Autumn in Oxford
News in brief

The Radcliffe Observatory Quarter sees its first new buildings with the completion of Somerville College's student accommodation. The two Somerville buildings were officially opened by the Chancellor on 17 September. The £10m development, designed by Niall McLaughlin Architects, provides 68 ensuite rooms for students and will enable nearly all undergraduates to live in college throughout their course as well as helping to boost conference income during vacations. A total of £2.7m has been received to date in donations to the project.

Oxford University Consulting (OUC), the University's consultancy arm which provides researchers with a service to support external consultancy work, has reduced its management fee. As of 1 September, OUC retains 10% rather than 15% of the client fee for personal consultancy. Academic researchers may undertake up to 30 days of personal consultancy per year and OUC supports them by managing the contractual and administrative aspects of consultancy, helping secure competitive fees and ensuring researchers are paid a fair market rate for their consultancy. Details at www.isis-innovation.com/consulting.

Visitors to Oxford can explore the favourite haunts of staff and students thanks to a new iPhone app. Oxford University: The Official Guide app profiles the collegiate University through themed tours, personal recommendations and information about the history and traditions of Oxford. The app can be downloaded from the iTunes App Store for £2.49. Money raised will be used to fund free apps for current and prospective students in the future. Visit www.ox.ac.uk/apps to find out more.

The Ashmolean will be opening its new galleries of Ancient Egypt and Nubia (present-day Sudan) on 26 November. This second phase of the museum’s major redevelopment will redisplay the Egyptian collections and exhibit objects that have been in storage for decades, more than doubling the number of mummies and coffins on display. The new galleries, designed by Rick Mather Architects, will take visitors on a chronological journey covering more than 5,000 years of human occupation of the Nile Valley.

A website about Oxford and the Olympics has been launched in the run-up to London 2012. Available at www.ox.ac.uk/olympics, the site features profiles of students and alumni who are hoping to qualify for the Games, blogs by student athletes, a list of previous Oxonian medal-winners, and interviews with researchers studying the games. The site will be updated over the coming months with information about how staff can get involved with the preparations.

Claiming expenses? Make sure you’re using the correct form. The Expenses Claim form has recently been updated in line with HMRC guidance. Claimants and authorisers are now asked to confirm that ‘the claim is in respect of bona fide business expenses, incurred wholly, exclusively and necessarily on behalf of the University’. The revised form is available at www.admin.ox.ac.uk/finance/expenses or can be accessed via the Staff Gateway homepage.

Discounted membership is available to University staff at the Oxford Golf Club. Located off Hill Top Road in east Oxford, the club is the home of the University of Oxford Golf Club and has recently changed its name from Southfield Golf Club. Membership for University staff ranges from £670 per year for weekday play to £850 for weekday and weekend play, a saving of £200–£300. The club is non-profit-making and all revenue goes towards rents and the upkeep of the course. For further information, visit www.oxfordgolfclub.net.

Boost for medical research

Over £100m in funding over five years has been awarded to large medical research partnerships between the University and local hospitals. This significant increase over previous funding recognises the quality and scale of the work being carried out at Oxford.

The National Institute of Health Research (NIHR) has awarded more than £95m over five years for the Oxford Biomedical Research Centre, a partnership between the University and the Oxford Radcliffe Hospitals which connects different scientific disciplines, healthcare professionals and patients to advance medical research and healthcare delivery.

Almost £1m will go to the Musculoskeletal Biomedical Research Unit, a joint programme between the Nuffield Orthopaedic Centre and the University. The funding will allow the unit to further expand its programmes of research into diseases such as arthritis and osteoporosis.

A further £2.5m will support a new programme examining the effect of exercise and cognitive stimulation on brain function in dementia. The research team from the Departments of Psychiatry, Clinical Neuroscience and Experimental Psychology, including the Oxford Centre for Human Brain Activity and the Oxford Centre for Functional MRI of the Brain, will work in collaboration with Oxford Health NHS Foundation Trust, which provides mental health services in Oxfordshire and Buckinghamshire.

