BLUEPRINT

Staff magazine for the University of Oxford | **November 2012**

UNIVERSITY OF OXFORD

*F*RONTLINE HEART RESEARCH

*O*NLINE RECRUITMENT

*O*PERA FOR CHILDREN

News in brief

◆ 22 October saw the formal opening of the refurbished Radcliffe Infirmary on the Radcliffe Observatory Quarter (ROQ). Known as Radcliffe Humanities, the building is home to the Humanities Divisional Office, the Faculty of Philosophy, and the Philosophy and Theology Libraries. The refurbishment has helped restore some of the original layouts of the 1770 building, such as the reconversion of the end wings from ward blocks into open-plan areas. Follow progress on the site at www.ox.ac.uk/roq, which features a live webcam link.

◆ The Romanian language will be taught at Oxford for the first time thanks to a new lectorship in the Faculty of Linguistics, Philology and Phonetics, funded by the Romanian Ministry of Education. The prospect of learning Romanian has already proved popular, with more than 20 students signing up for classes. Undergraduates will be able to take an exam in Romanian Language and Linguistics as part of Linguistics or Modern Languages courses, while graduate students in Linguistics will also be able to study Romanian.

◆ The Oxford University Museum of Natural History will be closed to the public during 2013 so that restoration work on the museum's leaky roof can be completed. The first phase involved stripping and cleaning 3,500 of the 8,500 diamond-shaped glass panes. The next phase requires the museum to be shut to the public from the start of 2013 until early 2014. During this time, the entrance and shop will remain open so that visitors can access the adjoining Pitt Rivers Museum, which will not be affected by the work.

◆ Work is underway to refresh the top-level pages of the University website. Known as oxweb, the site acts as the public face of the University, providing information to a range of audiences from prospective students to visitors. Oxweb was last redeveloped in 2007 and its design and structure now need refreshing to remain effective and engaging. Find out more and follow the project blog at https://sharepoint.nexus.ox.ac.uk/sites/eap/pad/oxweb.

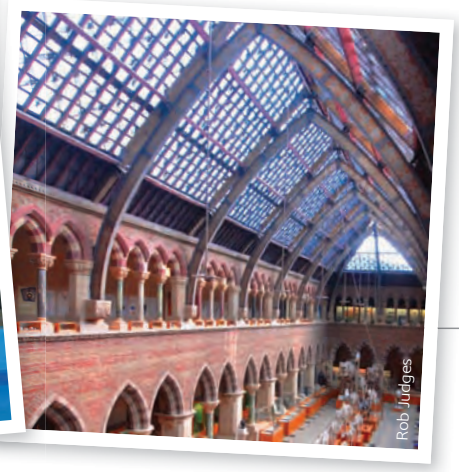
◆ Do you know where to recycle your old office or lab equipment? Look no further than the University's waste toolkit at www.admin.ox.ac.uk/estates/environment/waste/wastetoolkit, which provides advice about recycling a wide range of items from batteries to wooden pallets. It also provides details about the University's various reuse initiatives, from Lab Swap – the scheme for reusing laboratory equipment – to Sports Swap, which allows local schools to benefit from unwanted (but useable) sports equipment and clothing. In 2011/12, these free reuse schemes diverted over 8,000 tonnes from landfill and saved the University just under £45,000.

◆ Calling all users of the University Pocket Diary! Have your say about what you find useful and what improvements you would like to see in the diary in the future by completing a short survey. The diary is published annually by Oxford University Press and the contents are compiled jointly by OUP and the editorial team of the *Gazette*. The team is reviewing University content for 2013–14 and would like to canvass opinion to make the diary as useful as possible. The survey, which runs until 7 December, is at www.survey.bris.ac.uk/oxford/pocketdiary.

◆ The University's libraries were the subject of a Congregation discussion on 13 November at the Sheldonian Theatre. The discussion centred on the changes that have been taking place in the Bodleian Libraries as they try to meet the challenges of accommodating their growing collections and improving services in the face of financial constraints. A recording and transcript of the discussion are available at www.ox.ac.uk/congregation-meeting.

The Bodleian has also been consulting with readers about its draft Strategic Plan for 2013–17. Three open meetings were held in October and the feedback from these will be considered alongside input from Committees on Library Provision, Faculty Boards, divisional representatives and libraries staff. A more detailed version of the plan will be circulated for review next term.

For the latest on the changes at the Bodleian Libraries, read the November update from Bodley's Librarian Sarah Thomas at www.bodleian.ox.ac.uk/about/policies.

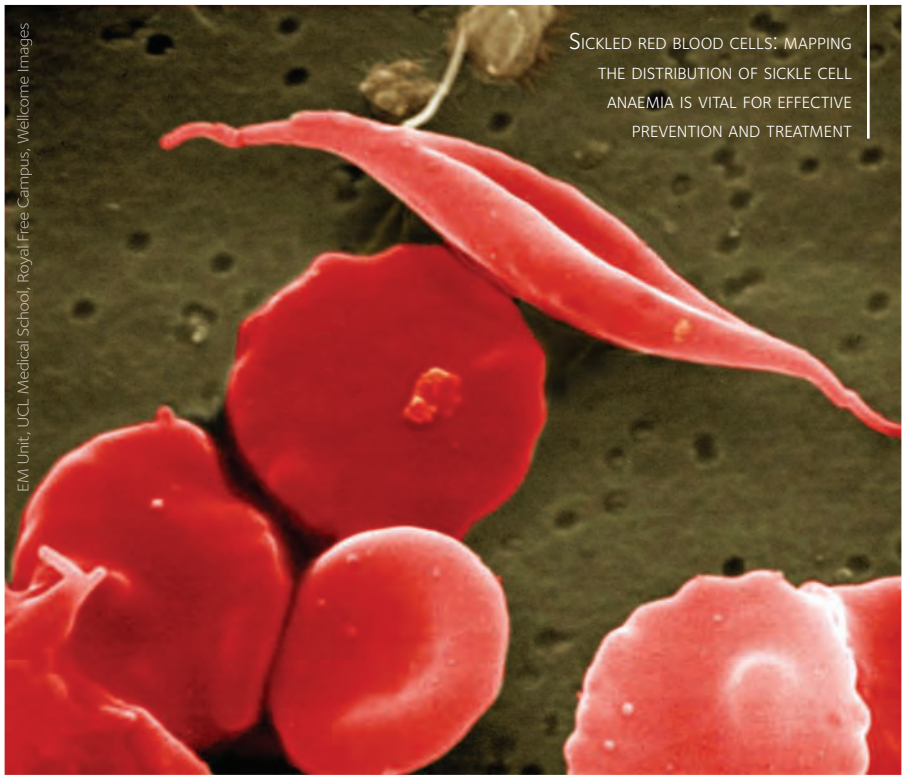


Water, water everywhere? A new statue of Triton sits outside Radcliffe Humanities, while work is underway to make OUMNH's spectacular roof leak-proof

Cover: Decorate your tree with your very own Radcliffe Camera, available from the University shop

Photo by Rob Judges

Research round-up



Sickled red blood cells: mapping the distribution of sickle cell anaemia is vital for effective prevention and treatment

◆ 18th-century Prussian king Frederick the Great (Frederick II) is best known as a brilliant military strategist – but he also had some tips on venereal disease, Professor Katrin Kohl of the Faculty of Medieval and Modern Languages has found. She discovered some unknown letters from him in the Bodleian Library in which he invites a fellow officer to confide his secret, promising: 'I'll make sure you have all the necessary medicine from Dr Miraux of Potsdam'. She says the letter reveals the importance of Berlin brothels to military stationed well outside of the city, and the clandestine infrastructure that existed for dealing with sexually transmitted diseases. Frederick's letters are being published online by Oxford's Electronic Enlightenment project.

