue skies, photographs of experimental fighter aircraft and prototypes of his futuristic-looking plane designs with highly innovative configurations.

Varnavas, based in the Department of Aeronautics, is part of a new cross-College multidisciplinary initiative to help the aviation industry meet stringent environmental and noise pollution targets. These have been set as a fundamental part of the UK's strategy to reduce greenhouse emissions by 80 per cent by 2050.

The Department of Aeronautics has set up a Green Aviation forum to encourage people to share knowledge and best practice and act as a conduit for new collaborations between Imperial and the aviation industry. The Department also helped organise a Green Aviation symposium at the College on 6 January, bringing together staff with members of the industry including aircraft manufacturers like BA, fuel companies like BP and engine manufacturers like Rolls-Royce.

Professor Ferri Aliabadi, Head of the Department of Aeronautics, said: "A greener, more sustainable aviation industry is possible, but it requires industry, academia, regulators and governments to work

together. Our new forum and symposium will provide a useful platform for everyone to come together, thrash out the issues, and start working on innovative solutions to the challenges that we face."

Design

One of the areas explored at the Green Aviation symposium was the design of planes – an area in which Dr Varnavas Serghides specialises. "As an airplane designer you are always designing the planes of the future aiming to maximise their overall efficiency so in a way green aviation has always been part of what I do at Imperial," he says.

Varnavas has been working at Imperial for nearly 20 years and flying for 30. "I've wanted to work with airplanes since I was a kid," he says enthusiastically. "I am a qualified pilot and I've worked as an engineer with an airline, air force and aircraft industry before coming to Imperial as the British Aerospace Lecturer in Aerospace Vehicle Design. I think anyone designing a plane should be able to fly – it gives you a far greater understanding of what you are trying to achieve and what is possible," he adds.

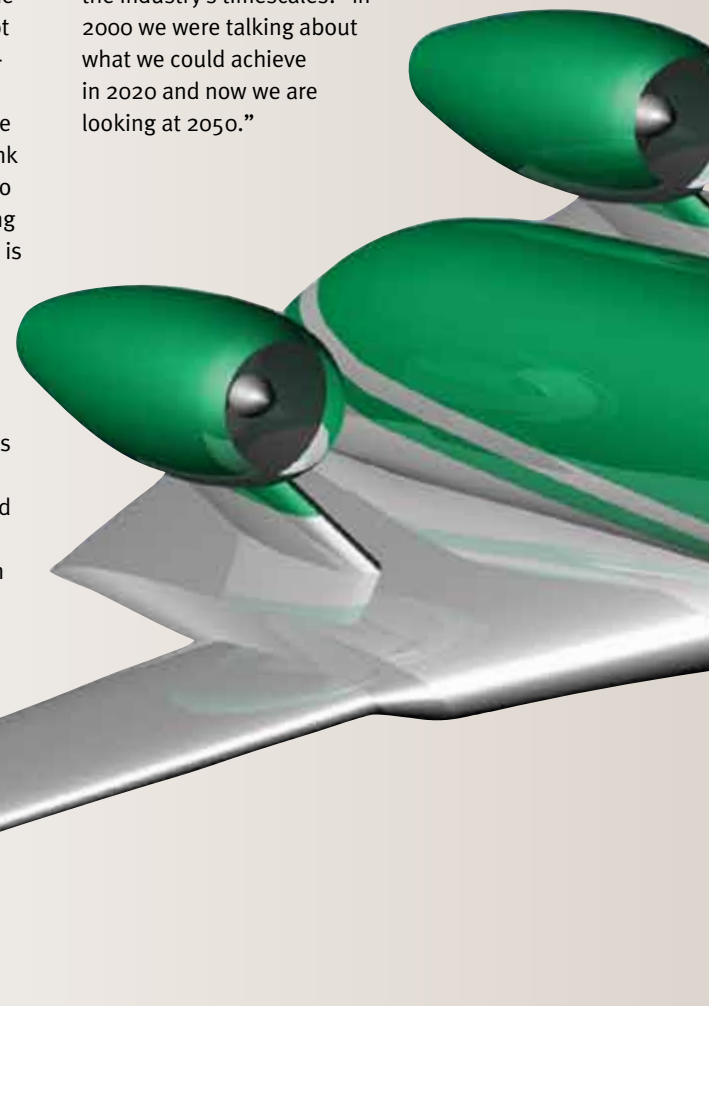
Varnavas explains that the current configurations of planes have almost reached their limit in terms of optimisation. He says that over the years they have not visibly altered very much – their engines have become more efficient, different materials have been used to build them and they have become more aerodynamic, but basically the same layout is being used. "In order to deal with our carbon emissions there needs to be a significant step change in the aviation

industry and this is where my designs come in," he reveals.

Varnavas' designs include tail-less planes that are lighter and have less drag. They therefore need smaller engines that burn less fuel. He has also developed innovative design concepts for high-capacity planes with ultra-wide cabins seating over 1000 people to minimise the number of planes in the sky, and has proposed planes with engines located internally at the back instead of underneath the wings to tackle noise problems.

He has tested all of his designs in the flight simulator in the Roderic Hill building, practising taking off, landing and flying using all the controls and aircraft systems you would find in a real cockpit. He says: "My models fly incredibly precisely – being able to see one used by the industry and getting the opportunity to fly it myself would be the ultimate goal!"

