



What makes ideas flow?

Imperial scientists reveal their sources of inspiration in a Radio Four series ... **CENTRE PAGES**



NHS LEADERSHIP AWARDS

Stephen Smith wins Innovator of the Year

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NORTHERN LIGHTS

Find out what makes the *aurora borealis*

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SIR HUGH FORD

Former Pro Rector still inspiring at 96 years old

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EDITOR'S CORNER

Bright lights

Forget the chocolate boxes, the tinsel and the eggnog – for me the festive season is all about the lights. The glowing **electric candles** in the tunnel by South Kensington tube are one example of a nearby dazzling display, set up to celebrate the Jewish festival of Hannukah, and there was another on Imperial ground earlier this week in the form of **illuminescence**, which Professor David Philips (Chemistry) demonstrated during the Annual Children's Christmas Lecture. For staff and students, festive lights are likely to play a part in any celebrations planned over the December break. Whether you're travelling to **far-flung destinations** such as Brazil, where on New Year's Eve colourful floating candles are placed into the sea as offerings to the Brazilian goddess of the water, or staying closer to home visiting the illuminated **Winter Wonderland** in Hyde Park, I hope you'll enjoy the uplifting effect of the twinkling lights. Wishing you all a relaxing break.

EMILY ROSS, EDITOR

Reporter is published every three weeks during term time in print and online at www.imperial.ac.uk/reporter. The next publication day is 22 January. Contact Emily Ross: reporter@imperial.ac.uk +44 (0)20 7594 6715

Osbourne's visit to Imperial



On 23 November George Osborne MP visited Imperial to present to staff, students and environmentalists on the Conservative Party's strategy

for reducing carbon dioxide emissions, while creating a sustainable economy for the future.

His talk followed a private meeting with the Rector, Sir Roy Anderson, to discuss how science and technology research can improve the UK's

international competitiveness.

Introducing Mr Osborne, Sir Roy said: "It's highly appropriate that the shadow chancellor should take an interest in green technologies since these have huge economic as well as environmental potential. Products and solutions developed at places like Imperial will ensure the UK's economic competitiveness on the global stage."

Mr Osborne's visit to the College was his second as shadow chancellor. In February 2008, he announced, in a speech given at

Imperial, the creation of a working group, co-chaired by Imperial's Professor Nagy Habib (Surgery, Oncology, Reproductive Biology and Anaesthetics), which drew up a detailed roadmap for rolling out incubation facilities for green technology spin-out companies across the UK.

—COLIN SMITH, COMMUNICATIONS

Academic gives up luxuries to help Imperial tackle tropical diseases



Imperial's Schistosomiasis Control Initiative (SCI) will be among the organisations to benefit from the pledge of £1 million made by an Oxford University academic, which he will donate over the course of his career.

Dr Toby Ord, researcher in theoretical and practical ethics at Oxford, launched the 'Giving What We Can' initiative, which allows members to take a public pledge to donate their earnings to fight poverty.

Speaking of his own pledge to help eliminate suffering in the developing world, he said: "It's easy to forget that we are exceptionally wealthy compared to developing countries. If I was to give away 10 per cent of my earnings I'd still be in the richest 5 per cent of the world population. I worked out how much good I could do by donating and how little I could live on, and then looked into effective charitable interventions."

The Schistosomiasis Control Initiative, run by Professor Alan Fenwick (Epidemiology, Public Health and Primary Care) assists countries in sub-Saharan Africa with the control of schistosomiasis, intestinal helminths and other Neglected Tropical Diseases.

"It's easy to forget that we are exceptionally wealthy compared to developing countries"

Commenting on why he chose to support the SCI Dr Ord said, "My colleague, Will Crouch, and I were very impressed with how the SCI was run: it was our top recommendation."

Explaining that he will not miss material pleasures he added: "I'm looking forward to donating. There are objects in the world that we might like to have in our lives, but ultimately the benefits we get from them are not that high. Nights at home with my wife or chatting with friends mean so much more."

—EMILY GOVAN, INTERNATIONAL OFFICE

Inspiring school pupils with creative science



Hundreds of 13–19 year olds descended on Imperial and its neighbouring institutions on 13 November to find out more about careers in creative industries.

Now in its fourth year, the Creative Quarter event saw a range of institutions and organisations in South Kensington throw open their doors to school students. Imperial hosted three science demonstrations covering the behaviour of the sun, everyday fireworks and the science of the sun.

Silje Andersen, Outreach Office Manager, who organised Imperial's contribution to Creative Quarter, said: "The College wants to get across to young people that creativity is an inherent and vital part of science."

Dr Nic Harrigan, Outreach Officer (Physics), was one of the day's demonstrators (pictured above). He used his session to highlight the science behind an everyday activity, using a combination of leaf blowers, toilet paper, giant smoke rings and microwaved light bulbs to demonstrate the science behind a cup of tea. He added: "People often say that science isn't very creative and that really gets me agitated because science lets you see the world in such a unique and amazing way – you suddenly start seeing a lot more in seemingly dull things."

—JOHN-PAUL JONES, COMMUNICATIONS

Smith named Innovator of the Year

On 25 November, Professor Stephen Smith, Principal of the Faculty of Medicine and Chief Executive of



Imperial College Healthcare NHS Trust, won the Innovator of the Year award in the NHS Leadership Awards.

Professor Smith was honoured for pioneering the Academic Health Science Centre (AHSC), the partnership between Imperial College London and Imperial College Healthcare NHS Trust that was formed in October 2007. The AHSC's aim is to improve the quality of life of patients and populations by taking new discoveries and translating them into new therapies as quickly as possible.

Commenting on the award, Professor Smith said: "We think that our AHSC is a hugely important innovation and that AHSCs have the potential to

transform healthcare in the UK. Bringing together research, health-care and education allows you to turn great new discoveries into new therapies for patients much more quickly than ever before, and improve people's quality of life. It's great that our pioneering approach has been recognised with the NHS Leadership Award."

Professor Smith also ranked 13th in the 2009 *Health Service Journal* list of the 50 most powerful people in NHS management policy and practice in England.



Stephen Smith (third from left) receiving his award at the NHS leadership awards ceremony in November.

From solar system to cell membrane

Royal Society funds new research fellowships at Imperial

Four early-career engineers and scientists at Imperial have received a career boost from the Royal Society, with the award of 2009 University Research Fellowships.

The University Research Fellowship scheme has been designed by the Royal Society to provide outstanding scientists, who have the potential to become leaders in their chosen fields, with the opportunity to build an independent research career. The scheme is extremely competitive and the Fellows are expected to be strong candidates for permanent posts in universities at the end of their fellowships. Imperial's new University Research Fellows are among 38 awarded by the Royal Society across the UK in October.

The four researchers at Imperial are working on diverse five-year projects: Dr Zita Martins (Earth Science and Engineering) is studying organic signatures of life in the solar system; Dr David Drew (Life Sciences) is analysing the structure of proteins found in the membranes of human cells; Dr Sean Barrett (Physics) is working on computation in quantum systems; and Dr Salvador Navarro-Martinez (Mechanical Engineering) is modelling the size and shape of liquid droplets in sprays.

—COLIN SMITH AND DANIELLE REEVES, COMMUNICATIONS

To watch a video featuring Drs Drew and Navarro-Martinez, and to find out more about the work they will be doing during their fellowships, visit: www3.imperial.ac.uk/news/fellowships09



The Royal Society funding will help to early-career researchers such as Dr Zita Martins, who is looking at organic life in the solar system

in brief



School of Professional Development

Imperial has established a new School of Professional Development through the amalgamation of the Centre for Educational Development and the Centre for Professional Development. The School will provide a focus for all aspects of professional development

within the College. Within the new School, the Educational Development Unit will fulfil the role of the former Centre for Educational Development and will be headed by Dr Frank Harrison. Professor Bernie Morley, Director of the Graduate School of Life Sciences and Medicine (pictured), will combine this role with a new appointment as Director of the School.

Imperial College medal

Individuals or organisations who have given exceptional service to the College or who have helped to enhance its reputation could in the future receive the Imperial College Medal, a new award approved in November. The Council may choose to present an Imperial College Medal when an Associateship or Fellowship is not appropriate. Potential recipients of the medal could include donors, alumni, or staff.