◆ Tropical grasses and sedges formed most of the diet of our very early ancestors in central Africa, according to a team including Oxford archaeologists, who extracted the information from the fossilised teeth of three early hominins (3 to 3.5 million years old) from Chad. The finding is surprising since the only African great ape that eats this type of food is the savannah baboon, suggesting that the diet of early hominins diverged from that of the standard great ape at a much earlier stage than previously believed. However, it does explain how early humans were able to survive in open landscapes, allowing them to move out of the earliest ancestral forests to occupy and exploit new environments much further afield. It is likely our ancestors relied on the roots, corms and bulbs of the tropical grasses as the leaves would have been too tough to break down and digest.

◆ If mothers-to-be want to play it safe, they should avoid alcohol entirely throughout pregnancy, according to Bristol and Oxford research. Current advice is mixed, sometimes advising abstinence and sometimes simply recommending extreme moderation, but the study of 4,000 mothers and their children found that very small differences in exposure to alcohol levels while in the womb can have a significant effect on a child's IQ at age eight. The study isolated the link from confounding factors such as smoking, diet, affluence and education by using a novel technique known as Mendelian randomization.

◆ Sickle cell disease, a serious blood disorder which can be fatal if untreated, has been studied intensively for more than a hundred years, but knowledge about its current distribution and burden has been poor – despite the fact that accurate estimates are vital for effective prevention and treatment policies. That has now changed thanks to the Malaria Atlas Project (MAP), led by the Department of Zoology, which as well as examining malaria is mapping the distribution of sickle haemoglobin, the genetic disorder causing sickle cell anaemia. This gives information on both patients and carriers of the gene. The researchers found that in 2010 around 300,000 babies were born with sickle cell disease and a further 5.5 million newborns carried the gene; they have mapped geographically where the births occurred.

◆ The opera *Anacréon* was performed in its entirety for the first time in over 250 years this month, after Dr Jonathan Williams of the Faculty of Music and St Hilda's College reconstructed Rameau's score. The opera, about the eponymous Ancient Greek poet, was performed by the Orchestra of the Age of Enlightenment at the Sheldonian Theatre, an event organised by the Faculty of Music, Music at Oxford, St Hilda's College and Magdalen College. 'None of the sources of *Anacréon* is complete, so reconstructing the score required quite a bit of detective work searching Parisian libraries and piecing together the music from various scores and parts,' says Dr Williams. 'To further complicate matters, the few sources that do survive originate from three different productions of two different versions of the opera. I filled in any missing music (in a style hopefully indistinguishable from that of the composer). The aim is to present, as far as is possible, Rameau's final thoughts on the score.'

Great tips from Frederick

For more information, visit www.ox.ac.uk/news and www.ox.ac.uk/staffnews

People and prizes

Professor Luciano Floridi, Fellow of St Cross and a member of the Faculty of Philosophy, has won the Weizenbaum Award of the International Society for Ethics and Information Technology for his 'significant contribution to the field of information and computer ethics, through his research, service, and vision'.

Dr Hugh Jenkyns of the Department of Earth Sciences has received the 2012 Capellini Medal of the Italian Geological Society.

Alison Noble, Technikos Professor of Biomedical Engineering, has been elected a Fellow of the Medical Image Computing and Computer Assisted Interventions Society.

Peter Norreys, Professor of Inertial Fusion Science, has been made a Fellow of the American Physical Society 'for major contributions to the understanding of energetic particle generation and transport in relativistic laser–plasma interactions, including innovative experiments relevant to fast ignition fusion concepts'.

Anant Parekh, Professor of Physiology, has been awarded the 2013 GL Brown Prize Lectureship from the UK Physiological Society in recognition of his pioneering research in the field of cell physiology, particularly the role of calcium ion channels in health and disease.

Jane Stapleton, visiting professor in the Faculty of Law and an Emeritus Fellow of Balliol College, has been awarded the William L Prosser Award by the Association of American Law Schools. The award honours outstanding contributions to the world of tort law scholarship.

Raj Thakker, May Professor of Medicine, has been awarded a 2012 American Society of Nephrology endowed lectureship and also the Parathyroid Medal of the Fondazione Raffaella Becagli, which aims to eradicate bone disease.

Christopher Tuckett, Professor of New Testament Studies, has been awarded the Burkitt Medal by the British Academy in recognition of special service to Biblical Studies.

Oxford work wins Gurdon Nobel

Sir John Gurdon has won the Nobel Prize in Physiology or Medicine 2012 for his discovery in 1962 at the University of Oxford that the specialisation of cells is reversible, challenging the dogma that mature cells are irreversibly committed to their fate. He won the prize jointly with Shinya Yamanaka for the discovery that mature, specialised cells can be reprogrammed to become immature cells capable of developing into all tissues of the body – a discovery that revolutionised our understanding of how cells and organisms develop.

Professor Gurdon took his undergraduate degree at Christ Church, initially studying Classics but switching to Zoology. He received his doctorate from Oxford in 1960 and was a postdoctoral fellow at California Institute of Technology before returning to Oxford as an assistant lecturer in Zoology in 1962. It was in the Department of Zoology that he replaced the immature cell nucleus in an egg cell of a frog with the nucleus from a mature intestinal cell. This modified egg cell developed into a normal tadpole, thus demonstrating that the DNA of the mature cell still had all the information needed to develop all cells in the frog.

Sir John joined Cambridge University in 1972 and has served as Professor of Cell Biology and Master of Magdalene College. He is currently at the Gurdon Institute in Cambridge.

Top SET students

Two Oxford undergraduates won prizes at the 2012 Science, Engineering & Technology (SET) Student of the Year Awards, which attracted more than 500 entries from over 100 universities. Josephine French *(left)* won not only the Best Mathematics Student category but also the overall first prize, the BP Award for the Science, Engineering & Technology Student of the Year, for her project on differential operators on base affine space. Her project supervisor, Dr Kobi Kremnitzer *(also pictured)*, was thereby named Lecturer of the Year. Emma Nicholson, who completed her degree last year in Earth Sciences, was named Best Earth Science Student for her project on timeseries analysis of SO_2 flux from a volcano.

China honours Oxford researchers

Two British researchers – both of them from Oxford's medical school – have been presented with the People's Republic of China Friendship Award, the Chinese government's highest honour for foreigners 'who have made outstanding contributions to China's economic and social progress'.

Colin Blakemore, Emeritus Professor of Neuroscience, has established a long and fruitful association with Chinese science and medicine since the 1970s. He is an Honorary Professor of the Peking Union Medical College and the Chinese Academy of Medical Sciences, a Foreign Member of the Chinese Academy of Engineering and a 'Master' of the Beijing DeTao Masters Academy, through which he is advising on the establishment of medical facilities in China. He is also setting up a Science Media Centre in Beijing to improve communications between Chinese researchers and the media.

Sir Richard Peto, Professor of Medical Statistics and Epidemiology and co-director of the Clinical Trial Service Unit, has conducted many large and important surveys of patterns of disease in China, including mortality from smoking.