Varnavas is aware of the challenge of getting his designs out into the public domain – new configurations are viewed cautiously. It can take 10–15 years to develop new technology and get the models off the ground. But he explains that this fits with the industry's timescales: "in 2000 we were talking about what we could achieve in 2020 and now we are looking at 2050."



“There needs to be a significant step change in the aviation industry and this is where my designs come in”

Imperial researchers from across College are involved in green aviation research. Reporter investigates:

Materials



In addition to finding new configurations for key components of aircraft, the material used

to build them in the future was another topic discussed at the symposium.

Dr Paul Robinson (Aeronautics) is a Reader in Mechanics of Composites and researches and develops composite materials to make aircraft lighter and therefore more fuel-efficient. The aim of Paul's research is to improve our understanding of the behaviour of the materials to develop more accurate modelling tools so that engineers can design efficient aircraft structures. Members of the Aerostructures Group, together with staff from the Departments of Chemistry and Chemical Engineering and Chemical Technology, are looking at incorporating carbon nanotubes in conventional carbon fibre composites to create a particularly strong material. Using this for the outer structure of the aircraft has the potential to make it even lighter.

The Group is also involved in developing carbon composites with additional functionality – for example, the ability to store electrical energy, which will reduce the power generation needs elsewhere in the vehicle. “This research, funded by the EU, has already produced some excellent results which is very exciting for the green aviation field,” he says.

Flight paths



Beyond the Department of Aeronautics there is a wealth of green aviation research hap-

pening at Imperial, with staff working on projects from air traffic management in the Department of Civil and Environmental Engineering to biofuels research in the Porter Institute. Professor Brian Hoskins, Director of the Grantham Institute for Climate Change, is a member of the UK Climate Change Committee, which advises the government on greenhouse gas reduction targets for the UK. He is very supportive of green aviation research at Imperial: “I don't think we can possibly meet our target if aviation emits any more than it's doing now,” he says.

Brian points towards a different green aviation research area at the College, which is investigating condensation trails that planes often leave behind. “The white lines you see in the sky are formed when the very hot moist air from the airplane engine mixes with moist environmental air,” Brian explains. “If the weather is cold enough this can form and even spread into an ice cloud that can linger in the sky like other cirrus clouds. Cirrus clouds let most of the sun through but stop the heat from the earth escaping. More of these clouds will contribute to global warming.”

Brian is collaborating with researchers at the University of Reading and around Europe to look into this area. “Once we can

predict that the locations and times when condensation trails form, flight paths could be designed with input from the latest weather forecasts so that they avoid such regions. If aeroplanes start to routinely observe the humidity in the atmosphere and communicate their observations to the weather forecast centres, they could help make sure the next forecast is as accurate as possible,” he explains. “It may turn out that the very uncertain, but probably significant, climate change impact of condensation trails could be quite simply removed”.

Noise



Another key area of green aviation research at Imperial focuses on reducing

noise pollution from aircraft. The aviation industry in Europe has set targets to reduce noise pollution by 50 per cent by 2050. Normally when a plane comes in to land, flaps rise up on the wings slowing the aircraft down and causing a lot of noise. Professor Christos Vassilicos and his team in the Department of Aeronautics are designing flaps using fractal grids (grids punctured with special patterns) to help reduce the noise level by creating a high frequency sound when a plane comes into land, dissipating the low frequency sound and neutralising the noise.

— EMILY ROSS, COMMUNICATIONS AND DEVELOPMENT

If you are working in green aviation research and want to join the forum contact: ae.office@imperial.ac.uk

Want to hear what people at the symposium thought planes will look like in 50 years time? Visit: www.imperial.ac.uk/media/podcasts

Above: An innovative ‘green’ aircraft designed by Dr Varnavas Serghides (Aeronautics). Features include: no tail, low noise, low weight, low drag, and aft-mounted over-wing engines.

inside*

story

mini profile

Salman Rawaf

Reporter speaks to Professor Salman Rawaf, Director of the World Health Organisation Collaborating Centre for Public Health Education and Training in Imperial's School of Public Health, about addressing health problems on a global scale.



What expertise can Imperial offer the WHO?

We have a lot of expertise that links to the WHO's work. Our researchers lead on innovation in medicine and health, we offer superb training in health service management, and – of particular relevance – we have excellent expertise in primary care. Primary care services are the first port of call for people with any kind of health problem, so they play a vital role in every community. In our work supporting countries to develop their health systems, it is an area we always address.

What do you think the WHO does particularly well?

The WHO provides technical expertise on healthcare to countries around the world. Of the 174 developing countries in the world, 74 of these are in crisis. The WHO supports these countries and helps them to strengthen their health systems and provide universal coverage for the entire population. There are very few countries that provide universal coverage. Many people around the world actually aren't able to receive the

health services and the health-care they need.

What do you most enjoy about your work?

It gives me great joy to see people radically changing their health systems, and helping them to reach people that their current systems can't. As well as this we provide training at Imperial to people from around the world. Last year, for example, the senior management team from the Malaysian Department of Health came to Imperial to look at the UK's health system, our reforms, and to learn from our experiences of catering for the most needy parts of our population and improving efficiency.

What do you personally do to keep healthy?

I enjoy life, I enjoy gardening, and I take part in anything from skiing to scuba diving. So I do anything possible that I can do, depending on the time I have.