Deputy Rector (research)

Professor Sir Peter Knight FRS, formerly Senior Principal of Imperial, has been appointed Deputy Rector (Research). His portfolio will continue to focus on the College's overall research strategy. Sir Peter joined Imperial in 1979 and became a professor in 1988. From 2001–05 he was Head of the Department of Physics, and from 2005–08 he led the Faculty of Natural Sciences as its Principal.

Sophisticated, modern mathematics is behind all branches of modern science, and we all use it every day without realising it"

SIMON DONALDSON, PROFESSOR OF MATHEMATICS, WHO WAS RECENTLY AWARDED THE 2009 SHAW PRIZE FOR MATHEMATICAL SCIENCES. TO READ THE FULL INTERVIEW VISIT: WWW3.IMPERIAL.AC.UK/NEWS/SHAWPRIZE

Imperial College Healthcare NHS Trust

Trust named one of safest in England

Imperial College Healthcare NHS Trust has been identified as one of the top 10 trusts for patient safety in the country.

The hospital group was given a top banding of five out of five for patient safety in an independent healthcare survey published on 30 November.

The figure, produced by Dr Foster Intelligence in its latest hospital guide, is based on an analysis of a range of safety indicators. These include surgery, infection rates and staffing levels, and expected death rates.

Patients at Imperial are seen to have a much better chance of survival than at the majority of UK hospitals, with the Trust having the fourth lowest hospital standardised mortality rate (HSMR) in the country.

Professor Stephen Smith, Chief Executive of Imperial College Healthcare NHS Trust and Principal of the Faculty of Medicine, said: "Patient safety is our absolute priority. Everything we do is to ensure that our patients have the best possible outcomes and the fact that we have one of the best survival rates in the country reflects this.

"As an Academic Health Science Centre we aim to provide even better care by translating cutting edge research into clinical practice."

The Dr Foster Guide also cites the Trust's achievements in offering 100 per cent of patients who have had heart attacks a primary angioplasty – a novel procedure that involves placing a stent in a blocked artery to prop it open.

London, as well as Imperial, fared very well in the report compared to the rest of the UK. The hospital guide showed that 10 London hospitals reported a lower than expected mortality ratio – by far the highest number of hospitals for any region in England.

—IMPERIAL COLLEGE HEALTHCARE NHS TRUST PRESS OFFICE

Professor works with task force to help China go green

An international task force has recommended ways for China to develop a low-carbon economy to tackle climate change, in a report presented to Chinese Premier, Wen Jiabao, last month. The task force was co-chaired by the College's Professor Sir Gordon Conway (Centre for Environmental Policy).



The report's 'low carbon road map' recommendations will be incorporated into China's next five-year economic plan (2011–15), a decision that Sir Gordon says is 'momentous' for both China and the world.

Speaking at the UK Department of Energy and Climate Change, Sir Gordon, who is Professor of International Development at Imperial, said: "China has shown great leadership in accepting the urgency of moving to a low carbon economy."

The low carbon economy plans were developed by a task force of Chinese and international experts drawn from governments, the private sector, non-governmental organisations and think tanks. Sir Gordon has been a co-chair of the task force since 2007, when he was Chief Scientific Advisor to the UK Department for International Development (DfID).

The report's recommendations, aimed at reducing China's carbon emissions to nearly 9bn tonnes by 2050, include:

- Reducing carbon emissions per unit of GDP by four or five per cent year on year.
- Reducing energy consumption per unit of GDP by between 75 and 85 per cent by 2050 – driven by efficiency gains in every economic sector.
- Cutting the share of manufacturing industry in the economy from the current 50 per cent to around 30 per cent by 2050.
- Increasing the use of renewable energy and nuclear power, with 50 per cent of new generating capacity being low carbon by 2030. By 2050 all new power sources will be low carbon.
- Installing carbon capture and storage on a large scale by 2030.

—DANIELLE REEVES, COMMUNICATIONS

Winston Wong Centre for Bio-Inspired Technology opens

An implantable miniature heart sensor to monitor the health of chronically ill people and an artificial pancreas to regulate insulin in people with type 1 diabetes are two examples of prototype technology that will be developed further at a new £2 million research centre.

The Winston Wong Centre for Bio-Inspired Technology,



which opened this month, is funded by Professor Winston Wong, a Taiwanese business

leader and Physics alumnus of Imperial (pictured above). It forms part of the College's Institute of Biomedical Engineering.

Researchers at the Centre are developing a range of devices that use technology to tackle health problems. These include the SNP Dr, a handheld device to predict whether patients will respond

adversely to medication, and a digital 'plaster' that should ultimately enable doctors to monitor patients recovering from surgery in the comfort of their home. The scientists are also developing tools to improve the lives of those living with chronic diseases.

—COLIN SMITH, COMMUNICATIONS

To watch a collection of videos featuring Professor Chris Toumazou, Director of the Institute of Biomedical Engineering and researchers Dr Olive Murphy, Dr Nick Oliver and Dr Pantelis Georgiou, talking about the benefits of the implantable heart sensor and the artificial pancreas, visit: www3.imperial.ac.uk/news/winstonwong.



Researchers from the College's Institute of Biomedical Engineering (pictured above) will be carrying out work at the new Centre.

media mentions

—AMNA SIDDIQ, COMMUNICATIONS



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www.imperial.ac.uk/media/jointsignup

TIMESONLINE.COM ▶ 02.12.2009

Could greener technology help cut carbon emissions?

Homes in the UK could be cutting their carbon emissions through a range of new imaginative green technologies, reports *The Times*. One example is a boiler that adapts the fuel cells used in green cars to make power for the home. Professor Nigel Brandon (Earth Science and Engineering) who developed the



cheaper, lower-temperature fuel cell, explains: "It takes

in natural gas and turns that into electricity and heat – not all the electricity a home is using, but a significant amount – and it captures the heat for use in the boiler." Professor Brandon's spin-out company Ceres Power is now working with British Gas on a prototype.

BBC BREAKFAST ▶ 02.12.2009

Cold vaccine within five to ten years, says scientist

Many myths surrounding the common cold, from the curative properties of vitamin C to different gender responses to the virus, do not stand up to scientific scrutiny, according to Professor Peter Openshaw (National Heart and Lung Institute). "People have looked at the issue of 'man flu' – do men get more symptoms, do they get higher viral loads – and it doesn't seem to be so," he told *BBC Breakfast*. When it comes to finding a cure, he explained that, since colds are caused by not just one but around 200 viruses, it's unlikely that a vaccine will be developed that tackles them all. However he added: "I'm sure that within five or 10 years there will be new vaccines which can at least prevent some groups of viruses from infecting."

THE JEWISH CHRONICLE ▶ 04.12.2009

Imperial team battles through *University Challenge*

After Imperial's *University Challenge* team "slaughtered" (in



the words of Jeremy Paxman) St Hugh's, Oxford, to win a place in the quarter

finals, team captain Gilead Amit (Physics) revealed to *The Jewish Chronicle* the secret of their success – "A tremendous amount of luck." He added: "You have to know things and be interested in things but at the end of the day, it's about how fast your opponents are and if the questions are up your street or not. Fortunately, we were very lucky with the questions. There were some that we had practised the night before."

NEWELECTRONICS.CO.UK ▶ 07.12.2009

New plastic could reduce cost of flat-screen TVs

Imperial's Centre for Plastic Electronics is working on the development of a plastic semiconductor that allows an electrical charge to pass through it at high speed, reports *New Electronics*. Applications of the research, led by Professor Iain McCulloch and Dr Martin Heeney (both from the Department of Chemistry), could include using the plastic to replace silicon as the semiconductor of choice in the electronic components that control computer and television screens, resulting in a dramatic cost saving. The breakthrough demonstrates the connection between the assembly of polymer molecules into organised structures. Professor McCulloch said: "These results offer the possibility of printable electronics using semiconducting polymer inks."



awards and honours

NATURAL SCIENCES

Beek recognised by Royal Society

Trevor Beek, a technician in the Space and Atmospheric Physics research group, has been awarded



one of the first Royal Society Hauksbee Awards for excellence in supporting science. As part of

its 350th anniversary in 2010, the Royal Society decided to recognise the unsung heroes of science, technology, engineering and maths for their work and commitment in

supporting the UK science base. The awards are named after Francis Hauksbee who was Isaac Newton's laboratory assistant at the Royal Society.