Michaelmas at the Bridge of Sighs by Rebecca Scott, runner-up in the 2011 Graduate Photography Competition (see www.graduate.ox.ac.uk/photo)
Research round-up

Six hundred thousand lives could be saved each year by giving vitamin A supplements to children under five who are living in countries where they are at risk of having a poor diet. Research led by Oxford’s Centre for Evidence-Based Intervention, based in the Department of Social Policy and Intervention, has shown that vitamin A supplements could significantly cut rates of mortality, illnesses and blindness amongst those below the age of five. According to the study, which was published in the BMJ, the supplements reduced mortality amongst children from low and middle income countries by nearly a quarter (24%). The findings are based on 43 trials, chiefly carried out in Asia. Lead author Dr Evan Mayo-Wilson said the benefits are now so clear-cut that giving placebos rather than vitamin A supplements in further trials would not be ethical.

Floating rafts of volcanic pumice could have played a significant role in the origins of life on Earth. Research led by Professor Martin Brasier of the Department of Earth Sciences with Dr David Wacey of the University of Western Australia found that pumice has a set of properties which would have made it an ideal habitat for the earliest organisms that emerged on Earth over 3.5 billion years ago. Pumice has a unique lifecycle in which it erupts from volcanoes and floats on the surface of water before entering tidal zones. This exposure to different environments, combined with its ability to absorb metals, organics and phosphates, would have made the pumice a ‘floating laboratory’ for the development of the earliest micro-organisms, according to the researchers. The team says that their hypothesis can be tested by examining the early fossil record for evidence of pumice rafts and by conducting laboratory experiments on pumice rocks.

Researchers have turned low-cost mobile phones into sophisticated stethoscopes with the potential to save thousands of lives in poor countries. Technology developed by teams in Oxford and South Africa enables people to record and analyse their own heart sounds using a mobile phone. Patients can then send the recordings to medics who can remotely monitor conditions such as tuberculosis pericarditis. Stemming from work carried out by Thomas Brennan of the Department of Engineering Science, the kit brings technology usually associated with the latest smartphones to the older handsets more commonly found in Africa. As half of all Africans own a mobile phone, the team believes the number of patients who could potentially benefit is enormous.

Researchers have produced a complete map of active genes in the mammalian brain for the first time. The map shows which genes are switched on and where in the cerebral cortex of mice, in unprecedented detail. The cerebral cortex is the largest part of mammals’ brains and is where memory, sensory perception, language and higher-order cognitive functions are understood to reside. By determining the gene activity in all six layers of the cortex, it should be possible to start connecting brain anatomy, genetics and disease processes with much greater precision. Professor Chris Ponting of the MRC Functional Genomics Unit led the work with Professor Zoltán Molnár (also at Oxford) and Dr Elliott Margulies of the National Human Genome Research Institute. The data obtained have been made freely available as an online research resource and are expected to assist future studies seeking to understand the way the mammalian brain is organised.

A project at the Ian Ramsey Centre for Science and Religion is documenting the condition of science and religion in Latin America. The centre, based in the Faculty of Theology, has received a grant from the John Templeton Foundation to promote research and education in science and religion in Latin American universities, and to bring scientists and theologians into a dialogue with each other. ‘Religion is not usually put in dialogue with contemporary science in educational establishments in this part of the world,’ explains Dr Ignacio Silva of the Theology Faculty, who is co-leading the project with Dr Andrew Pinsent. It is hoped the project will secure a more prominent position for the consideration of science and religion issues in university curricula across Latin America, promote greater participation by Latin American academics in world-wide scholarship and contribute to an informed public understanding of contemporary issues in this field. Latin America is predominantly Roman Catholic in religious composition but Oxford researchers will investigate the recent growth in Protestant and Evangelical numbers.

For more University news, visit www.ox.ac.uk/news and www.ox.ac.uk/staffnews
People & prizes

Dr Afif al-Akiti, University Research Lecturer in Islamic Studies at the Faculty of Theology and Fellow of Worcester College, has been made PMP, the Malaysian equivalent of the CBE, in this year’s Sultan of Perak Birthday Honours List.

Bent Flyvbjerg, BT Professor and founding chair at the BT Centre for Major Programme Management at the Said Business School, has received an honorary fellowship from the Association for Project Management.