◆ **Professor Blakemore** has also been awarded the $25,000 Ralph W Gerard Prize of the Society for Neuroscience. His research 'has provided fundamental insights into the neural mechanisms underlying visual perception development and his efforts to elucidate key molecular and cellular mechanisms underlying developmental plasticity of the visual cortex have been particularly helpful in improving knowledge about amblyopia'.

Viewfinder found

The angel (p20) is one of six in the entrance to Palmer's Tower, the only extant medieval building of Exeter College. Situated in the north-east of the main quad, the tower was built as a gate to the college from a now-vanished street just inside the northern town wall. It lost its purpose as a gate when the Turl Street entrance was built in the 17th century. Palmer's Tower was built in 1432 and was named after William Palmer, Rector of the College from 1425 to 1432.

MS research wins national award

Oxford's Multiple Sclerosis (MS) research team has won the prestigious MS Research Project of the Year award 'in recognition of world class research projects, based in the UK, working hard to beat MS'.

The research, led by **Professor Lars Fugger** *(left)* in collaboration with **Surgeon Commander Matt Craner** of the Royal Navy (who is a consultant neurologist and senior research fellow at the Weatherall Institute of Molecular Medicine) identified a target – the acid-sensing ion channel – which, when blocked by the drug amiloride, prevented nerves and myelin from being damaged in laboratory models of MS. It is hoped the research could lead to a treatment that halts disability progression.

Leverhulme prizes

The Leverhulme Trust has announced the 2012 winners of Philip Leverhulme Prizes. A number of Oxford academics are included.

Dr Peter Thonemann *(left)* of the Faculty of Classics and Wadham College is recognised for his work on the history and culture of pre-Islamic Turkey. In the Department of Earth Sciences, **Dr Matt Friedman** (St Hugh's College) wins a prize for his work on vertebrate palaeontology and evolution, and **Dr Richard Katz** (St Anne's College) is recognised for his work on the physics of magma genesis and transport to the convecting mantle. **Dr Jonathan Marchini** of the Department of Statistics and Mansfield College is a prizewinner for his work on statistical genetics.

A further two Leverhulme prizewinners are fellows of All Souls College: **Professor Patrick Finglass** of the University of Nottingham is recognised for his work on archaic and classical Greek poetry, and **Dr Alexander Morrison** of Liverpool University for work on Central Asian history, Russian Imperial history and South Asian history.

In addition, an Oxford scientist has won the Leverhulme Research Leadership Award, only awarded once every five years and worth around £900,000. **Dr Feliciano Giustino** of the Department of Materials will explore how 'biomimetic' solar cells – those that mimic natural systems – turn light into electricity at the atomic scale.

OPHI betters the human condition

The Oxford Poverty and Human Development Initiative, a research centre within the Department of International Development, has won the Award for Betterment of the Human Condition given by the International Society for Quality of Life Studies, a Berlin-based organisation which aims to promote and encourage research in this field.

The prize is given every two years for 'extraordinary contributions to the application of quality of life research for the betterment of humanity'. Previous winners include the UN's Development Programme, the Government of Sweden, the New Economics Foundation and Transparency International.

Exeter's email success

Exeter College's Development Office has won the Blackbaud Digital Fundraising Award for 'Best use of email in fundraising'. The prize recognises Exeter's use of email during its 2011–12 Annual Fund campaign, which raised over £675,000 and drew support from 2,187 Old Members – 37% of the alumni base, which is more than any other college or university outside the USA.

Arrivals Board





FROM LEFT: PROFESSOR DOMINIC KWIATKOWSKI, PROFESSOR MARY DALY, ANDREW MACKIE, PROFESSOR MATTHEW FREEMAN, PROFESSOR STEVE STRAND

Professor of Genomics and Global Health

Dominic Kwiatkowski, Professor of Tropical Paediatrics; Director of the MRC Centre for Genomics and Global Health; Honorary Consultant in Paediatrics, Oxford University Hospitals NHS Trust; and Head of the Malaria Programme, Wellcome Trust Sanger Institute, Cambridge, took up this post in the Nuffield Department of Clinical Medicine on 1 September. He also became a Professorial Fellow of St John's College.

Professor Kwiatkowski's research aims to translate advances in genome science into clinical and epidemiological applications that will help to reduce the burden of malaria and other infectious diseases in the developing world. A major focus of his work is to develop data-sharing networks for global surveillance of emerging drug resistance and other evolutionary changes in pathogen populations, and to use this information to guide strategies for disease control.

Professor of Sociology and Social Policy

Mary Daly, Professor of Sociology at Queen's University Belfast, took up this post in the Department of Social Policy and Intervention on 15 October. She is also now a Fellow of Green Templeton College.

Her research focuses on comparative European social policy, especially the changing nature of the welfare state as it impacts upon well-being, gender relations, poverty, family and the labour market.

Head of Legal Services

Andrew Mackie has been appointed as the University's Director of Legal Services and General Counsel with effect from early December 2012. He is a solicitor who has been a corporate partner at Linklaters LLP since 2005 and has worked in the New York, Hong Kong and London offices. Prior to joining Linklaters in 1993, he worked for Unilever. Andrew Mackie is an Oxford graduate (Modern History and Modern Languages, Merton) and had a graduate scholarship to study business administration at McGill University.

Professor of Pathology

Matthew Freeman, Head of the Division of Cell Biology at the MRC Laboratory of Molecular Biology, Cambridge, will take up this post in the Sir William Dunn School of Pathology on 1 January. He will be a Fellow of Lincoln College.

Professor Freeman studies the cellular mechanisms that regulate signalling between animal cells, and how that signalling controls biological functions such as development and physiology, particularly in the rhomboid family of proteins. He is a Fellow of the Royal Society.

Professor of Education

Steve Strand, Professor of Education at the University of Warwick, will take up this post in the Department of Education on 1 January. He will also be a Fellow of St Cross College.

His chief research interests include equity gaps in educational outcomes, particularly in relation to social class, ethnicity and gender; school effectiveness and school improvement; and the impact of schooling on equity gaps.

Noticeboard

◆ **The Radcliffe Department of Medicine** (RDM) is a new multidisciplinary department within the Medical Sciences Division, providing a focus around cardiovascular medicine, acute stroke, diabetes and metabolism, haematology, immunology and experimental therapeutics. Led by Professor Hugh Watkins, the RDM amalgamates the Department of Cardiovascular Medicine; the Oxford Centre for Diabetes, Endocrinology and Metabolism; the Nuffield Department of Clinical Laboratory Sciences; the majority of research groups in the Weatherall Institute of Molecular Medicine; and some of the academic groups from the Experimental Medicine Division of the Nuffield Department of Medicine.

◆ **Gordon Clark**, Halford Mackinder Professor of Geography, becomes Director of the University's Smith School of Enterprise and the Environment in January. Professor Clark is an economic geographer with an interest in global financial integration and environmental sustainability.

◆ **Douglas R Higgs**, Professor of Molecular Haematology, has become Director of the Medical Research Council's Weatherall Institute of Molecular Medicine (WIMM). He will continue his role as Director of the MRC Molecular Haematology Unit.

◆ **Barbara Casadei** has been awarded one of the top honours in UK heart research, becoming a British Heart Foundation (BHF) Professor. She joins a select group of only 32 BHF Professors in the UK – five of whom are now at Oxford, one of the BHF's Centres of Research Excellence (see pp10–11). The BHF has invested more than £2m in Professor Casadei's research programme into the fundamental causes of atrial fibrillation as well as awarding her the official title of BHF Professor of Cardiovascular Medicine.