ENGINEERING

Leverhulme prize for Engineering

Dr Claire Adjiman (Chemical Engineering) has been awarded the 2009 Philip Leverhulme Prize for Engineering for her work on optimisation theories and algorithms, and property prediction methods. The Leverhulme Prizes are awarded to outstanding young scholars who have made a substantial and recognised contribution to their particular field of study, and whose future contributions are held to be of correspondingly high promise.

MEDICINE

Medical student wins prestigious award

Fifth year medical student, Bharat Pahilwani, was one of eight students selected nationally to present his research at the Royal Society of Medicine's Student Research Presentation Evening held on 6 November. His was



judged the second best oral presentation at the evening. The project looked at the use of salivary cortisol as an alternative to conventional blood tests and was carried out as part of his intercalated BSc degree. He was supervised by Dr Tricia Tan, Honorary Clinical Research Fellow (Investigative Science).

ALSO...

French honour for Sir Roy • Sir Roy Anderson, Rector, is one of 18 foreign members elected to l'Institut de France Academie des Sciences this year for their far-reaching contributions to science. He was recognised for his pioneering work modelling the transmission of infectious diseases.

Career achievement award •

Dr Tim Constandinou (Biomedical Engineering) received the Institution of Engineering Technology's Mike Sargeant Career Achievement Award on 25 November 2009. The award is presented annually to the young professional who is judged to have made the most significant progress in their career. See *mini profile* on page 11 for more on Tim's work.

DarwinTunes

Imperial researchers to track the evolution of music online



Members of the public are invited to join Imperial staff and students in a unique experiment launched in November, to find out how music evolves.

The DarwinTunes experiment has been created to test the theory that culture, including music, evolves over thousands of years by a process of natural selection, similar to the mechanism that drives evolution of species in the natural world.

Professor Armand Leroi (Life Sciences), one of the researchers behind the DarwinTunes experiment, explains: "It seems reasonable to suggest that as songs, stories, jokes and other cultural forms are passed, imperfectly, from person to person, the more appealing versions get picked up and spread by more people, and so on. It's a kind of Darwinian 'Chinese whis-

pers' if you like. However plausible this may seem, the hypothesis has never been tested and we know very little about the underlying evolutionary mechanisms. The DarwinTunes experiment will help us explore the origins of the cultural world."

DarwinTunes is based on a complex computer algorithm that has been designed to mimic, over the course of a few weeks, the cultural evolution process that some scientists believe happens over thousands of years.

The experiment begins with short segments of random, computer-generated music. Participants in the experiment can go online and rate these segments, and the DarwinTunes computer program then 'breeds' the most popular segments to produce new 'offspring' tunes.

—DANIELLE REEVES, COMMUNICATIONS

To take part in the DarwinTunes experiment go to www.darwintunes.org

Life on Mars theory boosted by new methane study

Scientists have ruled out the possibility that methane is delivered to Mars by meteorites, raising fresh hopes that the gas might be generated by life on the red planet, in research published on 9 December in *Earth and Planetary Science Letters*.

Atmospheric levels of methane on Mars are constantly depleted by a chemical reaction caused by sunlight. Scientists have discovered that the methane is being replenished by an unknown source which they are keen to uncover.

Researchers had thought that meteorites might be responsible, because when the rocks enter the planet's atmosphere a chemical reaction releases methane. However, the new study, undertaken by Imperial researchers and funded by the Science Technology Facilities Council, shows that volumes of methane that could be released by the meteorites are too low to maintain current atmospheric levels. Previous studies have also ruled out volcanic activity as an explanation.

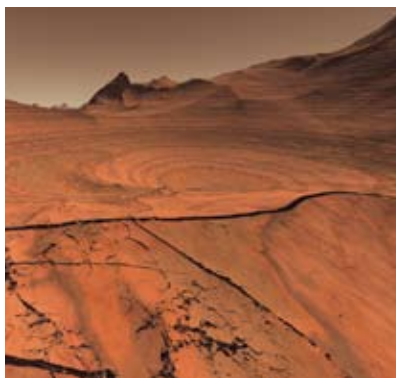
According to the researchers behind today's findings, this leaves only two plausible theories. Either there are microorganisms living in the Martian soil that are producing methane gas

as a by-product of their metabolic processes, or methane is created as a by-product of reactions between volcanic rock and water.

Co-author Professor Mark Sephton (Earth Science and Engineering) adds: "This work is a big step forward. As Sherlock Holmes said, eliminate all other factors and the one that remains must be the truth."

The team say their study will help NASA and ESA scientists who are planning a joint mission to the red planet in 2018 to search for the source of methane.

—COLIN SMITH, COMMUNICATIONS



Play explores vaccination issues

A new play exploring why people have a responsibility to be vaccinated against infectious diseases has been touring schools in London this month. The play, called *Bind*, is the result of a collaboration between an Imperial researcher and a theatre company called iceandfire.

Bind, which is funded by the Wellcome Trust, aims to challenge the ideas some people have about vaccination. The play explores the idea of herd immunity: when a certain proportion of a population has been vaccinated against a disease, the people who cannot be vaccinated due to illness or problems with their immune systems are also protected. *Bind* uses analogies such as bullying to suggest that inactivity – not being vaccinated, or not reporting a bully – can be harmful.

Dr Thomas Churcher (Epidemiology, Public Health and Primary Care), who provided advice on the scientific issues in the play, uses mathematical models to understand how vaccination can help stop the spread of parasitic diseases like malaria.

The two main characters in the play are 13-year-old girls, looking into the past, present and future. The characters witness what happened when a mother didn't have her child vaccinated against MMR in the past, and imagine how one of them might act as a mother in the future. The actors wind elastic around broomsticks and buckets that represent different people, showing how the people are connected and how they could pass on infections to one another.

—LUCY GOODCHILD, COMMUNICATIONS

To watch excerpts from *Bind* and find out more about the project from Thomas Churcher and Sara Masters, co-Artistic Director of iceandfire theatre, visit: www3.imperial.ac.uk/news/vaccination. You can also listen to an interview with Thomas Churcher and Sara Masters in the December podcast: www3.imperial.ac.uk/media/podcasts

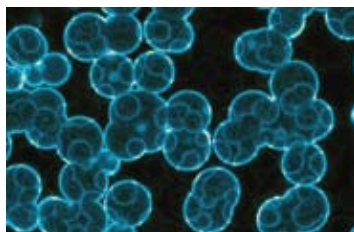
Immune cell sheds new light on inflammation

A new type of immune cell that can be out of control in certain chronic inflammatory diseases, worsening the symptoms of conditions like psoriasis and asthma, was described for the first time in *The Journal of Clinical Investigation*, published on 17 November.

The authors of the study, from Imperial, the Istituto Dermatologico dell'Immacolata in Rome and the Center of Allergy and Environment (ZAUM) in Munich, hope their discovery could lead to new treatments.

The new cell described in the study, called a Th22 cell, is a kind of T-helper cell. In chronic and allergic inflammatory diseases, Th22 cells appear to be malfunctioning, leading to excessive inflammation.

The researchers analysed skin samples from people with psoriasis, atopic eczema and allergic contact dermatitis and discovered a new type of cell, Th22. They also found that one of the molecules that the cells made was a signal-



ling molecule called interleukin-22 (IL-22), which warns tissues that inflammation or infection is going to occur, so the tissues can get ready to protect themselves. The effect of this can be either protective or detrimental – for example, IL-22 molecules and Th22 cells can cause skin cells to grow too quickly, resulting in painful, flaking skin.

Dr Carsten Schmidt-Weber (NHLI), one of the study's authors, said: "We are seeing an increase in chronic diseases like skin and airway disease because of changing lifestyles. This new subset of T-helper cells could provide a new target for the treatment of chronic inflammatory diseases."

The researchers hope that it may ultimately be possible to treat chronic skin and possibly also airway diseases by targeting Th22 cells with new drugs.

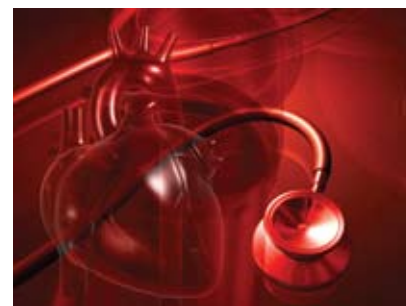
—LUCY GOODCHILD, COMMUNICATIONS

Stroke and heart disease trigger revealed

Imperial scientists have identified the trigger that leads to artery damage in the disease atherosclerosis, which causes heart attacks and strokes. Their research findings, published on 30 November in the journal *Circulation*, suggest that the condition could be treated by blocking the molecule that triggers the damage.