Véronique Gouverneur, Professor of Chemistry, has been selected as a 2011 Distinguished Woman in Chemistry or Chemical Engineering as part of the American Chemical Society Challenge Grant – International Year of Chemistry Celebration. The award acknowledges and promotes the work of female chemists and chemical engineers worldwide.

Rury Holman, Professor of Diabetic Medicine and director of the Diabetes Trials Unit, has received the Harold Rifkin Award ‘for Distinguished International Service in the Cause of Diabetes’ from the American Diabetes Association.

Professor Dame Louise Johnson, formerly David Phillips Professor of Molecular Biophysics, has been elected as a Foreign Associate of the US National Academy of Sciences, one of only two Foreign Associates from the UK elected this year.

Royal Society awards

The Royal Society has honoured three Oxford scientists in its 2011 awards, medals and lectures.

Professor Angela McLean has been awarded the Gabor Medal in recognition of her pivotal work on the mathematical population biology of immunity. Her research focuses on the use of mathematical models to aid understanding of the evolution and spread of infectious agents, including work on HIV, HCV, influenza and scrapie. She is Professor of Mathematical Biology, a senior research fellow at All Souls College, and co-director of the Institute of Emerging Infections at the Oxford Martin School.

Dr Chris Lintott has received the Kohn Award for his engagement with society in matters of science and its societal dimension. An astronomer in the Department of Physics, Dr Lintott’s research has focused on the application of distributed citizen science to problems in astrophysics, planetary science and beyond, exemplified by the Galaxy Zoo and Zooniverse projects. He is well known as co-presenter of the BBC’s Sky at Night and as co-author of Bang! The complete history of the Universe.

Professor Peter Edwards has been invited to give the Bakerian Lecture 2012 for his decisive contributions to the physics, chemistry and materials science of condensed matter, including his work on the metal–to–insulator transition. The Bakerian Lecture is the premier lecture in the physical sciences and was first given in 1775. It is delivered annually at the Royal Society in London and is accompanied by a medal and a gift of £1,000.

Physicists win prizes

Several members of the Department of Physics have recently received major awards.

Professor Joseph Silk, Savilian Professor of Astronomy and director of the Beecroft Institute for Particle Astrophysics and Cosmology, has won a Balzan Prize for his pioneering work on the early evolution of the universe, ‘by studying the effects of various physical processes and phenomena such as dark matter and space curvature on the fluctuations of the cosmic microwave background and the formation of galaxies of different types’. He is one of four winners of the 2011 Prize and receives £85,000, half of which will be devoted to projects involving young researchers.

Professor John Cardy, a senior research fellow at All Souls College, has been awarded the 2011 Dirac Medal and Prize of the International Centre for Theoretical Physics. He shares the award with Edouard Brezin (ENS, Paris) and Alexander Zamolodchikov (Rutgers University, New Jersey, USA) in recognition of their independent pioneering work on field theoretical methods to the study of critical phenomena and phase transitions.

Three Oxford physicists have also been recognised by 2011 Institute of Physics awards: Professor Andrew Tuerberfeld has won the Tabor medal and prize for his seminal contributions to nanoscience, and in particular for pioneering the technique of holographic lithography and DNA self-assembly; Professor Ian Walmsley (pictured) receives the Young medal and prize for his innovative contributions to optical physics and technology, in particular in the areas of quantum control, quantum optics and ultra-fast metrology; and Dr Andrei Starinets has been awarded the Maxwell medal and prize for his contributions to our understanding of the transport properties of systems of strongly coupled quantum fields.

In addition, Dr Chris Lintott has received a Royal Society award (see above).

New Engineering Fellow

Bill Roscoe, Professor of Computing Science and head of the Department of Computer Science, has been elected a Fellow of the Royal Academy of Engineering, becoming the first FREng in the department.

Professor Roscoe is known for his theoretical work on Communicating Sequential Processes (CSP), for his work in the 1980s and 1990s on occam and the transputer, and for the CSP verification tool FDR (Failures Divergence Refinement). His current research includes both the theory and practice of computer security.
Fellows of the British Academy

Seven Oxford academics are among the 38 newly elected Fellows of the British Academy.