◆ **The Council Secretariat** is responsible for University-wide matters relating to governance and compliance, including the servicing of Council and many of its committees, maintenance of the University's statutes and regulations, and compliance and assurance work relating to the Data Protection and Freedom of Information Acts. In order to reflect more accurately Emma Rampton's role and standing in the University, her title has been revised from Head of the Council Secretariat to **Deputy University Secretary**. She continues to report to the Registrar, who is Secretary to Council and Congregation.

Rob Judges

Inspired by Silicon Valley

Matching entrepreneurship with the resourcefulness and aspirations of refugees should prove a winning formula, Alex Betts tells *Maria Coyle*

How can refugees best help themselves? Dr Alexander Betts thinks he may have an answer. He is Director of the Humanitarian Innovation Project, which launched this month and which features a newly created online database to foster the business interests of refugees – an idea Alex first hit upon while based at Stanford University in the heart of Silicon Valley.

'I was surrounded by all these tech people, these entrepreneurial business types setting up their start-ups,' says Alex, who is based in the University's Department of International Development and is a fellow of Green Templeton College. 'Then I was struck by the thought that we could take the creativity and business ideas that exist in the Silicon Valley context and match it with the resourcefulness and aspirations of refugees.' For example, Alex knows a Ugandan entrepreneur who currently employs up to 30 refugees making sanitary pads out of affordable, locally sourced papyrus leaves. These products are being sold to the United Nations High Commissioner for Refugees (UNHCR), but the business model could be scaled up, thereby employing more refugees.

The new database at www.oxhip.org will supply information on humanitarian innovation and provide a platform for mentorship or partnership opportunities for refugees. Business ideas that have the potential to be adapted and applied elsewhere will be highlighted and evaluated. The project team is researching the many levels of entrepreneurship, big and small, in Uganda: from refugees buying fruit to sell on, to running shops and even supermarkets (which in some cases employ not just other refugees but Ugandan nationals as well).

Alex is setting out to recalibrate the model of how humanitarian assistance should be provided. Refugees are often portrayed as passive victims, who wait for long periods of time in camps and settlements and are dependent on resources provided by international organisations. 'It struck me that it really didn't need to be that way,' he says. 'These were people with skills, talents, aspiration and a huge amount of entrepreneurship that is often unrecognised.'

> **'I was struck by the thought that we could take the creativity and business ideas that exist in the Silicon Valley context and match it with the resourcefulness and aspiration of refugees'**

This view started to form when he was a 19-year-old student volunteer at a reception centre for asylum-seekers, which he describes as 'like a politics course from the bottom up'. 'It was deeply political that people who were talented – doctors, lawyers, children who were multi-lingual – had limited opportunities, for reasons to do with the interests and power of other people.'

An early experience of working for the UNHCR alongside taking his DPhil in International Relations at Oxford convinced him that he did not want to be part of a big organisation. He returned to full-time academic research, 'rooting myself in position from which I could influence policy and practice within a more intellectually independent environment,' he explains.

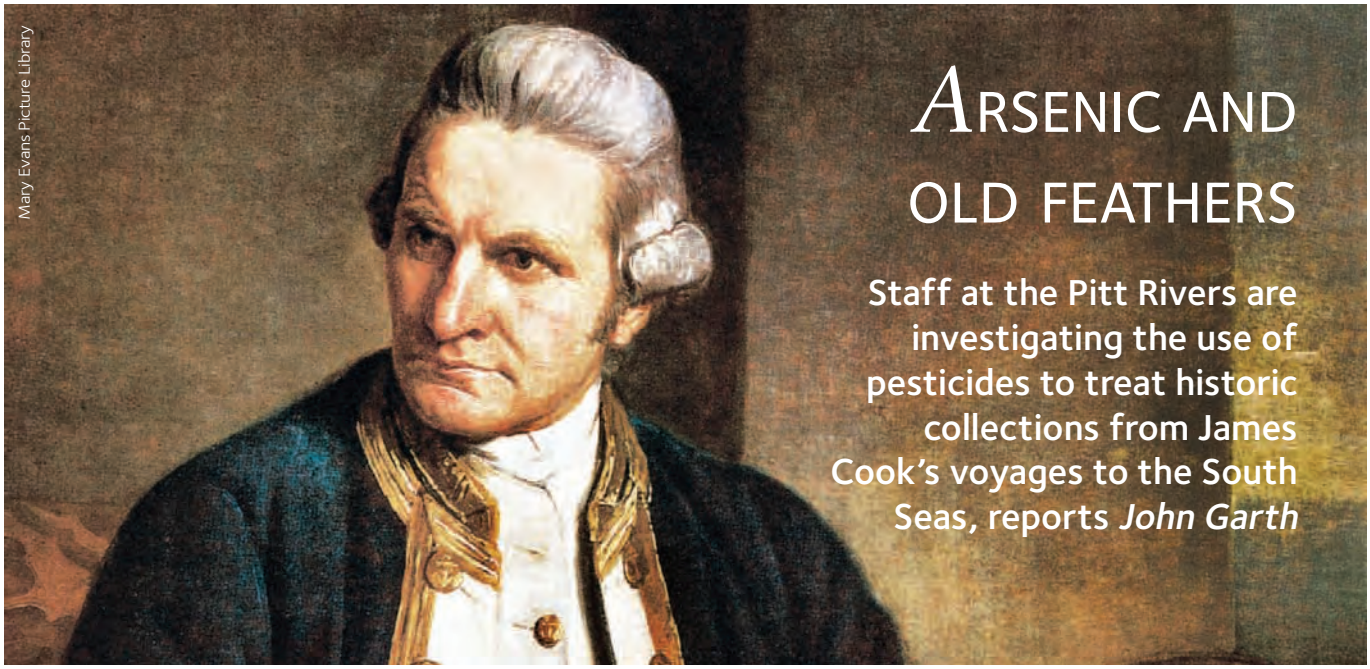
Much of his research has centred on Africa where, with colleagues, he first coined the phrase 'survival migration'. The term is now used in advocacy and expands the narrow definition of 'refugee', drawn up by the UNHCR in 1951. The Convention definition applies only to those who have fled violence and persecution, but 'survival migration' highlights people fleeing serious human rights deprivations even if they are outside the legal framework. Alex saw at first hand the plight of hundreds of Zimbabweans seeking sanctuary in South Africa because of chronic economic and social deprivations back home.

Alex says he is amazed at the resilience of the refugees he has met. One man, Wuli from Somaliland, has been living in a refugee camp in Djibouti for 24 years, but manages to provide a makeshift school in his tent to give others a form of secondary education. All he has are his blackboard and chalk, but Wuli explained to Alex that without the hope of being resettled himself, he wanted to give his life to supporting the opportunities of others. 'To be an academic at Oxford there is a certain obligation to take inspiration from that,' Alex says. 'I want to match that commitment and endeavour by doing research that reflects their experiences.'

More information at www.oxhip.org and www.rsc.ox.ac.uk/people/academic-staff/betts

This wonderful Tahitian mourner's costume could contain pesticide residues

Pitt Rivers



Arsenic and old feathers

Staff at the Pitt Rivers are investigating the use of pesticides to treat historic collections from James Cook's voyages to the South Seas, reports *John Garth*

When Captain Cook returned from his second famous voyage to the Pacific in 1775, he and his companions could scarcely have imagined that the 'curiosities' they had collected would be under scrutiny today for arsenic and mercury content. In the centuries since then, however, it was common practice for museums to use toxic chemicals to protect collections from infestation by insects such as moths. The chemical residues on the Cook voyage collections preserved at the Pitt Rivers Museum are now being examined as part of a pioneering £80,000 project to explore the risks they pose.