The new study, which was funded by the British Heart Foundation and the European Commission, reveals that the trigger that leads to the inflammation and damage to the artery wall is a 'receptor' molecule called TLR-2. The molecule lives on the surface of immune cells, and is able to switch the cell into attack mode when it recognises harmful molecules and cells, including bacteria. It can also switch on the immune cells when the body is under stress.

In lab tests, the researchers showed that blocking the TLR-2 receptor stopped cells from mak-



ing the molecules that cause inflammation and damage to the artery, which, they say, suggests that they are triggering the damage. It also suggests that 'danger molecules' that kick into action when the body is under stress, and bacteria, may be triggering artery damage by switching on the TLR-2 molecules.

If a drug could be developed that blocks TLR-2 molecules, the researchers believe this would provide a treatment for atherosclerosis, and ultimately

reduce people's risk of strokes and heart attacks.

Dr Claudia Monaco (Kennedy Institute), one of the study's authors, said: "We have shown that this trigger mechanism can be blocked using antibodies. If we can find a way to block these receptors in people, without reducing their ability to fight off infection, we could potentially develop a treatment for atherosclerosis."

—LUCY GOODCHILD, COMMUNICATIONS

"If we can find a way to block these receptors in people, we could potentially develop a treatment for atherosclerosis"

How coughing is triggered



Scientists have revealed how environmental irritants such as air pollution and cigarette smoke cause coughing, in research published on 23 November in the *American Journal of Respiratory and Critical Care Medicine*. The study's authors, from Imperial and the University of Hull, identified the reaction in the lungs that can trigger coughing when a person is exposed to particular irritants in the air. They suggest that their findings may lead to the develop-

ment of new treatments for chronic coughing.

The new study shows that environmental irritants can switch on receptor proteins called TRPA1 on the surface of nerve endings in the lungs. This switches on sensory nerves, triggering a cough reflex. The researchers say coughing could be treated by blocking TRPA1 receptors, to stop irritants from starting this chain reaction. They hope that this could help millions of people whose lives are affected by

chronic coughing.

The researchers first looked at sensory nerves from mice, guinea pigs and humans, and showed that the receptors on the sensory nerves were activated by a number of irritants, including a key compound in cigarette smoke (acrolein) and a chemical called cinnamaldehyde. They then blocked the receptors and showed that these substances no longer activated the nerves.

Study author Professor Maria Belvisi (NHLI)

said: "Many people say that certain things in the air can make them cough and we are very excited that we have shown, for the first time, what is probably happening inside the lungs. Now we can start investigating whether we can stop people from coughing excessively by blocking the receptor protein that triggers it."

This research was funded by the Medical Research Council.

—LUCY GOODCHILD, COMMUNICATIONS



The human touch

Uncovering the human side of science is a challenge that has long intrigued Dr Stephen Webster, Senior Lecturer in Science Communication in the Department of Humanities. This month he brings this fascination to life for radio listeners in a new BBC Radio 4 series attempting to explore the links between scientists' personal beliefs and their work. *Reporter* speaks to Stephen and the Imperial scientists he interviewed to learn more.

Stephen started his career studying zoology at Bristol University, then took an MPhil in the philosophy of science at Cambridge before spending 14 years teaching science at a secondary school in London. He moved to Imperial in 1998 to pursue answers to the question of how science fits into society, in his role teaching postgraduates about science communication.

Over the course of his career Stephen (pictured above) has explored the human side of science in a number of radio plays for the BBC. Earlier this year Stephen was approached by producer John Watkins from the BBC about hosting the series, an opportunity he leapt at. "Scientists are often perceived to be very remote, working on complicated concepts in closed labs – this programme had the potential to dispel the myths and show there is more to science than just breakthroughs," he explains.

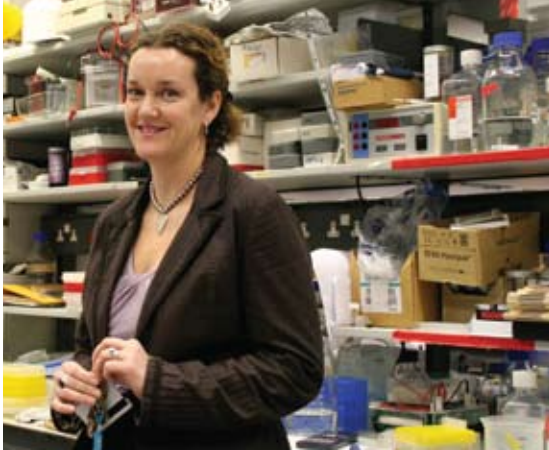
Stephen was fortunate to be able to gather material for *What Scientists Believe* right on his doorstep at Imperial. During recording, Stephen learnt the value of creative inspiration from the arts, the application of management training in running a lab, and the borrowing of tools from different disciplines to help solve problems in other subjects.

BBC
RADIO



Tune in to the programmes
Hear *What Scientists Believe* on 10, 17, and 24 December at 21.00
Or download the podcasts at www.bbc.co.uk/programmes/boop6t2v





A well-managed lab

Against a background of postdoc chatter and the constant whirr of a centrifuge, Stephen interviewed Clare Lloyd, Professor of Respiratory Immunology (NHLI), in her lab in the Sir Alexander Fleming Building where her group investigates asthma and how allergens can inflame the airways.

Clare puts much of the lab's success down to having had the chance to develop good management skills earlier in her career. She came to Imperial after working for a biotechnology company called Millennium in the United States where she had lots of management training. "As a lab manager it's not enough just to be a good scientist, you also have to be able to attract and retain the best people. I really think management training should be compulsory for principal investigators," she says.

Clare says that nurturing the best aspects of the students' personalities and encouraging their career development is the key to achieving a good working environment. She explains that going from a postdoc to managing a group can be daunting. "It's the first time a principal investigator does not have to do everything alone and it means learning to put others' expertise and wishes above one's own", she says.

“Trust, companionship and honesty are central to a lab's success.”

Clare seeks to build a community in her labs and says that trust, companionship and honesty are values which are central to their labs' success. "It's great when you get to a stage when everyone in the group has a view and they are confident in interpreting their results and comfortable discussing those results with you. Then you know you've done your job well."



Art and science

The curved copper water sculpture (pictured on the front cover), which stands near the entrance of the Royal Brompton Hospital was the location for Stephen's interview with its creator, Dr Philip Kilner, Reader in Cardiovascular Magnetic Resonance (NHLI). Philip took an interesting career path on his way to creating the rhythmically pouring sculpture. He trained as a doctor in the 1970s but left medicine to study sculpture, concentrating on water sculptures and fluid dynamics, before returning to cardiology in 1986.

Philip's career has brought him full circle, as questions that had arisen from observing flow over sculpted surfaces drew him back into medical research, which he embraced again, armed with newly honed practical skills. In 1988 Philip moved to Imperial to use cardiovascular magnetic resonance to visualise flow through the living heart. Over the last 21 years he has become a cardiac imaging specialist, with much of his research supported by the British Heart Foundation.

Philip believes that artistic work offered him freedom of experimenta-



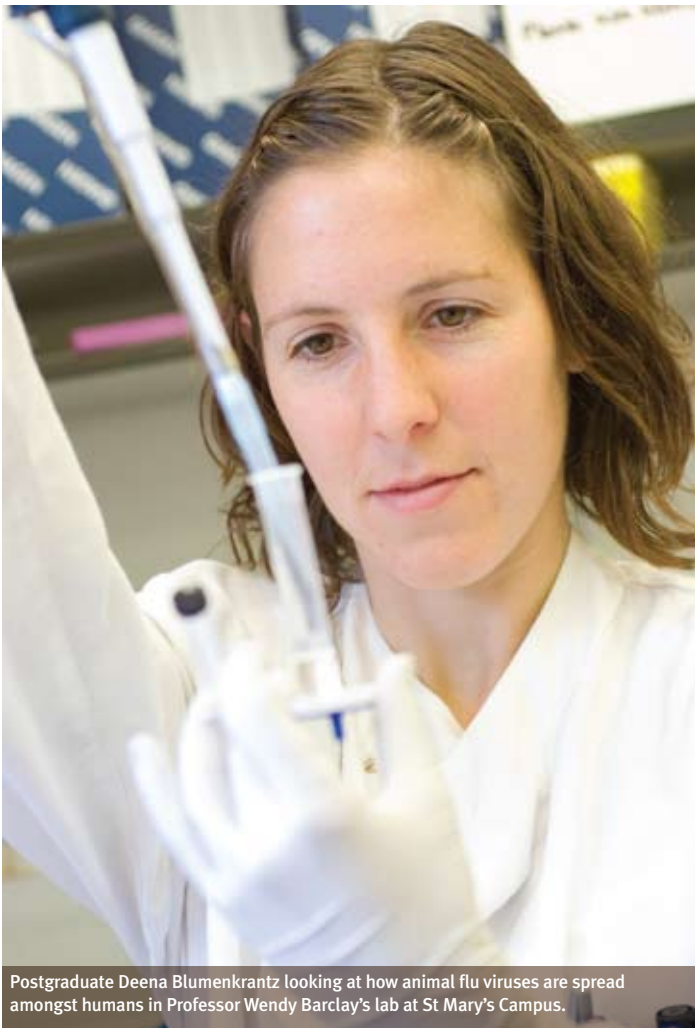
Dr Philip Kilner's artistic background has trained his ability to appreciate relationships between forms in science as shown in one of his hand-drawn illustrations of the heart (pictured above).