—SAM WONG, COMMUNICATIONS AND DEVELOPMENT

New views on climate change

On 16 November Professor Joanna Haigh, Chair of Atmospheric Physics, and Head of the Department of Physics gave the Friends of Imperial lecture on the sun and climate change.

Joanna's research group has found that solar activity plays a greater role in the climate of middle latitudes than the tropics, and that an important factor driving this response is the absorption of solar ultraviolet radiation in the stratosphere. Stephen Maine, Mechanical Engineering Workshop Technician (Physics), describes his experience of the event.

“With lots of conflicting data about climate change in the media, I decided to go along to this event to find out more about the causes. Joanna's lecture was packed with information and she explained how data obtained from the Solar Radiation and Climate Experiment (SORCE) – a NASA-sponsored satellite mission that provides state-of-the-art measurements of incoming total solar radiation – combined with data on the chemistry of the atmosphere suggests that less solar radiation reaches lower altitudes when

“It was a fascinating lecture, crammed with graphs and stats.”

the sun's activity is higher. Additionally the data suggests that solar influence on climate is ‘top down’ via UV radiation from the sun warming the atmosphere. Previously the main driver of the

effects of variations in solar activity on atmospheric temperature was thought to be ‘bottom up’ from changes in visible light radiation warming the earth's surface. It was a fascinating lecture, crammed with graphs and stats. I have been

to a couple of Friends of Imperial lecture before but the Q and A sessions have rarely been so animated and passionate. In the Friends of Imperial customary fashion, after the lecture we adjourned for drinks and nibbles and further debate ensued – now we are all experts on climate change!”



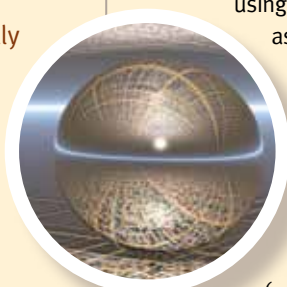
► SCIENCE FROM SCRATCH

As explained by Pippa Goldenberg, MSc Science Communication



Quantum computers

The term ‘quantum’ generally refers to a discrete amount of a specific physical quantity, such as energy or momentum. However, this term also refers to anything that operates using quantum mechanics – the laws governing the smallest particles, such as photons, electrons and the Higgs boson, which differ from ‘classical’ or Newtonian laws. So, a ‘quantum computer’ is a computer that works using quantum mechanics. The computers we use today use binary code – a series of 1s and 0s – to represent numbers and letters. A quantum computer works on the same principle, but instead of a magnetic field on a disc – which stores the 1s and 0s as a field pointing ‘up’ or ‘down’ – the 1s and 0s are represented by particle states. It is possible to change the states of these particles (e.g. changing a 1 to 0) through entanglement, where one particle is ‘connected’ to another and can influence its state. This new kind of computer would be able to process multiple tasks much more quickly, as it is able to perform multiple tasks simultaneously, and promises a leap forward in technology in the near future.



course review



By course attendee Dr Claudia Walter, a research associate in the Department of Materials

Springboard Women's Development Programme

1 What did the course cover?

The course consisted of four one-day workshops spread out between September and December 2010. It included sessions on assertiveness, networking and putting yourself across positively as well as self-assessment and setting goals for yourself.

2 What did you learn from the course?

Life is pretty hectic and without the course I probably would not have taken the time to step back and reflect. It was an opportunity to think about all the different aspects of my life and identify what was going well and what still had room for improvement. Having done that I now feel more focused and more motivated but at the same time more relaxed and just generally more in control of what I want to do with my life.

3 What advice did you receive?

I personally gained the most from the work on assertive communication and I enjoyed the sessions on 'extending your comfort zone' which can lead to all sorts of funny results in real life when you do things you wouldn't normally do!

Springboard is run by the Postdoc Development Centre. For more on the courses they run visit: www3.imperial.ac.uk/staffdevelopment/postdocs1



Professor Alexander Bismarck, Professor of Advanced Materials (Chemical Engineering), is conducting research into the power of micro-gel technology, developing microscopic particles with curious characteristics.

What is your area of research?

My research incorporates work on polymers – materials which are structured from tiny units that are repeated over and over again, usually held together by covalent chemical bonds. I look at polymers which contain tiny cavities that allow water to infiltrate them more quickly (known as macroporous polymers) and also ways in which polymers can be used to build microgel particles that are responsive to temperature and magnetic field.

INVENTOR'S CORNER

Micro materials

“The solid macroporous polymers themselves might be of interest to speciality applications”

What have you invented?

My research group (the Polymer and Composite Engineering group) has developed methods to make new materials and to add new properties to existing ones. One particular example of how we can manipulate the characteristics of a material is through the use of inorganic oxide particles such as silica or titania to stabilise emulsions. Generally agents are used to stabilise emulsions, but some of these agents can negatively affect the structural properties of the polymerised emulsion. Using our new methods, the emulsions can be turned into solid polymers which are highly porous but have strong mechanical properties.

What are the potential applications of your inventions?