The major collection, given to the University by the father-and-son naturalists Reinhold and George Forster in 1776 and transferred from the Ashmolean to the Pitt Rivers in 1886, illustrates the history of pesticide use in Oxford museums. The centrepiece of the collection is a glorious Tahitian mourner's costume *(pictured left)* comprising feathers, bark cloth, wood and other vulnerable organic materials.

Outbreaks of infestation meant regular and thorough applications of pesticide, such as one 1950s treatment which, it was boasted, killed 'every insect on every material used by man'. Pitt Rivers records do not specify the pesticide, quantities or methods used, but in the early days mercury and arsenic were probably dusted on or sprayed in solution; later, lindane and DDT were used. Opened display cases also smell of naphthalene ('moth balls').

'Handling must have been dangerous but people only became aware of the problem in the early 1980s, when they stopped spraying indiscriminately in storerooms,' says senior conservator Jeremy Uden, who is devoting two years to the project, funded by a fellowship from the Clothworkers' Foundation. The only similar work is being done in the US to ensure museum objects may be safely returned to the native American groups whose ancestors created them.

One benefit of the project will be clearer warnings to visitors to the Pitt Rivers who ask to handle artefacts from their own cultural past, as a North American Haida group did recently. 'We were able to say: there are risks – if you want to handle them you need to wear gloves or wash your hands,' says Mr Uden. 'But hopefully with this research we can be more aware of exactly what chemicals are on the artefacts, and give people greater information to make that choice.'

Analytical chemist Andrew Charlton, at the Food and Environment Research Agency in York, has been recruited to investigate the pesticides on Pitt Rivers artefacts. He usually works on pesticide uptake in wildlife, especially honey bees; museum pieces are a considerably bigger challenge. 'Usually, we get a whole load of honey bees and destructively sample them – homogenising the sample and extracting it with organic solvents, because to measure the amount of pesticide you need to get it all out into a solution,' he says. 'Obviously that doesn't do any good to the sample: at the end, what is usually left is ground-up honey bees. We can't do that with the Pitt Rivers objects.'

Instead Mr Uden, armed with lightly moistened cotton buds and the patience of a saint, is representatively sampling the surface areas of Cook artefacts such as the Tahitian mourner's costume. The swabs can then be tested to destruction. Mr Charlton has been given a shortlist of chemicals to look for using the latest mass-spectrometry techniques, but hopes he may widen the net to discover other compounds.

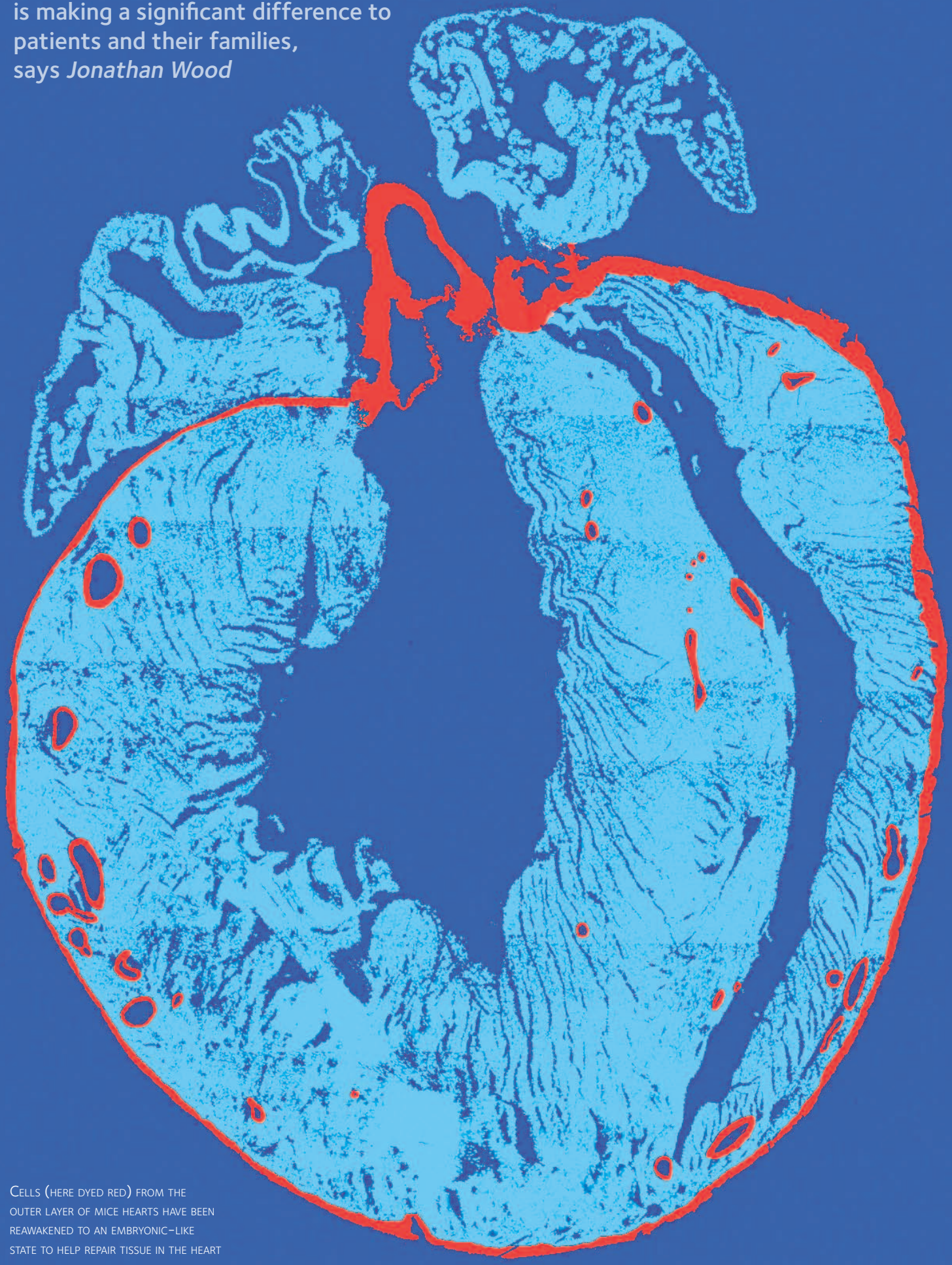
One early, incidental, discovery is that pesticides may be behind some of the staining previously blamed on water. Other aspects of the project include analysis of fibres and resins used in the making of the objects – these are giving fresh insights into objects' cultural origins and into the trade patterns of the pre-colonial Pacific. But the study of museum pesticides is a wholly new discipline, says Mr Uden. 'I think there'll be more and more research into it and how to mitigate the effects of pesticide residues on objects.'