tion, describing it as his playground. "Sculpture trained my ability to appreciate forms and relationships between forms in science," he says. This experience has helped him to appreciate and interpret images of the heart. "When I was making water sculptures, I learned to think fluently, recognising, predicting and modifying characteristic patterns of flow. This gave a foundation for the interpretation of the interdependent forms, movements and flows of the heart cavities and blood vessels."

For Stephen, Philip's lesson lay in his creative view of science. "All scientists have individual styles. I wanted to show that scientists' experiences and attitudes are as important as artists' values are to their work," he says.

The human touch

(continued from CENTRE PAGES)



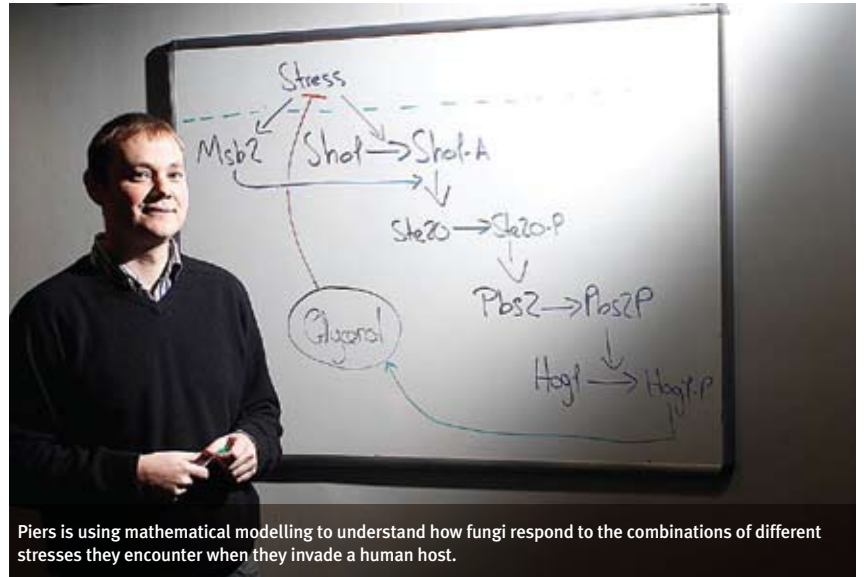
Postgraduate Deena Blumenkrantz looking at how animal flu viruses are spread amongst humans in Professor Wendy Barclay's lab at St Mary's Campus.

Starting out

Stephen interviewed two students, Deena Blumenkrantz (Investigative Science) and Anja Markert (SORA), in the PhD student room at St Mary's, both weeks away from submitting reports which will determine whether they become PhD students.

Deena is inherently aware of the responsibility of being a scientist and says that being involved with the programme has shown her that scientific research has a large effect on the way we live. "The results of what scientists did ten years ago are now in our hands. What scientists are doing now will be the future soon."

Deena also confronted the challenge of becoming the type of scientist one aspires to be. "In science you must always build a convincing argument based on observations. It is not easy to collect all the information needed to back up a theory, it takes time and persistence and this process tends to keep you moral," she says.



Piers is using mathematical modelling to understand how fungi respond to the combinations of different stresses they encounter when they invade a human host.

A mathematical nature

Showing that science doesn't just occur in labs, Stephen interviewed Dr Piers Ingram, a postdoctoral researcher in the Department of Mathematics, amongst the clatter of cutlery in the Senior Common Room. Piers can often be found there reading papers and catching up with the advances in his field of biological modelling. Stephen was interested to know more about Piers' belief that mathematics can help you get to the heart of biological systems.

"Maths is a useful tool for biologists," he says, explaining that biological systems are inherently complex. Although intuition is very important, it can sometimes be inadequate, which is where maths comes in, he says. "It can provide us with a fantastic framework for thinking logically about the system as a whole."

Unlike the sudden scientific discoveries depicted in films and forensic dramas, a lot of research is about advancing knowledge of a field or a problem in very small incremental ways. "Sometimes my work involves hours puzzling over a paper or trying to understand where my code has a bug without any obvious progress. This might seem dull, but the underlying problems are extremely interesting, and that keeps me motivated," he says.

Piers was keen to get involved with the radio programme as he feels scientists' careers are shrouded with mystery and that the public often

“Unlike the sudden scientific discoveries depicted in films and forensic dramas, a lot of research is about advancing knowledge of a field or a problem in a very small way.”

doesn't understand what researchers do and why research takes so long.

This fulfils one of Stephen's key aims for the series – to explore science as it is. "Science in the media often gives a skewed perception of the research life; in fact working in a lab is rarely dramatic. It is a lot about perseverance day after day but what is fascinating is what drives the scientists, what ambitions they have and what keeps the daily routine interesting for them."

—EMILY ROSS, COMMUNICATIONS

Episode 2 of *What Scientists Believe* will be aired on Thursday 17 December at 21.00 and Episode 3 on Thursday 24 December 2009 at 21.00.

inside

story

mini profile

Tim Constandinou

Dr Tim Constandinou (Biomedical Engineering), a researcher who specialises in silicon technology, talks about how his work is cutting the energy needed to power electronic devices and reducing their size.



How do we come into contact with silicon in our day-to-day lives? Silicon is made from sand – one of the most common ingredients in our environment. This material forms the basis of the silicon chip technology used in all modern electronics, such as iPods, mobiles and TVs.

Tell me about your latest project using silicon technology? We've just received a grant to produce silicon microchips that will use light to communicate. These will differ from traditional microchips which use tiny pieces of metal to connect with other chips to exchange information.

Why is your project important? The microchips will help electronic devices process information faster using less power. This will also reduce the manufacturing costs associated with producing electronic devices because the chips would need less engineering.

How have you used silicon to help people with hearing difficulties? I was part of a team, led by Professor Chris Toumazou, which developed ultra-low-powered silicon technology for cochlear implants. Previously wearers had to carry a bulky battery with wires attached to the cochlear devices implanted in the head. We developed implants that require a fraction of the amount of power used by other cochlear devices, so for the first time, cochlear chips could be fully implanted and bulky batteries eliminated.

If you could invent one technology that could revolutionise the world, what would it be? I feel we are already doing this in the Institute of Biomedical Engineering. Electrical devices consume a huge amount of energy, which has a negative impact on our environment. By creating chips that use a fraction of the energy of their traditional counterparts, we are developing devices that are more efficient and sustainable.

—COLIN SMITH, COMMUNICATIONS

inventor's corner

Putting prevention first

David Wood is Professor of Cardiovascular Medicine (NHLI) and an honorary consultant cardiologist at Imperial College Healthcare NHS Trust. In 2008 he set up MyAction Ltd – a joint venture between Imperial, Imperial Innovations, and Bromley Mytime which manages leisure services in partnership with Bromley Council. His primary aim was to reduce the risk posed by cardiovascular disease through prevention rather than cure.

David's inspiration for establishing the company were the results of a European-wide survey which identified a group of patients who had received surgery for coronary diseases. They were examined a year after treatment and 50 per cent were still smoking, half were obese and many had unmanageable blood pressure, high cholesterol and undetected diabetes. From these statistics, David suggested that encouraging lifestyle changes would be a more effective course of action for dealing with cardiovascular risk.