The liquid-to-solid transition of these materials could be useful for the oil and gas industry as they could be used to produce filters to remove sand or fine minerals found in oil which can damage equipment. The solid macroporous polymers themselves might be of interest to speciality applications, such as tissue engineering. Tissue engineering requires a scaffold onto which the cells are seeded and grown. The scaffold needs to be biocompatible so that the body doesn't reject it. It also needs to be porous so that cells can penetrate the material, nutrients can reach the cells and metabolic waste can be removed, but it must be strong enough to carry the load of the tissues. Macroporous polymers could fulfil all of these requirements.

— GAVIN REED, IMPERIAL INNOVATIONS

If you have an idea with commercial potential, visit: www.imperialinnovations.co.uk

Challenging high journal fees

Debby Shorley is Director of Library Services at Imperial and a board member of Research Libraries UK (RLUK). Over the past few months she has led a small group determined to put a stop to the inexorable rise in the cost of journal subscriptions. She gives the lowdown on the debate to *Reporter*:

“As university budgets fall dramatically it becomes ever more baffling that publishers charge us prices which rise way faster than regular inflation. UK universities now pay an estimated £192 mil-

lion a year to publishers for journal and database access, almost one tenth of the total QR grant they receive from HEFCE in recognition of the research they do, based on performance.

So we in RLUK have instructed our negotiators, JISC collections, to secure for us a reduction of 15 per cent on what we currently pay to our two biggest publishers, Elsevier and Wiley Blackwell, when we renew our licences for January 2012. If JISC collections

fail to achieve this for us we shall not sign up to the deal. Instead we shall find other ways of supplying the material our researchers need to do their work. We are drawing up contingency plans accordingly.

We know this is a high risk strategy but see no alternative. Recent appeals to the publishers to mitigate their prices have fallen on deaf ears. Now, reluctantly but with the support of the Russell Group Vice-Chancellors, we shall play hardball. To do otherwise



would compromise the future of UK research.”

For more information go to www.rluk.ac.uk/content/rluk-calls-journal-pricing-restraint or email d.shorley@imperial.ac.uk

obituaries



JACK RUTTER

Professor Jack Rutter, former Head of the Department of Botany and Plant Technology, died on 1 November 2010. Professor Nigel

Bell (Centre for Environmental Policy), who worked as his research assistant 40 years ago, pays tribute to his friend and colleague. He says: "Jack joined the College as an undergraduate in Botany in 1935, graduating with first class Honours in 1938. He was one of the best known physiological plant ecologists of his day, renowned for his work on plant water relations and modelling water balance in forests. He began a PhD investigating bluebell ecology in 1938, but due to wartime conditions this was not completed until 1944. During the war Jack researched the development of synthetic herbicides and improvement of oil-seed crops. He was appointed Assistant Lecturer in 1945, followed by promotions to Lecturer in 1946, Reader in 1956 and Professor of Botany in 1967. In 1970 he started the research group at Silwood Park working on the effects of air pollution on plants which continues to this day. From 1971 until his retirement in 1979, he was a popular Head of Department. Jack enjoyed interacting with students, with whom he had a deep empathy. He will be remembered for being a brilliant scientist, but as an incredibly warm and humane person."

long
service

Reporter features staff who have given many years of service to the College.

Staff listed below celebrate anniversaries in the period 1–5 January. Data is supplied by HR and is correct at the time of going to press.

20 years

- Professor Myra McClure, Professor of Retrovirology (Medicine)
- Professor Jonathan Weber, Clinical Professor (Medicine)
- Miss Jennifer Welch, Research Technician (NHLI)
- Mr Karl Stupple, Building Surveyor (Estates)
- Professor Michele Dougherty, Professor of Space Physics (Physics)
- Mr Iain Stewart, Teaching Assistant (Computing)
- Mr Adrian Umpleby, Research Fellow (ESE)
- Mr Ian Morris, Technician (Life Sciences)
- Mr Brian McVeigh, Functional Business Systems Specialist (ICT)

30 years

- Dr Susan Paterson, Forensic Toxicologist (Medicine)
- Dr Maria Panico, Laboratory Manager (Life Sciences)
- Mr Yash Bhasin, Laboratory Manager (Medicine)
- Ms Gill Davies, Undergraduate Administrator (ESE)

40 years

- Emeritus Professor Colin Atkinson, Senior Research Investigator (Mathematics)
- Mr Henry Ford, Purchasing Officer (Faculty of Medicine Centre)

An insight into science-based humour

The year 2010–11 marks a decade since the foundation of Imperial's Graduate Schools, and a range of events have been planned to mark this milestone. Dr Alice Bell, Senior Teaching Fellow, Science Communication (Graduate Schools), describes one of her favourite events so far – a talk by Jorge Cham, creator of 'Piled Higher and Deeper', a comic strip characterising academic life that is popular in the US.



"Being a reasonably recent graduate myself, I know all too well that being a postgraduate can be a challenging experience at times. Being able to laugh at the various oddities, frustrations and eccentric characters that feature in academia is a useful survival tactic.

Cham (pictured above) started producing the comic in the late 1990s whilst a graduate in Mechanical Engineering at Stanford University. Its jokey take on life (or lack thereof) in academia struck a chord, and the comic's online archive attracts millions of visitors a year.

Cham's talk focused on procrastination, arguing that it can be a positive part of the graduate school experience. There were a load of in-jokes, including a few that Cham wryly pointed out don't work so well with arts and humanities students. And there lies the power of a lot of science-based humour: we giggle in recognition of some shared knowledge which we realised is probably a bit unusual."