**Professor Lyndal Roper**, recently appointed Regius Professor of Modern History and a tutorial fellow at Balliol College, specialises in the Reformation in German history 1500–1800 and witchcraft, gender and sexuality.

**Dr Ruth Harris** lectures in European history and is a tutor at New College. She won the 2010 Wolfson Prize for her book *The Man on Devil’s Island: Alfred Dreyfus and the Affair that Divided France*.

**Professor Laura Marcus**, a fellow at New College, is Goldsmith’s Professor of English Literature. Her research and teaching interests are predominantly in 19th- and 20th-century literature and culture, including life-writing, modernism, Virginia Woolf and Bloomsbury culture, contemporary fiction, and literature and film.

**Professor Jeremy Waldron** is Chichele Professor of Social and Political Theory at the University and a fellow of All Souls College. Professor Waldron’s research interests are constitutional theory, law and philosophy, legal philosophy and political theory.

**Professor Andrew Hurrell** is Montague Burton Professor of International Relations and a fellow of Balliol College. His research interests include international relations theory and the international relations of Latin America, particularly Brazil’s foreign policy, regionalism, and US–Latin American relations.

**Professor Cecile Fabre** of the Faculty of Philosophy is a tutor at Lincoln College. She is interested in contemporary analytical political philosophy and 17th- and 18th-century political thought.

**Professor John Baines**, Professor of Egyptology and fellow of The Queen’s College, studies Egyptology, principally Egyptian art, literature, religion, self-presentation, the position of writing in Egyptian society, and modelling social forms.

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**What’s on**

**Exhibitions**

**Claude Lorrain: The Enchanted Landscape**

Until 8 January

Ashmolean Museum

[www.ashmolean.org/exhibitions](http://www.ashmolean.org/exhibitions)

An exhibition rediscovering the father of European landscape painting, Claude Gellée (c.1600–82), or Claude Lorrain as he is best known. The exhibition features 140 works from international collections, created at different points in the artist’s career, and reveals a little-known unconventional side to Lorrain.

**Clouet to Claude – French Master Drawings**

*En Brunaille* – Painted Drawings

Until 23 December

Christ Church Picture Gallery (see website for new opening hours)

[www.chch.ox.ac.uk/gallery](http://www.chch.ox.ac.uk/gallery)

On show from the college’s collection are French drawings, plus a group of painted sketches in a hue of brown tones (*en brunaille* – in brown). These latter, by painters such as Anthony van Dyck and Frans Floris, stand between the initial sketched idea and the finished painting and were often used to present a proposal to the client.

**OneOak**

Until 27 March

Oxford University Museum of Natural History

[www.oum.ox.ac.uk](http://www.oum.ox.ac.uk)

In January 2010, a 222-year-old oak tree was felled for its timber and selected by the Sylva Foundation as the focus for an education project, making it the most scientifically studied tree in Britain. It has become an inspiration to left-handed artists, film makers and musicians and its timber is being used to make, for example, beams in buildings, furniture, energy to heat homes and wood chippings to smoke food. On show are prints and photographs, some of the 3D work made from OneOak, and information and films about the tree’s history and the people involved.

**Lectures**

**The Romanes Lecture: The Limits of Science**

Wednesday 2 November, 5.45pm

Sheldonian Theatre

[www.ox.ac.uk/romanes](http://www.ox.ac.uk/romanes)

This year’s Romanes lecturer is Professor Lord Rees of Ludlow, the Astronomer Royal and Master of Trinity College, Cambridge. He was President of the Royal Society 2005–10 and is Professor of Cosmology and Astrophysics at the University of Cambridge. Tickets not required but places allocated on a first-come, first-served basis.

**Special events**

**The Pitt Rivers Big Draw**

October weekends

Pitt Rivers Museum

[www.prm.ox.ac.uk](http://www.prm.ox.ac.uk)

Every weekend in October, during opening hours, borrow drawing, colouring and collage materials from the art trolley and get creative in the Museum.

**Disability Awareness Week**

13–19 November

Lunchtime seminars, an interdisciplinary graduate research day, a performance from Abnormally Funny People, a dance workshop and more. The programme is still being finalised, but more information is available from Pete Quinn (peter.quinn@admin.ox.ac.uk) or Seb Baird (welfare@oucsu.org).