“Giving a patient treatment is only half the job; the other half, which MyAction tackles, is to address the underlying causes of the disease and wherever



possible reverse them,” he says.

MyAction's lifestyle intervention programme, which focuses on an individual's diet and fitness levels while also offering medical advice, targets not only those at risk of developing heart disease, but also their families, as it has been proven that people remain motivated when they have a support system. To encourage people to take up the scheme, it is hosted by local leisure facilities, where patients receive guidance from a specialist team on the changes they need to make to reduce cardiovascular risk.

David explains that with the government now trying to tackle the economic burden of healthcare costs by keeping people fit and healthy, other providers are following suit and MyAction is increasingly being adopted by primary care trusts. David's goal is to make MyAction the preferred model of care for preventive cardiology in the UK.

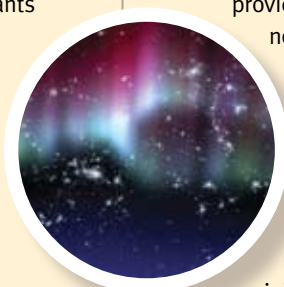
—ANUSHKA WARDEN, IMPERIAL INNOVATIONS

▶ SCIENCE FROM SCRATCH

As explained by Chloé Sharrocks, MSc Science Communication

Northern lights

Officially known as aurora borealis after the Roman goddess of dawn (Aurora) and the Greek name for the north wind (borealis), the northern lights provide a spectacular astronomical night-time display at high latitudes in the northern hemisphere. The Sun's outer layer has a temperature of over a million degrees and emits a hot gas of free electrons and positive ions that form a solar wind. Forty hours after leaving the Sun, the solar wind reaches the Earth and follows the lines of magnetic force generated by the Earth's magnetic core. The charged particles then interact and collide with other elements in the Earth's atmosphere, such as nitrogen and oxygen, where the excitation energy can be lost as light. Depending on which atom the particles collide with, green, red, blue or violet light may be observed. Aurora are not exclusive to Earth – they have also been observed on Jupiter, Saturn, Neptune and Uranus.



Is there a phrase or term you would like us to explain? ✉ Email the editor: reporter@imperial.ac.uk

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

Student blogger Courtney on the wonders of Soho:

“The area in and around Soho combines three of my favourite things: bookshops, Chinese food and rainbows. I’d love to have a photo collage here, but it was a horrible rainy day so any pictures would have just been rubbish! The fact I’m writing this for you indicates that I got out of Soho in the end, and just so you know, nothing untoward happened. I got lost looking for a restaurant, then I ate Chinese food, looked in bookshops and bought a bowler hat. Oh, and I almost wandered down a street with lots of neon signs.”



www.imperial.ac.uk/campus_life/studentblogs

blog
SPOT

Professor Sir Hugh Ford – still making an impression at 96

Emeritus Professor Colin Besant (Mechanical Engineering) reports on a dinner held on 26 November to honour Professor Sir Hugh Ford who joined Imperial as a Reader in Applied Mechanics in 1948 and went on to serve as Head of the Department of Mechanical Engineering and Pro Rector over his career at the College. The dinner was attended by many of Professor Ford’s former colleagues, as well as by former rectors Lord Flowers and Sir Eric Ash. Colin says:

“Sir Hugh had a special relationship with undergraduates and I remember working closely with him and spending significant time discussing with each final year student their choice of subjects as well as their prospective careers. He had a wonderful relationship with students and ensured that they were given maximum possible support.

Sir Hugh was also held in high



Sir Hugh Ford pictured at the dinner with his wife, Lady Thelma Ford.

regard for his contribution to the engineering industry. He was president of the Institution of Mechanical Engineers in 1977 and was a founder member of the Royal Academy of Engineering.

Sir Hugh is still very active at 96 and gave a brilliant speech. He discussed the subject of product life cycle and its relevance to energy conservation, and said that we all need to rethink the way in which products are manufactured. He questioned the concept of mass production together with the comparatively short life of many products. He also emphasised the need to analyse ways of making things with minimal use of energy, suggesting that we will have to move away from the ‘throw away society’ to one that is sustainable. It was very exciting listening to such wisdom that was expounded with great clarity.

Sir Hugh is a living lesson to all of us that at 96 years one can still make a contribution to society.”

Communicating science



Author Nick Russell

Research postgraduate Toby Wood (Computing) reports on *Communicating Science* – a new book written by Dr Nick Russell, Emeritus Reader in Science Communication – which aims to give an insight into science’s place in society.

Nick Russell helped set up one of the first science communication courses at Birkbeck College in 1991, before mov-

ing to Imperial to run the MSc course in 1995. Although originally a botanist, he has also had a long career in technical education and holds a PhD in the history of technology. From his own experience, he therefore has some authority when he suggests that the best way for an academic to learn how to communicate science is through practice and observing good practitioners. *Communicating Science* is not an instruction manual for writing a good paper or giving a good interview to a journalist – instead it is a careful analysis of how the different media science is communicated through actually work.

The chapters are a collection of essays that can be read individually or together, foot-

notes are avoided, and each begins with an anecdote to illustrate the topic at hand. Nick’s approach enables anyone to benefit from the book, regardless of whether or not they have experience of disseminating knowledge. He also wanted to avoid the trap that “science communications itself is becoming academic”, preventing anyone other than other academics understanding how academics communicate, so there is no jargon or complicated terminology in the book.

The first of the three sections focuses on how the jargon-filled formal paper style – that Nick so

successfully avoids – has arisen, providing a short history of early science publishing and an insightful critique of current practice. The second section

“Dr Russell’s approach enables anyone to benefit from the book”

focuses on the modern press, giving an excellent explanation of how an eager newspaper editor can feel justified in condensing years of academic labour into a pithy five-word headline. The final section

discusses science in literature, with one chapter dedicated to science fiction. This section describes how scientists have been portrayed in writing throughout the eras. In fact, this section interests Nick so much that he is thinking of expanding it for a future book.

Communicating Science is published by Cambridge University Press and is available at £18.99 RRP.

Creative design

Omar Musufvi, an undergraduate (Mechanical Engineering), reports on an innovation design challenge working with design and innovation consultancy PDD and the Disabled Living Foundation as part of his degree.

“Our brief from the Disabled Living Foundation was simple: ‘create a product which will benefit disabled or elderly people with regard to food’. Working in groups of four we investigated similar products

on the market and had a chat with our grandparents about what they found difficult in the kitchen. To give us an insight into the disabilities we might be designing for, we did role-play sessions to simulate the symptoms of arthritis, and impair our dexterity and vision.

The product which we developed – the twist-a-lid – is an aid for opening screw cap tops from milk bottles by providing a large grip and mechanical leverage. We wanted a simple product



Omar Musufvi and Douglas Weber-Steinhaus reviewing post-it concepts in the mechanical engineering café.

which would be cheap and easy to manufacture and market.”

Omar and his group faced a panel of judges in the second week of December and were highly commended for their twist-a-lid design.

Christmas at Silwood

Diana Anderson, Campus Administrator for Silwood, who has been working at the College for 21 years, describes one of her favourite Silwood traditions – the Christmas fun run.

“I love the annual Christmas fun run where staff and students run in fancy dress through Windsor Park with members of the public laughing at us. This is followed by mulled wine, carol singing and Christmas lunch back at the Manor House. The mulled wine is made using Silwood’s secret recipe which has been handed down over the years – the oldest member of Silwood is entrusted with the recipe and passes it down when he or she leaves. It is a carefully guarded secret currently held by Professor Michael Way. I love this event as everyone takes the day off work and gets involved; no matter what your religion or what your job is in Silwood, you are welcome to join in the fun. Imagine a couple of hundred people singing carols from all nationalities at the top of their voices fuelled by large quantities of rum – it is a jolly day!”



How to unboil an egg

Dr Erich Muller, Reader in Thermodynamics (Chemical Engineering and Chemical Technology), reports on a demonstration given as part of the Department’s Distinguished Postgraduate Speaker lecture series by Dr Hervé This, known as the founder of molecular gastronomy.