Innovation summit



The UK Innovation Research Centre (UK-IRC)'s annual event, the Innovation Summit, took place on 7 December at the University of Cambridge. The UK-IRC is a collaborative initiative between

Imperial and the University of Cambridge which focuses on research into how innovation can make businesses more competitive, improve public services delivery and help the UK meet the social, environmental and economic challenges it faces. Dr Cher Li, Research Fellow (Business School), reports on the event, which attracted more than 80 participants from industry, academia, government departments, funding councils and other public sector groups.

"Part of my research focuses on the impact of innovation, so I was pleased to learn that at this year's Innovation Summit was due to feature discussions about the topical issue of assessing the impact of innovation and research and development activity.

Professor Alan Hughes, Director of UK-IRC, opened the summit by discussing recent changes in public sector impact assessment, and the

various challenges ahead. David Eyton from BP shared his perspectives on the importance of energy innovation in the transition to a more sustainable energy future, in which the UK's world-class science and technology plays a crucial role. Mary Walshok, Vice Chancellor of the University of California, offered an interesting transatlantic perspective on how to measure the evolution of regional innovation clusters such as Silicon Valley. We also learned more from HEFCE about the successful pilot study on the Research Excellence Framework, which will be implemented from 2014 as a new way to assess academic impact.

Measuring impact will have a defining effect on the future of academia, but as our final speaker Julia Lane, who works at the National Science Foundation in the US, explained: "You can't manage what you can't measure – so the challenge for universities is to find good answers to the complexities of gauging impact."

“You
can't manage
what you can't
measure”