**OxGrow volunteering session**

1–4pm, every Sunday

[www.oxgrow.org](http://www.oxgrow.org)

Volunteer to help transform OxGrow’s Edible Community Garden on the former Corpus Christi Sports Ground. All tools provided – just turn up! So far OxGrow has planted 1,000 trees and sown a wildflower meadow plus seeds for carrots, lettuce, chicory and land cress.
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Head of Administration and Divisional Secretary, Social Sciences Division

Rachel Meyrick, formerly Senior Assistant Registrar in the Planning and Resource Allocation Section, took up this post in September. She holds a BA in Spanish and French from the University of Durham and is a chartered accountant. She has worked for the University for 11 years, initially in Area Studies, followed by the Department of Materials and then in the Finance Division, where she was Head of Research Accounts from 2005 to 2010.

Head of Impact and Innovation, MPLS Division

Dr Stuart Wright has been appointed to this post to oversee the impact and innovation agenda across the Mathematical, Physical and Life Sciences Division.

Educated at the universities of Sheffield and Cambridge, Dr Wright has extensive commercial experience of developing and exploiting technology: as general manager of a Qinetiq technology start-up business; as COO of Intrinsiq Materials, a nanotechnology start-up company; and as Head of New Business Ventures at Brunel University.

This new role in MPLS Division aims to enhance links with business and industry, raise awareness of appropriate research exploitation mechanisms, act as a key point of contact for the development of major new industrial collaborations, and promote Oxford as a high-impact research institution internally and externally, building on existing activities across the Division and at Begbroke Science Park.

Director, Oxford–Man Institute

Terry Lyons, Wallis Professor of Mathematics, has become director of the Oxford–Man Institute of Quantitative Finance. Professor Lyons, who is a Fellow of the Royal Society, is particularly noted for his research into stochastic analysis, into the role of risk in financial markets, and for founding the new field of ‘rough paths’, which has allowed breakthroughs in many areas such as numerical analysis. He came to Oxford in 2000, having previously been Professor of Mathematics at Imperial College and Colin MacLaurin Professor at Edinburgh University. He has considerable experience in managing co-operative academic projects on national and international scales and is director of the Wales Institute of Mathematical and Computational Sciences.

Rhodes Professor of the Laws of the British Commonwealth and the United States

Sandra Fredman, Professor of Law at the University of Oxford, Honorary Professor at the University of Cape Town, South Africa, and Barrister, Old Square Chambers, London, took up this post on 1 September. She is a fellow of Pembroke College.

Professor Fredman studied at the universities of Witwatersrand and Oxford. She has published widely on anti-discrimination law, human rights law and labour law. Her recent books include Human Rights Transformed. Women and the Law and Discrimination Law all published by OUP. She has provided expert advice to the governments of Northern Ireland, the UK, Canada, India and South Africa as well as to the EU and the UN Commission for Human Rights. She was elected a Fellow of the British Academy in 2005.

Camden Professor of Ancient History

Nicholas Purcell, Official fellow and tutor in Ancient History, St John’s College, and University Lecturer in Ancient History, took up this post in the Classics Faculty on 1 October. He is now a fellow of Brasenose College.

Nicholas Purcell was educated at Oxford and became a fellow of St John’s College in 1979. He uses archaeological evidence alongside literary and documentary evidence to explore the social, economic and cultural history of the Greeks and Romans and their neighbours. His main areas of expertise are the ancient city of Rome; Roman Italy; the Mediterranean Sea and its history over the longer term; and Roman social and cultural history including daily life, religion, games, food and drink, and living conditions. He is a Fellow of the British Academy.

Pearson Professor of Educational Assessment and Director, Oxford University Centre for Educational Assessment

Jo-Anne Baird, Professor in Educational Assessment and Director of the Centre for Assessment and Learning Studies at the University of Bristol, took up these posts in the Department of Education on 1 October. She also became a fellow of St Anne’s College.

Jo–Anne Baird holds degrees in psychology and management from Strathclyde, Surrey and Reading universities. Before taking up her post at Bristol, she was Head of Research at the Assessment and Qualifications Alliance (AQA), where she was responsible for managing the research programme and for the standard-setting process.