“Our usual seminars are accompanied by either doughnuts, pizzas or something similar. This one had a dozen eggs. I was pleased to coordinate this visit, as I have for many years pursued the idea that chemical engineering

and cooking belong at the same table. Attendance at the lecture in the Great Hall exceeded our expectations as it was packed with people from all disciplines at the College. Dr This delivered a marvellous lecture, running around the podium performing numerous experiments, which included cooking an egg in a microwave, that was later uncooked using a reducing agent. Other eggs were converted into emulsions, foams and the like. While humorous and very entertaining, the lecture was deeply rooted in rigorous physical chemistry principles, making it stand out from more commonplace demonstrations by self-taught ‘science chefs’ and TV celebrities. He finished the lecture with a wonderful war cry: “Celebrate knowledge!”



course review



By course attendee Dr Michael Girard, Research Associate (Bioengineering)

Research proposal workshop

Why did you choose to attend the development course?

As a PhD student, you get training in writing papers, but writing grant applications is a completely different exercise. My previous fellowship application was unsuccessful and since I was about to finish completing another funding application, this was the perfect opportunity for me to seek advice.

What was the format of the course?

To start with, we evaluate our own proposal against a draft funding checklist and then the main exercise involved participants trying to provide constructive criticism on each other’s approaches. Harsh and honest but constructive criticism was encouraged!

What did you learn?

The main thing I learnt was to avoid being too technical and to force myself to adapt my writing style for a lay audience. Also I learnt the importance of getting someone outside my field to review my proposal before sending it off – sometimes you can be too close to the subject to evaluate whether your meaning is clear enough.

The next two courses will be held on 8 February and 10 May 2010. For information visit www3.imperial.ac.uk/engineering/research/fundingopps/researchproposalworkshop or contact Dr Magdalena Bak-Maier: m.bak-maier@imperial.ac.uk

long
service

Reporter shares the stories of staff who have given many years of service to the College. Staff featured celebrate anniversaries on 27 November–10 December. Data is supplied by HR and is correct at the time of going to press.

—AMNA SIDDIQ, COMMUNICATIONS

20 years

- Mrs Margaret Garcia, Accounts Payable Clerk (Finance)
- Miss Jackie O'Neill, Academic Administrator (Aeronautics)
- Dr Mikila Jacobson, Research Fellow (NHLI)
- Dr Richard Szydlo, Medical Statistician (Investigative Science)
- Mr Peter Cutler, Head of Teaching Associates (Computing)

30 years

- Dr Jeremy Batten, Deputy Divisional Administrator (SORA)
- Professor Alex Taylor, Professor (Mechanical Engineering)
- Miss Julia Cork, Deputy Divisional Administrator - Education (SORA)
- Mr James Mansfield, Technician (Molecular Biosciences)

SPOTLIGHT

Mr Graham Nash, Technician (EEE) 20 years

Graham Nash started work at Imperial in 1989 as a research technician in the Department of Earth Science and Engineering. Before that Graham did an apprenticeship in electro dynamics at Woolwich College, then joined City University to work on vacuum transportation of solids in pipeline systems and soil mechanics. When he moved to Imperial his job was to design, manufacture and commission a fieldwork mini-permeameter – a gas-based device for measuring permeability in porous rock. Since then Graham has worked on a number of projects and is currently designing a cell assembly for CT scanning to look at carbon dioxide in rocks. His role also involves giving practical engineering advice to PhD students. “There’s a real sense of independence in the work I do and the freedom to move within various specialised areas, which is great,” he says. Graham is very fond of travelling and his most recent adventures include four weeks in Australia and New Zealand, which he says is one of his favourite destinations.



Mr David Hopkins, Technician (Cell and Molecular Biology) 30 years

David Hopkins joined the College as an instrument technician in the Department of Life Sciences in 1979. In this role he repairs general lab equipment such as century fuses and water baths. “It’s broken!” or “it doesn’t work” are phrases David hears on a daily basis. “But after 30 years of experience I’ve become familiar with the equipment and know how to fix it,” he says. Outside work, David is a member of the Kent Wildlife Trust, and is passionate about wildlife photography, in particular taking pictures of birds. He is also a keen swimmer and enjoys swimming at Ethos.



obituaries



PROFESSOR ANTHONY EVANS
Professor Anthony Evans, Fellow of Imperial College, died on 9 September 2009. Professor Bill Lee, Head of the Department of

Materials, pays tribute:

“Tony was a renowned researcher and scientist, a dedicated teacher and mentor. He graduated from the Department of Materials at Imperial in 1964 before working with Professor Peter Pratt on defects known as dislocations in sodium fluorite crystals. He spent time at the Atomic Energy Establishment at Harwell before moving to the US, where he spent the majority of his career, working at UC Santa Barbara, as well as other institutions including UCLA and Harvard. An expert on the properties and behaviour of advanced structural materials, he pioneered a new understanding of the structure of ceramic composite materials and the mechanics of toughening brittle materials. He was a Fellow of both the Royal Society and Royal Academy of Engineering in the UK and a member of the National Academy of Sciences and of Engineering in the US. He was the recipient of the 2005 ASM International Gold Medal, the 2003 ASME Nadai Medal and the 2002 Humboldt Research Award. In 2007, he was made a Fellow of Imperial; the College’s highest honour.

When I first met him at a convention in 1984 I was a young postdoc and he an eminent professor, but he had no superior airs. Tony’s brilliance, enthusiasm and unquenchable intellectual curiosity were an inspiration to everyone.”

Stringy art

Research Associates Dr James Bedford and Dr Riccardo Ricci (Physics) report on their experience of being involved in the annual Frieze Art Fair in Regent’s Park which showcases new and established artists to an international audience.

“Your Napoleon. Far from being a nineteenth-century despot, this was the name of a work of conceptual art that we were involved with at the Frieze Art Fair 2009. We were recruited by Dr David Berman, a lecturer in physics at Queen Mary,

University of London, but the actual project was dreamed up by New Yorker Jordan Wolfson. We met Jordan when he just won the Cartier Award which allows an emerging artist from outside the UK to realise a major project at Frieze Art Fair.

We were part of a group of seven physicists who took members of the public on guided tours of the fair while amiably conversing about string theory, which is the most promising attempt at providing a unified description of the fundamental forces of nature. Indeed Jordan described his project as “an exercise in how we talk about and describe reality”. Each tour was recorded and

then transcribed to form the basis of a script that was re-enacted by two actors in the park the following day.

With over 60,000 attendees at the fair, ranging from friends and family to Roman Abramovich, it was a unique opportunity to engage with the public about physics. It also highlighted the difficulty of getting scientific ideas across in everyday language; especially as physical concepts such as ‘space’ and ‘time’ often have a radically different meaning in artistic circles. Nonetheless, the vibrancy of the surroundings and eclectic audience made it a refreshingly different scenario in which to talk about physics.”



One of the exhibits at the Frieze Art Fair, where Dr James Bedford and Dr Riccardo Ricci were involved in a conceptual art piece.

Welcome new starters

Dr Tomoki Arichi, Clinical Sciences
 Dr Jonathan Bielby, EPHPC
 Mr Murray Brightman, Physics
 Dr Cristian Cadar, Computing
 Mr Laurence Carroll, SORA
 Dr Shu-Chun Chuang, EPHPC
 Ms Amanda Cunningham, Investigative Science
 Mr Marc Davies, Investigative Science
 Dr Simon Davis, ESE
 Mrs Rachel Edwards, Investigative Science
 Mr Simon Fayer, Physics
 Dr Michael Gastner, Mathematics
 Dr Helen Hipperson, Biology
 Professor Tom Hoehn, Business School
 Miss Rebecca Holloway, NHLI
 Mr Henry Ip, NHLI
 Ms Thilini Ishwara, Physics
 Mrs Rachel Israel, NHLI
 Mr Thomas James, Aeronautics
 Mr Stephen Johns, Chemistry
 Dr Tanya Knowles, ESE
 Mr Pantelis Koutroumpis, Business School

Mr Lester Kwiatkowski, Environmental Policy
 Mr Anthony Laverty, EPHPC
 Dr Thao Le, Biomedical Engineering
 Mr Marc Lind, Faculty of Medicine
 Dr Xu Liu, ESE
 Ms Fiona Lohan, SORA
 Mr Davide Lucchesi, Investigative Science
 Dr Goedele Maertens, Medicine
 Mr Pablo Martinez, Mechanical Engineering
 Dr Stella Mavroveli, SORA
 Miss Ellen McDonagh, NHLI
 Dr Clara Morri, Environmental Policy
 Mr Thomas Moss, Chemistry
 Dr David Mulryne, Physics
 Dr Zhenggang Nie, ESE
 Mr Lyoong Oh, Civil and Environmental Engineering
 Dr Matthew Parsons, Bioengineering
 Dr Sanjay Patel, NHLI
 Miss Sonata Petruskaite, Catering Services
 Miss Denise Phillips, EYEC
 Mr Edward Plenty, Neurosciences and Mental Health
 Dr Lee Potiphar, NHLI
 Mrs Tracey Preece, NHLI
 Dr Rongshan Qin, Materials