Collected on the Marquesas in April 1774: a headdress of mother-of-pearl and tortoiseshell, with cock's feathers

The Pitt Rivers Museum (www.prm.ox.ac.uk) will remain open throughout 2013; entry as usual via the University Museum of Natural History (which is closed for roof refurbishment, see p2)

The heart of the matter

Cardiovascular research at the University is making a significant difference to patients and their families, says *Jonathan Wood*



Cells (here dyed red) from the outer layer of mice hearts have been reawakened to an embryonic-like state to help repair tissue in the heart

Tom Riley

Sudden cardiac death in children and young adults is especially traumatic as it can come with no warning. And because it tends to be caused by a genetic disorder, more than one member of a family can be affected. Now a nationwide genetic testing service for families affected by inherited heart conditions is available through the NHS in Oxford, thanks to work by Professor Hugh Watkins and colleagues in the Radcliffe Department of Medicine. More than 2,000 families have now been screened – a development which can potentially mean the difference between life and death. Those at risk with the condition can have a small electrical device implanted that's able to restart the heart.

Professor Watkins led the work to develop and implement a test capable of detecting the gene mutations responsible for hypertrophic cardiomyopathy – the most common cause of sudden cardiac death. Medical guidelines now recommend that genetic testing is considered for families suspected of having the condition.

As well as developing the genetic screen, 'we did a lot of basic science work on the mutations, revealing that they led the heart to burn too much energy,' says Professor Watkins. This full understanding of the condition has allowed the researchers to identify existing drugs that could alleviate the problem. Clinical trials of the drugs are looking 'quite positive', he adds.

This is just one example of many where heart research at the University can make a significant difference to patients and their families. At one end of the scale there's the well-known work of the Clinical Trial Service Unit in large-scale epidemiological studies and clinical trials, while fundamental investigations of heart muscle, its electrics and energetics occur in many places across the Science Area. The vast majority of this research comes under the umbrella of the British Heart Foundation (BHF)'s Centre of Research Excellence, which is headed by Professor Watkins. Significant support also comes from the Medical Research Council, the Wellcome Trust and NIHR Oxford Biomedical Research Council.

'The BHF Centre has allowed us to join up a whole programme of research all the way from genetics and physiology through to population-based studies,' says Professor Watkins. 'This is very powerful. If you're a researcher wanting to understand a biological or disease question, there's the possibility of pursuing that at the molecular medicine level all the way through to clinical trials.'

One significant addition to this programme of research is a new £13m research centre that will help doctors understand much more precisely what is happening in a patient's heart or brain in the crucial moments after a heart attack or stroke. The Acute Vascular Imaging Centre (AVIC) at the John Radcliffe Hospital was officially opened on 15 October. AVIC is fully embedded in the hospital environment, with patients receiving care from specialised hospital teams, to allow this research in the difficult area of emergency medicine.

'We believe AVIC is unique worldwide in emergency medicine in having both a fully equipped suite for treating blocked arteries and an MRI scanner,' says Professor Robin Choudhury, clinical director of AVIC. A state-of-the-art catheter lab offers X-ray imaging of the blood vessels causing the heart condition or stroke while doctors correct the narrowed or blocked artery. And an MRI scanner can offer better diagnosis and characterisation of the problem. But it's not just having these two bits of kit in the same place. Patients can be transported smoothly and rapidly between the two – almost at the push of a button – thanks to a mechanised system and rails laid into the floor.

'It means the patient isn't disturbed from their position on the table, it saves time and it makes it more streamlined for doctors to get all the imaging information they need,' explains Professor Choudhury. 'We are now able to characterise the heart in more detail and to determine the nature of the injury that the heart has sustained, enabling research on treatment approaches that are tailored for particular patients.'

Yet however rapidly a blocked artery is dealt with, however good the treatment, some damage to the heart tissue remains and this can lead eventually to progressive heart failure.

'The adult human heart can't repair itself,' explains Professor Paul Riley, who moved from UCL this summer to Oxford to take up a BHF Chair in Regenerative Medicine. 'The only cure if the damage caused by a heart attack is severe enough is, in the end, a heart transplant.'

This is where Professor Riley's research comes in. He has discovered a small protein factor, a molecule called thymosin β4, that reawakens cells in the outer layer of the heart once active in the growing embryo. His group has demonstrated tantalising results in mice, suggesting that these reactivated cells may be able to direct at least some repair of damaged tissue in the heart.

Now that Professor Riley is here in Oxford, he's looking to investigate these processes in human heart cells and conduct screens to try and identify drug compounds that can activate these special cells. 'We want to explore what these cells can do and how we can control their differentiation – looking for ways to push these cells in different ways,' he says. The great hope is that, in the end, it may be possible to stimulate an adult heart to heal itself.

From diagnostic genetic tests to helping the heart heal itself, Oxford's research is leading to new approaches for combating heart disease now and in the long term.

THE ACUTE VASCULAR IMAGING CENTRE *(TOP)* DEVELOPS AND USES NOVEL IMAGING AND DIAGNOSTICS TO EVALUATE PATIENTS WITH *(CENTRE)* BRAIN INJURY AND *(BOTTOM)* ACUTE MYOCARDIAL INJURY. THE CENTRE IS LOCATED BETWEEN THE OXFORD HEART CENTRE AND THE EMERGENCY DEPARTMENT

More information on cardiovascular science at Oxford is at www.cardioscience.ox.ac.uk

What's on


Kiyomizu-Sannenzaka Museum, Kyoto

Exhibitions

Threads of silk and gold: ornamental textiles from Meiji Japan
Until 27 January 2013
Ashmolean Museum
Tickets £6 / £4 / free for children
www.ashmolean.org/exhibitions/threads
Exhibition of ornamental textiles that were made in Japan for the foreign market in the late 19th and early 20th centuries.

Atmospheres: investigating the weather from Aristotle to Ozone
Until 7 April 2013
Museum of the History of Science
www.mhs.ox.ac.uk/events
A rich and surprising perspective on the weather, ranging from the work of Oxford astronomers in the 18th century to modern investigations by satellites and space probes.

Talks and Conferences

Paradoxes of state power in America
Tuesday 27 November, 5pm
Examination Schools
http://rai-live.nsms.ox.ac.uk/termcard
Talk by Professor Gary Gerstle, Harold Vyvyan Harmsworth Visiting Professor of American History, 2012–13.

Healing society's poorest
Friday 30 November, 4.30pm
The Chapel, Mansfield College
www.mansfield.ox.ac.uk
Talk by Camilla Batmanghelidj, psychotherapist and founder of the charities ThePlace2b and Kids Company.

Understanding global refugee policy
Thursday 6 – Friday 7 December
St Anne's College
www.rsc.ox.ac.uk (please register online)
The Refugee Studies Centre is celebrating its 30th anniversary with a conference to examine and theorise the policy-making processes relating to refugees and forced migration at the global level. The meeting also marks the 80th birthday of Barbara Harrell-Bond, who set up the RSC in 1982 as the world's first institution for the study of refugees.

In conversation: Michael Rosen and Colin Harrison
Friday 14 December, 5pm
The Story Museum, Pembroke Street
Tickets £6 / £4
www.ashmolean.org/exhibitions/lear/events/lectures
Colin Harrison of the Ashmolean talks to writer Michael Rosen about the two sides of Edward Lear's art – his paintings of flora and fauna and the nonsense sketches which accompanied his verses.

Why your five-year-old could not have done that
Saturday 15 December, 11am
Ashmolean Museum
Tickets £8 / £7
www.ashmolean.org/events/SpecialEvents
Author Susie Hodge explains why modern art is not – and never has been – child's play.

Concerts

Jacqueline du Pré anniversary concert
Friday 23 November, 8pm
Jacqueline du Pré Music Building
Tickets £30 / £25 / £20
www.st-hildas.ox.ac.uk/jdp
Concert to commemorate the 25th anniversary of Jacqueline du Pré's death, with a programme of Bach and Brahms performed by Natalie Clein (cello) and Katya Apekisheva (piano).