Professor Baird’s research interests are examination standards, marking, structural aspects of assessment and assessment policy. She has acted in a number of advisory roles to government, including chairing the recent research programme on reliability for Ofqual, and is Lead Editor of the journal Assessment in Education: principles, policy and practice. She is also a Fellow of the Association of Educational Assessment – Europe.

Professor of Development and Reproduction

Paul Riley, Professor of Molecular Cardiology at University College London Institute of Child Health, took up this post in the Department of Physiology, Anatomy and Genetics on 1 October and became a fellow of Jesus College. The post is further supported by the British Heart Foundation award of a Personal Chair in Cardiovascular Regenerative Medicine.

Professor Riley’s chief research interests are the transcriptional control of heart development towards establishing models of congenital heart disease and resident stem/progenitor cell-derived cardiac regeneration. Recently he has been investigating the potential of the epicardium as a source of multipotent cardiovascular stem/progenitor cells in the adult heart capable of initiating coronary vessel and muscle repair. He is member of the Circulation Research editorial board and the UK National Stem Cell advisory board.
To Hollywood – and beyond

A Google-like image-searching technique developed by Oxford engineers is opening up new possibilities in the film, TV and surveillance industries, Jamie Condliffe discovers.

Oxford engineers may not seem the most likely people to mix with the likes of the film and television industries, but a team of researchers in the Department of Engineering Science is doing just that to develop ways of extracting huge quantities of information from moving images.

‘When I started using Google, about a decade ago, I was blown away by what it could do for the web,’ says Professor Andrew Zisserman. ‘I went away, understood how it worked, and decided I wanted to engineer something like that for vision. That way, I could effortlessly search images or videos for – well – anything, and get the results immediately. Just imagine: you could see someone on TV, click on their face, and instantly find out what else they’ve appeared in,’ he continues. ‘So that’s what I set out to do.’

His dream – to search huge quantities of footage and instantly find specific clips containing particular objects or people – sounds ambitious even now. But unperturbed by the magnitude of the problem or its possible impact for the film and television industry, Zisserman’s team of researchers has been working on the task by advancing a field known as computer vision: the science of making machines that can ‘see’ by recognising patterns and shapes.

The whole process starts with training computers to recognise specific objects amongst millions of images. ‘Basically, you measure visual features in the images,’ explains Zisserman. Based on those features – which might be sharp edges, shapes or textures – software can be taught to pick out images which illustrate an object, irrespective of the viewpoint, lighting or even partial obstruction. Then, when the software is shown a new set of images, it scores and ranks them depending on the presence of the key features, much like a Google search.

The problem is that searching video in this way places huge demands on computing resources – a problem that Zisserman’s team has been trying to overcome. ‘You can represent an object by a jumble of iconic bits, but it turns out that it doesn’t matter where they are. For a motorbike, you might have a wheel, a seat...and just that you have them somewhere in an image is enough to recognise an object,’ explains Zisserman. He and his student Josef Sivic dubbed this concept ‘visual words’ and it lies at the heart of making searches much more efficient. So efficient, in fact, that even Google now uses the technology in its image search system Google Goggles.

The team has used the technique to analyse a common gripe of Hollywood movie makers: continuity errors. These lapses in consistency, where two shots of the same scene don’t quite match, pop up all too often. So Zisserman, together with Dr Lynsey Pickup, has been playing what is effectively a giant...
game of spot-the-difference: developing software that automates the process of spotting the mistakes. By scanning frames of a movie that should theoretically contain objects in the same physical locations, the team can detect subtle differences – a job previously left for over-enthusiastic film fans.

While that is proof that finding objects within footage is possible, video search also needs to be able to identify humans – an altogether tougher task. Changing facial expression, differing hair styles and constant movement make actors extremely difficult for computers to identify. By using cutting-edge facial recognition, though, Dr Mark Everingham, working in Zisserman’s team, can identify the eyes, nose and mouth, using distinctive features around these areas to reliably spot faces time and again. Indeed, by following the detected face between frames, it is possible to track actors as they move around a set, and even automatically assign the correct character name to each face through space and time.