Welcome new starters

Dr Richard Abel, Surgery and Cancer	Dr Carol Connor, NHLI	Dr Andreas Griesmayer, Computing	Miss Kimberly Marsh, Public Health	Mrs Katharine Silk, Institute of Clinical Science
Ms Marta Abreu Paiva, NHLI	Mr Dustin Connor, Bioengineering	Mrs Nicola Guirguis, Chemical Engineering	Miss Maria Martin Calvo, Life Sciences	Miss Stephanie Smallwood, Physics
Ms Israt Alam, Surgery and Cancer	Dr Paolo Costa, Computing	Dr Renaud Gutkin, Aeronautics	Mr Alejandro Melendez Calderon, Bioengineering	Miss Clare Smith, Accommodation
Mr Tristan Allwood, Computing	Mr Thomas Cox, Professional Development	Miss Nikki Hale, Human Resources	Dr Oscar Mendoza Pomar, Chemistry	Mr Dominic Smith, Bioengineering
Miss Tahira Arshad, Public Health	Dr Andrew Crane, Chemical Engineering	Dr Matthew Harris, Public Health	Mr Malik Miah, Medicine	Mr Liam Spillane, Materials
Mr Alan Ashton-Smith, Chemical Engineering	Dr Pasquale D'Angelo, Chemistry	Miss Melanie Hartley, Education Office	Mr Stefano Miraglia, Business School	Dr David Stokes, Public Health
Mr Nicholas Badham, NHLI	Miss Olivia Daniel, Public Health	Miss Silke Heinzmann, Surgery and Cancer	Mr Idris Mohammed, Mechanical Engineering	Miss Mohana Suppiah, Surgery and Cancer
Mr Abu Bangura, Accommodation	Dr Roberto De La Rica Quesada, Materials	Dr Andrew Henning, Physics	Dr Alastair Muir, Medicine	Dr Claire Thornton, Surgery and Cancer
Dr Carsten Bantel, Surgery and Cancer	Dr Angela Demetriadou, Physics	Professor Ortwin Hess, Physics	Mr Asanka Munasinghe, Mechanical Engineering	Dr Marcel Tichem, EEE
Ms Laura Barker, Development and Corporate Affairs	Dr Laura Denney, NHLI	Dr Frank Hughes, EEE	Dr Samuel Murphy, Materials	Mrs Beata Traczykiewicz, EYEC
Dr Jason Bennett, Medicine	Ms Priyanthi Dias, NHLI	Mr Alexander Hulme, Public Health	Dr Sharmal Narayan, Medicine	Dr Kosmas Tsakmakidis, Physics
Mr Maurice Berk, Medicine	Dr Yixiang Dong, Library	Ms Alexandra Imrie, Medicine	Dr Liam Nestor, Medicine	Ms Amaka Uche, Medicine
Mr Marc Bestley, Medicine	Miss Ilaria Dorigatti, Public Health	Dr Shahnaz Jamil-Copley, NHLI	Miss Colette O Beirne, Medicine	Mr Nicholas Vaughan, Mechanical Engineering
Dr Adam Betts, Computing	Dr John Druce, Materials	Dr Deanpen Japrun, Chemistry	Dr Sang Oh, Physics	Dr Axelle Vire, ESE
Miss Hannah Blandford, Sport and Leisure	Miss Hanaa El Hachami, Medicine	Mr Mhmd Kamleh, Surgery and Cancer	Mr Anthony Oxlade, Aeronautics	Miss Maria Vlachopoulou, Centre for Environmental Policy
Dr Christian Bollensdorff, NHLI	Miss Hariklia Eleftherochorinou, Medicine	Mr Gajendran Kandasamy, Business School	Dr Theresa Page, Kennedy Institute	Dr Monika Voigt, Physics
Dr Melanie Bottrill, Registry	Dr Shlomi Elias, Chemistry	Dr Ujwal Kariholu, Medicine	Dr Aniello Palma, Chemistry	Dr Dominic von Terzi, Aeronautics
Dr Ilaria Bravi, Medicine	Miss Katherine Elvira, Chemistry	Dr Alexander Kasprzyk, Mathematics	Dr Simona Parrinello, Institute of Clinical Science	Mr Vassili Vorontsov, Materials
Mr Nicholas Brereton, Life Sciences	Miss Christina Emmanuel, Medicine	Dr Angela Kedgley, Bioengineering	Ms Naina Patel, Surgery and Cancer	Mr Patrick Walker, Public Health
Mr Nicholas Brown, Library	Mr Christopher Emmott, Physics	Miss Audrey Kerloc'h, Medicine	Dr Maxence Paul, ESE	Mr Martin Waller, Medicine
Dr Paul Bruce, Mechanical Engineering	Miss Heidi Fitzgibbon, Medicine	Dr Ramzi Khamis, NHLI	Mrs Thilini Perera, EYEC	Dr Nan Wang, Public Health
Mr Dominic Burris-North, Catering	Mr Timothy Flint, Sport and Leisure	Dr Satoshi Kimura, ESE	Mr Stelios Philippou, Security	Mr Daniel Warren, Library
Mrs Tracy Burton, Security	Miss Aideen Foley, Physics	Dr Jonathan Krell, Surgery and Cancer	Dr T Alexander Quinn, NHLI	Mr Russell Watson, Business School
Miss Amy Butler, Institute of Clinical Science	Ms Victoria Folkes, Medicine	Dr Anton Krutskikh, Surgery and Cancer	Dr Sadie Reed, Surgery and Cancer	Dr Ingunn Wehus, Physics
Mr Garrett Callanan, Research Services	Mr Jarvist Frost, Physics	Mr Ajit Kumar, EEE	Ms Derval Reidy, Medicine	Miss Abigail Wighton, EYEC
Dr Valentina Caorsi, NHLI	Mr Toshifumi Fujimori, NHLI	Dr Manish Kushwaha, Life Sciences	Mr Remo Ribichini, Mechanical Engineering	Dr Anatole Wiik, Surgery and Cancer
Miss Joanne Chaffin, Public Health	Dr Christopher Gale, Medicine	Mr Simon Levey, Communications and Development	Miss Erin Rice, Catering	Mr Justin Wong, EEE
Ms Sara Chesnick, Physics	Mr Alfred Gathorne-Hardy, Centre for Environmental Policy	Dr Luis Lima Valente, Life Sciences	Mr Gordon Ross, Mathematics	Mr Tobias Wood, Computing
Mr Kaushal Choonee, EEE	Dr Giorgio Gelosa, Medicine	Miss Alexandra Ling, Life Sciences	Dr Ana Ruiz-Teran, Civil and Environmental Engineering	Miss Laura Woodley, Surgery and Cancer
Ms Grace Chu, Kennedy Institute	Miss Amy Gibb, Medicine	Dr Katrina Lythgoe, Public Health	Mr Ali Salehi-Reyhani, Physics	Dr Ying Yang, Chemistry
Miss Jenna Collins, Business School	Ms Samantha Gibson, Library	Dr Elaina Maginn, Surgery and Cancer	Ms Devika Sawant, NHLI	Dr Pierre Yger, Bioengineering
Dr Alexander Comminos, Medicine	Dr Chris Goddard, Physics	Ms Victoria Male, Life Sciences	Dr Diane Scott, Medicine	Professor Allan Young, Medicine
	Dr Apostolos Gogakos, Medicine		Mrs Bethan Seddon, Bioengineering	Mr Nan Zhang, Life Sciences
	Miss Emily Govan, International Office		Dr Robert Shaw, Life Sciences	Ms Alina Zoladek, Chemical Engineering
	Dr Polly Gravells, Medicine		Dr Andrey Sheshenev, Chemistry	

Farewell moving on

Dr Georges Adamopoulos, Physics
 Dr Kamran Ahmed, Surgery and Cancer
 Dr Etienne Airiau, Chemistry
 Ms Caron Amor, NHLI
 Dr Alexandre Aubry, Physics
 Ms Miranda Avery, Surgery and Cancer
 Miss Alissa Ayling, Sport and Leisure
 Dr Samir Ayoub, NHLI
 Mrs Joanna Baldauf, Library (7 years)
 Dr Elif Bascavusoglu-Moreau, Business School
 Dr Robert Beardmore, Mathematics (10 years)
 Ms Cecilia Bebeacua, Life Sciences (6 years)
 Mr Marco Benozzi, Registry
 Dr Yogesh Bhole, Chemical Engineering
 Dr Aristeia Binia, NHLI
 Dr Marko Boehm, Life Sciences
 Dr Nigel Brand, NHLI (21 years)
 Ms Amanda Brinkworth, Life Sciences
 Dr Louise Brown, Surgery and Cancer (16 years)
 Dr Florian Brueckner, Life Sciences
 Dr Ruth Bundy, NHLI
 Mr Simon Butler, EEE
 Dr Beatriz Camara, Medicine
 Mr Aidan Cassidy, Medicine
 Ms Bridget Catterall, Medicine
 Dr Marek Cebecauer, NHLI (5 years)
 Dr Sehun Chun, IMS
 Dr Ralph Clague, ESE
 Mr Kaiyumars Contractor, Surgery and Cancer