Special Events

Christmas Light Night
Friday 23 November, 6 – 10pm
www.oxfordinspires.org
Special late-night event involving the University museums and libraries to welcome in the festive season. View the Pitt Rivers by torchlight, listen to ballads in the Divinity School, watch ice-carving at the University Museum of Natural History and make golden decorations at the Ashmolean.

Family Friendly

Make it a green Christmas
Saturday 1 December, 10.30am – 12.30pm
Botanic Garden
www.botanic-garden.ox.ac.uk
Collect natural treasures and turn them into beautiful Christmas decorations.

Letters from Santa
Sat 22 Dec – Sun 6 Jan
Oxford University Museum of Natural History and Pitt Rivers Museum
www.oum.ox.ac.uk; www.prm.ox.ac.uk
A very special delivery! Look out for postboxes in the Museums and delve in deep to find letters from Santa!

Discount Days

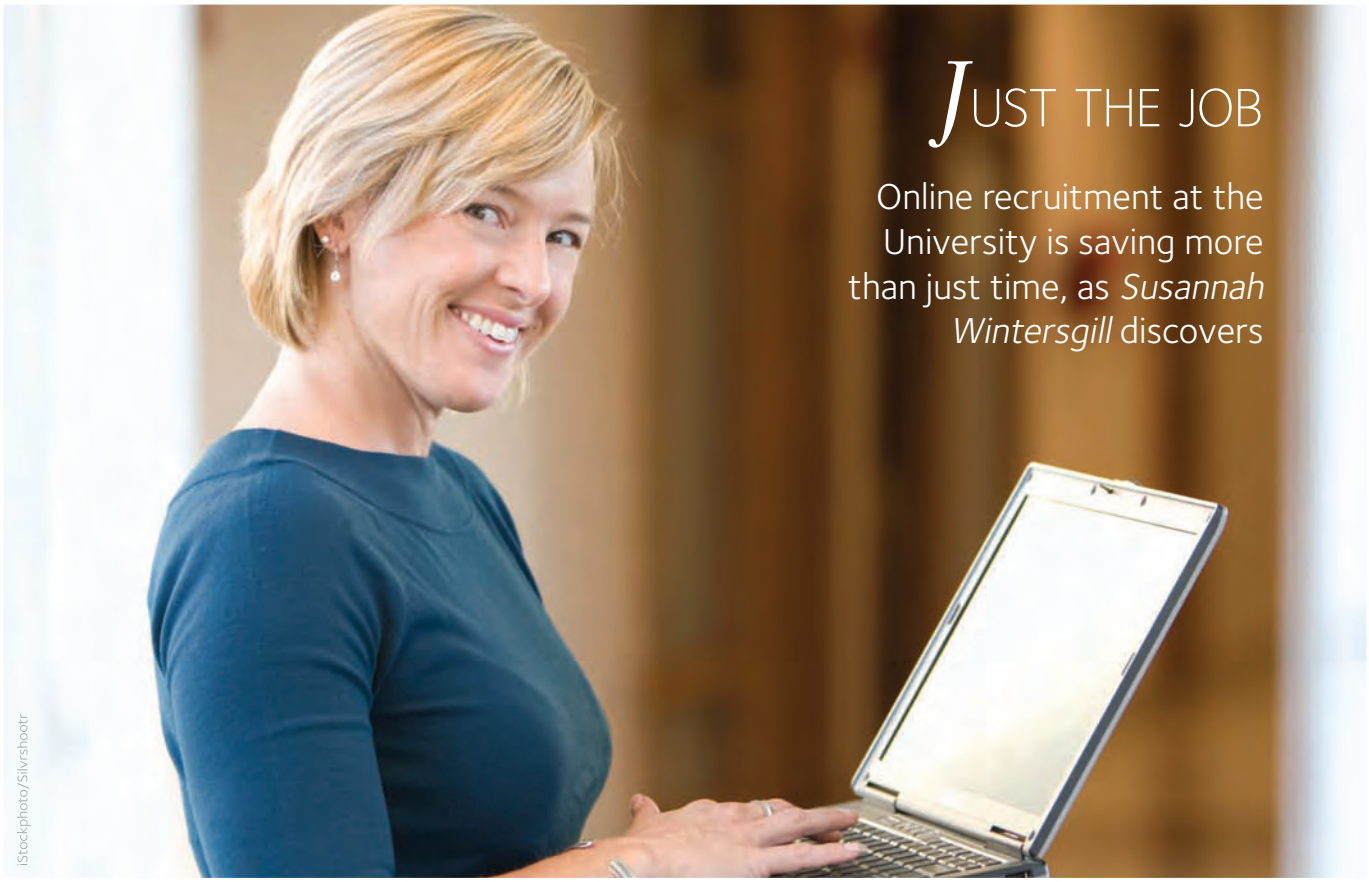
As Christmas approaches, bag yourself a bargain at the University shops.

Double discount day comes to the Pitt Rivers and University Museum of Natural History on Friday 23 November (Christmas Light Night). Both museum shops are open until 10pm and you can enjoy 20% off gifts and 10% off books throughout the day when you present your University Card (discount applies to purchases over £5).

The Bate Collection Shop is offering a special discount on Wednesday 5 December. Visit the shop between 1pm and 5pm for music, mince pies and 10% off purchases (**www.bate.ox.ac.uk/christmas-shopping**).

Finally, the University of Oxford Shop is offering a double discount on the last three Thursdays before Christmas (6, 13 and 20 December), when the shop will be open until 7pm. Present your University Card to claim your 20% discount or enter the discount code Oustaff20 at **OUshop.com**.


Greg Smolonski



JUST THE JOB

Online recruitment at the University is saving more than just time, as *Susannah Wintersgill* discovers

iStockphoto/Silvrshootr

With over 750,000 Facebook fans and 50,000 followers on Twitter, the University is no stranger to social media. However, one area in which Oxford has recently started using social media to great effect may come as something of a surprise: staff recruitment.

'Over the past few years, we've seen a huge change in the way people search for jobs,' says Richard Bunkham, an e-recruitment specialist working within the Human Resources Information Systems (HRIS) programme. 'People no longer flick through a newspaper - they browse online. They're far more likely to search in Google than in the jobs pages of the local or national press.'

The way in which organisations advertise vacancies has therefore needed to change too. 'It's no longer a question of the University publishing an advertisement in the *Oxford Times* and waiting for people to apply,' adds Richard. 'We have to be proactive in the way we recruit, particularly for specialist roles in areas such as IT and finance.' This is where professional networking sites, such as LinkedIn, come into their own. Not only do they have a huge international reach – LinkedIn, for example, has over 175 million users worldwide – but they enable recruiters to target groups of people with specialist skills and at a much lower cost than print advertising.

Oxford was the first UK university to actively promote itself using a company profile on LinkedIn and the site now has over 10,500 followers. 'It's a great way of reaching out to potential applicants,' says Richard. 'Not only do we post jobs on the site, but we encourage people in similar roles at the University to share the job with their network and with professional groups relevant to the role. We also search the database for skills matches and make direct approaches to potential candidates.'

The growth in online advertising at the University has been dramatic. Two years ago, 16% of paid advertising was online, whereas it now accounts for 74%. Not only has this shift from print to online enabled the University to be much more focused about the way in which it sources applicants, but it has also had a significant impact on cost. Over the past two years the amount spent on job advertising has decreased by 72% – a saving of £560,000.