Dr Anna Radomska, Biomedical Engineering
 Mr Shantanu Rout, SORA
 Miss Caroline Royle, Investigative Science
 Dr Stephanie Russ, SORA
 Dr Samira Salek-Ardakani, NHLI
 Dr Rahil Sanatnia, Neurosciences and Mental Health
 Dr Kaori Sasaki, Medicine
 Mr Liam Sawbridge, Clinical Sciences
 Dr Sayan Sen, NHLI
 Dr Guy-Bart Stan, Bioengineering
 Ms Clelia Supparo, Cell and Molecular Biology
 Miss Hannah Thornton, NHLI
 Ms Samantha Udondem, EPHPC
 Dr Joanna Vriens, NHLI
 Mr Igor Wei, EPHPC
 Miss Suet-Ping Wong, NHLI
 Dr Michael Wright, Chemistry
 Ms Stamatina Zavitsanou, Chemical Engineering and Chemical Technology

Dr Rosalind Cutts, Molecular Biosciences
 Mr Charles Dean, NHLI
 Dr Aldolfo del Campo, Physics
 Mrs Luciana Folly, Catering Services
 Dr David Game, Medicine
 Dr Jonathan Gibbins, Mechanical Engineering (25 years)
 Mr Ian Gilmore, Chemistry
 Dr Jonathan Goldwin, Physics
 Mrs Neidja Gould, NHLI
 Mr Daryl Horn, Registry
 Ms Charlotte Iles, Finance
 Ms Sandra Iskander, SORA
 Mr Alisson Jorge, Catering Services
 Dr Asimina Kazakidi, NHLI
 Miss Eva Kizito, Investigative Science (5 years)
 Mr Sang-Jun Lee, Molecular Biosciences
 Mr Yang Lee, Molecular Biosciences
 Dr Huma Lodhi, Computing
 Ms Sarah Loewenbein, Investigative Science (5 years)
 Dr Daniel Mansur, Investigative Science
 Miss Natalie Moghaddam, SORA
 Dr Sanghamitra Mukhopadhyay, Materials
 Dr Simon Newstead, Molecular Biosciences
 Mr Cecil Nymn, Faculty of Medicine (15 years)
 Dr Niamh O'Carroll, EPHPC
 Dr Sophie Pegorier, NHLI
 Miss Evelyn Rosivatz, Cell and Molecular Biology
 Dr Husein Salem, Medicine
 Dr Annela Seddon, Chemistry
 Mrs Paula Smith, Bioengineering
 Dr Ryszard Smolenski, NHLI (12 years)
 Mrs Lyublyana Spasova-Joneja, Accommodation Services

Dr Sabine Steinbach, Investigative Science
 Dr Pedro Vieira, Medicine
 Mr Peter Vos, Aeronautics
 Miss Deborah Wade, Faculty of Engineering
 Mr Oliver Wells, Computing (6 years)
 Dr Amy Whitchurch, ESE
 Ms Ada Yuen, NHLI (9 years)

retirements

Dr Frank Hughes, EEE
 Dr Ann Maconnachie, Chemical Engineering and Chemical Technology (34 years)

This data is supplied by HR and covers the period 15 November–5 December. 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.

✉ 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.

CORRECTIONS AND CLARIFICATIONS

In the last issue of *Reporter* – Issue 212, 26 November, the blogspot on page 12 was incorrectly attributed to Naser, when it had in fact been written by student blogger Corrie.

Speak out

Story ideas?

We welcome contributions from across the College. The next publication day is 22 January. *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

Farewell moving on

Dr Tomas Alarcon, Mathematics
 Dr Marta Archanco, Medicine
 Ms Maria Arenas Carmona, Accommodation Services
 Dr Omar Bacarreza Nogales, Aeronautics
 Ms Carolina Bachariou, Environmental Policy
 Miss Sharon Bentley, NHLI (14 years)
 Miss Laura Brown, Communications
 Mr Arnell Colongon, NHLI
 Mr Richard Coombs, SORA
 Dr David Cordes, Chemistry
 Mrs Nicola Crisp, NHLI

Imperial handlebars

Cosmo Murphy, Recreation Supervisor (Sport Imperial), reports on raising money for the Prostate Cancer Charity last month:

“Staff working at St Mary’s may have seen a few scary moustaches floating around the campus last month. Well, let me put your minds at rest and explain to you that there has not been a Village People tribute act performing in the basement nor a Tom Selleck fan club. What instead has been taking place is Movember.

Every year during November, men all around the world celebrate all that is manly by growing a moustache, not to look more distinguished but to highlight men’s health issues, specifically prostate cancer.

This seemed like an ideal opportunity to raise money for the Prostate Cancer Charity while following my lifelong dream of carrying off a Ned Flanders look. I managed to round up a group of keen ‘Mo Bros’ from the Estates and Security Departments at the St Mary’s Campus to join me in the challenge and so far we have raised £150. A big thank you goes out to:

John Harrington, Terry Payne, John O’Brien, Jim Kelly, Aaron Davis, Lee Bishop, Andrew Azzopardi and, of course, Jim Mil-some and their ‘Mo Sistas’ for putting up with the funny stares in the street, the sniggering and, of course, the stubble rash.



If you would like to donate to the St Mary’s staff efforts please go to the Movember website <http://uk.movember.com> and donate to the “Imperial Handlebars”.



13 JANUARY ▶ LECTURE

Theatre of the quantum absurd – freaks of physics

This lecture hosted by the Friends of Imperial will be given by Dr Nic Harrigan (Physics) and the postgraduates of the science communications course. The audience will witness the freakish

behaviours of microscopic entities known as atoms and come to realise that they dwell closer to the surface of our lives than you ever imagined possible. For one night only, these men and women of science will boldly tame and present to you the secrets of the quantum universe, secrets that obstinately challenge the sanity and decency of our civilised society.



13 JANUARY ▶ LECTURE

Differential geometry and wireless systems: locked horns or hand-in-hand?

Professor Athanassios Manikas, Chair of Communications and Array Processing

(Electrical and Electronic Engineering), presents his inaugural lecture showing how the two areas of differential manifolds and new digital communication systems can be shown to converge. From this convergence arises a new robust framework to allow the analysis and design of wireless systems in the future.

PHOTO EXPO

Molecular chef Hervé This wowed the audience at a special demonstration lecture at Imperial on 30 November.

Read a review of the lecture on page 13, and watch the lecture online, at: www3.imperial.ac.uk/media/onlinelectures



Picture this

With over 62,000 images, the College's online image library contains a wealth of photos of campuses, student life, Imperial personalities and research. Images are available to all College staff and students to download for use on Imperial websites, presentations and in print.

Contributions of images of all aspects of College life are welcomed. To upload images please contact your faculty web manager. To search the digital image library visit: www.imperial.ac.uk/imagelibrary



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

take note

Access to College over Christmas

Access to Imperial campuses will be restricted from 21 December 2009 until 9 January 2010. College buildings with reception desks will remain open until 17.00 on 23 December 2009 and will re-open at the usual time for the building on 4 January 2010. Staff and students will be able to gain access using swipe cards during the closure period, except on Christmas Day. If you are required to work on Christmas Day, contact the ID Card Office (id.card@imperial.ac.uk) in advance to activate your swipe card.



VOLUNTEERING

Film club volunteer

Project ID: 2288
Organisation: Marylebone Library
Dates: Ongoing
Times: Thursdays evenings
17.30–21.00 and 21.00–01.00
Location: NW1 (nearest tube
Baker Street)

Volunteers are needed to assist in planning, advertising and running a monthly film club for the community in Marylebone Library. The role will include selecting films and contacting film studios and independent filmmakers to arrange potential film screenings. Volunteers will gain experience in promotion as they will be marketing the event in the library, in the community and within performing arts venues and colleges. The role may also require assisting with the screening and the discussion group. An interest in and knowledge of cinema is essential.



For more information

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

☎ 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