Dr Angus Creech, ESE
 Ms Joanna Cruden, Medicine
 Mr Mark Curtis, Medicine
 Mrs Roseline Dada, NHLI
 Mr Toby Dawes, ICT
 Mr Arnel De Montgros, Mechanical Engineering
 Miss Nataliade Olano, Surgery and Cancer
 Mr Martin Diedrich, Business School
 Mr Gorkem Dogangil, Mechanical Engineering
 Ms Elizabeth Dubois, Public Health
 Mrs Marie-Dominique Dupuy, Civil and Environmental Engineering
 Miss Catherine Edlin, Business School
 Mr Damian Evans, Medicine (6 years)
 Mr James Evans, Life Sciences
 Dr Ana Fonseca, Surgery and Cancer
 Mrs Amelia Fuertes Rodriguez, Medicine
 Ms Louise Full, Kennedy Institute
 Dr Debbie Garside, NHLI (6 years)
 Mrs Yasmeen Ghani, Life Sciences
 Mrs Anna Gola, Public Health
 Dr Martin Goodier, Medicine (13 years)
 Professor Roger Greenhalgh, Surgery and Cancer
 Dr Ivana Gudelj, Mathematics
 Miss Emily Guilment, NHLI
 Dr Katerina Guschanski, Life Sciences
 Dr Elizabeth Hamlyn, Medicine
 Dr Stephen Hare, Medicine
 Dr Jessica Harris, NHLI (18 years)
 Dr Paul Haydock, NHLI
 Mrs Ania Henley, Surgery and Cancer

Ms Amina Hofri, Catering Services
 Dr Maria Iliina, NHLI
 Dr Caitriona Jackman, Physics
 Dr Nicolas Joly, Life Sciences
 Dr Iva Klevernic, Kennedy Institute
 Dr Martin Knight, Support Services (18 years)
 Dr Pipin Kojodjojo, NHLI
 Dr Ferdinand Lali, Surgery and Cancer
 Miss Rosa Lau, Public Health
 Dr James Leaver, Physics
 Dr Dong Leem, Chemistry
 Dr Tchern Lenn, Life Sciences
 Dr Malgorzata Letachowicz, Mathematics
 Dr Kai Lorenzen, Life Sciences (13 years)
 Dr Piotr Lugiewicz, Mathematics
 Dr Pamela Mangat, Kennedy Institute
 Dr Helena Marconell, Institute of Clinical Science
 Mrs Judith Marsh, NHLI
 Dr Chris McGonigle, ESE
 Miss Anna McGrath, Library Services
 Dr Gary McLean, NHLI
 Ms Aleisha Miller, Surgery and Cancer
 Mrs Pamela Mills, NHLI
 Dr Peter Mitchell, Medicine
 Ms Karen Molloy, ICT
 Emeritus Professor John Monhemius, ESE (5 years)
 Mrs Gemma Morris, EYEC
 Dr Thomas Moss, Chemistry
 Dr David Mulryne, Physics
 Dr Sabrina Nagel, Physics
 Dr Amgad Nakhla, Surgery and Cancer
 Mr James Nobbs, Chemistry
 Ms Tracey Nolan, NHLI
 Dr Daniel O'Dea, Physics
 Dr Nick Oliver, EEE

Dr Timothy O'Riordan, Chemistry
 Mr Patrick Orson, Human Resources
 Dr Arpat Ozgul, Life Sciences
 Mr Tapio Paljarvi, Public Health
 Dr Salvatore Papa, Medicine
 Dr Sanjay Patel, Medicine
 Professor William Perraudin, Business School (6 years)
 Dr Elham Peyfoon, Life Sciences
 Dr Paul Pickering, Chemical Engineering
 Ms Sigridur Plews, Medicine (11 years)
 Mr Boris Prelec, Library (9 years)
 Dr Yusheng Qiu, NHLI (11 years)
 Dr Prabhurajagopal, Mechanical Engineering
 Dr Cheryl Reeves, Medicine
 Mr Stephen Reid, College Headquarters (6 years)
 Professor John Reynolds, Computing
 Dr Selena Richards, Surgery and Cancer
 Mr Jens Roehrich, Business School
 Miss Jane Rose, Medicine (15 years)
 Dr Georgia Sakellari, EEE
 Miss Prescilla Sawmynaden, Public Health
 Dr John Shotbolt, Medicine
 Mrs Lesley Shread, NHLI
 Dr Rachel Simmonds, Kennedy Institute
 Mr Timothy Simpson, Life Sciences
 Dr Mike Sun, Computing
 Dr Mingjun Sun, Medicine
 Ms Sam Swartzman, Business School
 Ms Barbara Szkaradek, EYEC
 Mr Mansour Taghavi Azar Sharabiani, Public Health
 Dr Patricia Taylor, NHLI (20 years)