Two years ago, 16% of the University's paid advertising was online; now it's 74%

The success of this approach can be seen from the data obtained from the University's e-recruitment system, CoreHR, which was introduced in 2011 as part of the HRIS programme. Applicant feedback gathered through Core shows that the University's most valuable recruitment tool remains its own jobs website, www.ox.ac.uk/jobs, through which 50% of successful applicants learn about the vacancy. Word of mouth, referral and social media represent the third largest source of applicants at 14%, while print advertising accounts for just 0.4%. 'What the e-recruitment system has allowed us to do is to analyse trends in applicant behaviour,' says Richard. 'We can then use this information to help departments decide how best to advertise in the future.'

So in terms of trends, what's next? One of the largest growth areas is job search engines, which aggregate jobs from multiple websites. The biggest player in the field is indeed.com, with a presence in over 50 countries. It moved into the UK market last year and Oxford was quick to establish a partnership with them and benefit from free online advertising. Another avenue that Richard is keen to explore is adapting online recruitment for use on mobile devices. 'We need to engage with the next generation of job seekers,' he says. 'To do that we have to go mobile.'

To find out more about online advertising and social recruiting, contact Richard Bunkham at richard.bunkham@it.ox.ac.uk

No staring, please!

Composing a children's opera has its own special challenges, *Matt Pickles* learns

Scenes from the show (*above and right*)

At a time when money is tight for many families, opera composers and directors face the challenge of devising an opera which will appeal to a wide audience. But the task becomes even tougher if your audience consists of eight-year-old children. Nonetheless, this challenge was taken on by an Oxford academic whose children's opera *My Mother Told Me Not To Stare* went on national tour for the second time this summer, including performances in Oxford's Pegasus Theatre.

Dr Martyn Harry composed the opera as part of his research in the University's Music Faculty. Dr Harry, a Fellow of St Anne's College and lecturer at St Hilda's College, insists that composing a 'normal' opera and a children's opera is more similar than one might imagine. 'Any opera should be completely followable,' he says. 'Operas by Wagner and Strauss are accompanied by very large orchestras and we've long accepted that we can't hear every word that is sung. But nowadays big opera companies use surtitles so that the libretto can be understood.'

Wagner operas are often slow-developing, but there is no room for anything less than fast-moving action in a children's opera, he adds. 'Children don't accept conventions in the same way that we do – having never experienced opera before they have every right to be impatient with all the stuff people have built around opera, so we aspire to create something that will absolutely rivet and grip children.'

My Mother Told Me Not To Stare has its own set of theatrical conventions. Every member of the cast plays an instrument at one point and even the narrator has to sing. 'Choosing the performers was therefore crucial – we spent seven months looking for actors and musicians who could play an instrument, sing and act in a way that children find theatrically credible.'

It's a gothic tale based in a fictional town called Upper Crumble. Every morning children meet to recite a list of 'dos and don'ts' – the title is an example of one. And when children begin deliberately to break some of these rules they disappear into thin air. Australian children's playwright Finn Kruckemeyer created the 'book' for the opera, but the storyline was worked out over a period of many months with the composer, director and members of the cast. 'We came up with some very memorable disappearances,' says Dr Harry. 'It took us a lot of work to discover a happy ending that did justice to the opera's unconventional plot; but I think we got it right this time!'

This dark narrative might sound challenging but Dr Harry believes that children in the audience preferred it this way. 'We haven't composed down for children at all – the subject matter is really quite gothic and scary and the music is quite dark in places, but no more than, say, Roald Dahl's books,' he says. 'We discovered that we could touch on some really extreme dramatic situations as long we were able to end on a happy note.'

My Mother Told Me Not To Stare was first performed in April 2010 and toured nationwide that summer. It was adapted for this summer's performance thanks to Arts Council England funding and a grant of £28,000 from the University's John Fell Fund. 'This was a great tribute to the project,' Dr Harry says. 'It is very unusual for a humanities project to be supported to this extent.'

This support seems to have paid off: the Pegasus Theatre was packed out for its five performances in June. *My Mother Told Me Not To Stare* has just been recorded for a CD release timed to coincide with performances in Germany. So make sure you don't miss it – or you might disappear...

More at www.pegasustheatre.org.uk/our-shows/interview-with-martyn-harry-composer-for-my-mother-told-me-not-to-stare

‘Children don’t accept conventions in the same way that we do – they have every right to be impatient with all the stuff people have built around opera’

Mark Savage

Why am I here?

Belinda Hopkins

Crime Prevention & Reduction Advisor

Tell us about the University's security services

Oxford University Security Services (OUSS) was set up in 1993 to provide a round-the-clock security service for all University departments and buildings. It's the modern equivalent of the 'Bulldogs', the old University police force set up by an Act of Parliament in 1825.

So what does OUSS do?

We provide a range of security services across the University including alarm monitoring and response using the University's central alarm monitoring station and we control the CCTV systems covering the University estate. We also patrol public areas owned by the University, conduct and provide written security surveys of University property, and provide crime prevention advice and personal safety lectures to University members and students. (There's also a lot of useful advice about this on our website at www.admin.ox.ac.uk/ouss.)

OUSS also administers the University's car parking system and provides a staff vetting service for a number of sensitive posts. In addition, we provide a range of core security services to colleges (as clients) which can include patrol, 'lock up', key holding and a lone worker monitoring service.

How many people does OUSS employ – and do you wear uniforms?

There are about 60 staff and we're all 'civilians', employed by the University. Only the patrol officers wear uniforms.

What does your own job entail?

I mainly focus on maintaining a safe and secure physical environment for students and staff within the University. I'm also responsible for seeking out new ways to work with partners and forming an effective partnership working environment – for example, I work with the Oxford Safer Communities Partnership (OSCP) and Thames Valley Police. We meet once a week to look at crime within the city of Oxford and how it will affect our communities, and we look at ways to problem-solve and reduce the fear of crime in the community.

I will also be focusing on the environmental security of new buildings and existing buildings – working with internal and external partners to reduce the opportunity for crime and disorder (and also reduce the fear of crime and disorder) by careful planning of the built environment. At the moment I'm also reviewing the University cycle marking system and working on a victim care plan for repeat victims of crime across the University. I will be pushing for crime reduction messages to be delivered through a series of pop-up events around the University.

As a child, what did you want to do when you grew up?

I was desperate to become a nurse, but by the time I got to my early twenties I had gone off the idea.

So how do you come to be doing this job?

I've always worked in a crime environment, from being a store detective to a fraud investigator. Before applying for my current job (which I saw advertised on the University website), I worked as a crime reduction advisor for four years for Thames Valley Police.

What do you always carry with you?

Business cards, a torch, paper and pen.

Aside from work-related things, what's on your desk at the moment?

My 'Keep Calm and Carry On' mug and a DVD box set of the second series of *Rome*.

What interests, hobbies or activities do you enjoy outside work?

Reading – the forensic thrillers written by Kathy Reichs (she's a forensic anthropologist) are a particular favourite – and I also like cooking, swimming and drinking wine!

What's the most unexpected thing you've found yourself doing?

Taking part in *The Restaurant* with Raymond Blanc on BBC2, where couples are asked to take over a restaurant and run it, to see how they cope with running a day-to-day business. I booked a table in the Oxford restaurant and ended up leaving at 10pm having eaten nothing.

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Viewfinder

Where's this angelic gatekeeper? Answer on p5.