Ms Florencia Tettamanti, Library (6 years)
 Dr Jia Tian, Public Health
 Dr Sven van Eijl, Medicine
 Dr Wendy Vandoolaeghe, Public Health
 Dr Ruddy Vincent, Mechanical Engineering
 Ms Marion Weston, NHLI
 Dr Simone Wiesler, Life Sciences
 Dr Cian Wilson, ESE
 Miss Bishan Wu, Medicine
 Mr Yili Xia, EEE
 Dr C. G. Yang, Bioengineering
 Dr Dazhi Zhang, Chemical Engineering
 Mr Osman Zorba, Physics (8 years)

retirements

Mrs Diana Adams, Surgery and Cancer (22 years)
 Mrs Folake Alayaki, ICU (11 years)
 Dr Augustus Etienne, Life Sciences (12 years)
 Professor Mohammad Ghatei, Medicine (33 years)
 Mr Hameed Khan, Finance (8 years)
 Mrs Judith Litvin, Medicine (7 years)
 Dr Xuguang Liu, Medicine (8 years)
 Mr Paul Norris, Finance (10 years)
 Mr Brian Wells, Security Services (24 years)
 Mrs Melody Williams, Library Services (24 years)

About this data

This data is supplied by HR and was correct at the time of going to press. It covers the period 27 Nov–5 Jan.

PHOTO EXPO

Tracing Shadows in the Dark is a new exhibition at the Blyth Gallery on the South Kensington Campus. It explores the themes of secrecy and invisibility and is inspired by the Secret Cities used as hidden research laboratories in the USSR and USA during the Cold War. It will be on display until 28 January.

For the Blyth Gallery exhibitions programme visit: <http://bit.ly/eXDOJO>



Speak out

Story ideas?

We welcome contributions from across the College. The next publication day is 10 February. *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

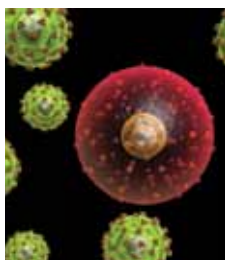


25 JANUARY ▶ LECTURE

Real Tricks: the quantum mechanics show

Dr Nic Harrigan (Physics) and his troupe of postgraduate quantum physicists will demonstrate how to recreate the world's

favourite magic tricks – only without the tricks. This magic is real! In this one-off entertainment show for all ages, learn how quantum physicists perform real magic – from teleportation to telepathy. Dr Nic Harrigan was the winner of Fame Lab 2007 and when not performing feats of quantum magic works as the outreach officer in the Department of Physics.



27 JANUARY ▶ LECTURE

Contributing to the search for an HIV vaccine

Over 24 million people in Sub-Saharan Africa are living with HIV, making research into an HIV vaccine more important than ever. Dr Pontiano

Kaleebu, Director of the Medical Research Council and Uganda Virus Research Institute on AIDS, is at the forefront of HIV vaccine trials. Dr Kaleebu is the guest speaker at the annual Faculty of Medicine Fellowship Ceremony, given to honour the outstanding achievements of former students and staff as well as people of outstanding distinction in their fields.

24 JANUARY ▶ SEMINAR

Innate signals regulating the Th1 cell life cycle

Wright-Fleming Institute Infection and Immunity Seminar



26 JANUARY ▶ LECTURE

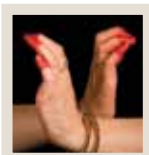
Bacteria, biofilms and fluid dynamics

Professor Howard Stone, Princeton University

30 JANUARY ▶ MUSIC

East meets West

Imperial's Indian Society's annual dance and music show



08 FEBRUARY ▶ LECTURE

The physical basis for a future low carbon economy

Dr Julian Allwood, University of Cambridge



08 FEBRUARY ▶ LECTURE

Can humanity survive in the age of information?

Emeritus Professor Igor Aleksander, Electrical and Electronic Engineering

09 FEBRUARY ▶ LECTURE

Climate change and its implications

Professor Sir Brian Hoskins, Director of the Grantham Institute for Climate Change

14 FEBRUARY ▶ LECTURE

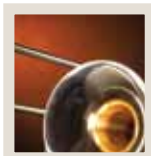
Launch of the School of Public Health

Guest speakers include Rt Hon Andrew Lansley, Secretary of State for Health

26 JANUARY ▶ MUSIC

Wind Power 2 – with strings attached

The Band of the Coldstream Guards leads Imperial College Winds and Imperial Symphony Orchestra



26 JANUARY ▶ LECTURE

Adaptive evolution of plants

Professor Anne Osbourn, John Innes Centre, Norwich

MEET THE READER



Leena Barrett (Commercial Services)

What are you doing in the picture?

I'm reading *Reporter* in a "show bedroom" on the South Kensington Campus which has been set up to promote the new postgraduate accommodation development in Battersea called Griffon Studios, opening in the autumn.

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

I'd like to take a video crew round campus and do loads of interviews using a Harry Potter-style hovering notebook that records and transcribes automatically. I'd go up the Queen's Tower and do a report on that as I've always wanted to see the view. And I'd also go and meet some lecturers as they are the staff members I have the least contact with – I'd be interested to find out more about them.

And for the cover?

I'd feature the guys in the post room as they are a fantastic team and always go out of their way to help you – I think they deserve their shining moment!

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

take note

Hot off the press



The Annual Report and Accounts 2009–10 and the Annual Fundraising Report 2009–10 have both been published. To download your copy visit: <http://bit.ly/i0st3j> (Annual Report) and www.imperial.ac.uk/alumni/ourdonors (Annual Fundraising Report).

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