Unsurprisingly, this is making a big impression commercially as it allows video content to be labelled and searched automatically. ‘At VideoSurf, we run a scalable video search engine. We do for video what Google does for text,’ explains Etan Sharon, Chief Technology Officer and co-founder of VideoSurf. ‘We’ve developed a smartphone app that lets you point your phone at any screen – even live TV – and in a few seconds it can tell you what the video is, who’s in it, even recommend other videos you might like.’ All of this takes its cue from University of Oxford research. ‘Andrew Zisserman has really left his mark on computer vision over the last decade,’ he adds. ‘He’s changed the way we think about and tackle video, and shaped what we do.’

If those changes already seem profound, they look set to get even bigger in the future. Elsewhere in the department, efforts are being made not just to identify who appears on film – but what they are doing, too. ‘We were doing some work looking at surveillance footage,’ says Professor Ian Reid, ‘and we were trying to understand what people were doing. But when we looked at a lot of this footage, we realised that humans were very good at being able to tell if two people were interacting just by looking at how they turned their heads to each other. We realised there was the potential to use computer vision techniques to work out where people were looking, even in very low resolution images, and that this could give strong clues as to what was going on.’

So that’s just what they did. The first step was to detect the presence of humans in CCTV footage, which uses similar techniques to Zisserman’s face recognition, combined with detection of the geometry of the human body. That allows the team to single out individuals in crowds and follow them as they move. It is then possible to isolate footage of just the head and use these images to work out where a particular person is looking. By training software to recognise which head orientations are related to certain fields of vision – if, for instance, you can only see the back of a person’s head, they must be looking in the opposite direction – the software can indicate where each person is looking, giving a feel for how the attention of entire crowds is drawn.

‘If something interesting is happening, you might actually be more likely to detect people looking at it rather than detecting the original incident itself,’ explains Reid. ‘We’re looking at the “abandoned bag” scenario. Usually, people try to detect the bag itself, or the presence of something that didn’t used to be there, but neither of those work particularly well in crowded environments. But as people walk past a bag in, say, the Underground, they tend to look at it – that’s what we’re trying to detect.’

By creating maps of attention, which show where groups of people focus their gaze, the team has developed software capable of identifying small, subtle changes in crowded environments. As well as picking out behaviour across crowds, a person’s gaze can help analyse more intimate interactions, too – which is where Zisserman and Reid’s work collides. Zisserman’s team has been working on identifying actions – such as drinking, or using a telephone – for some time, but the stumbling block has long been actions that involve two people. Now, Dr Alonso Patron-Perez has included aspects of Reid’s research. When two people interact – maybe kissing, or giving a high-five – their gaze tends to be focused in the direction of the other person, and that was the final piece of the puzzle required to accurately detect interactions between humans. That not only allows the video search of Zisserman’s dreams to identify anything from a hairbrush to a heart-felt hug, but also means that CCTV footage can be analysed to determine criminal behaviour.

All told, it is no surprise that the researchers are now working with the organisers, ranging from national television companies who want to analyse their archived footage, to governmental security agencies needing cutting-edge surveillance technology. Whichever way you look at it, these engineers certainly seem to have earned their place on the A-list.

From top: Characters can be automatically labelled, as here in Buffy the Vampire Slayer; Analysing scenes like this ‘high-five’ in How I Met your Mother created a breakthrough in detecting human interactions; Tracking objects like the picture behind Audrey Hepburn in Charade can eliminate continuity errors; Individuals on CCTV footage (here on Cornmarket St in Oxford) can be singled out and tracked.

‘Just imagine: you could see someone on TV, click on their face and instantly find out what else they’ve appeared in – that’s what I set out to do’ – Professor Andrew Zisserman

For further information and demonstration videos, see www.robots.ox.ac.uk/~vgg/ and www.robots.ox.ac.uk/ActiveVision/
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H eather Viles’s interest in geography and landscapes was sparked by her grandmother’s letters about exotic places visited on cruising holidays. Now, as Professor of Biogeomorphology and Heritage Conservation, her work has taken her to some of the world’s starkest, yet most beautiful, landscapes.

That includes field studies in the ‘shining’ Namib Desert, where mica particles glitter in the red sand, and to the Sahara to see famed, prehistoric life-size hippos exquisitely engraved in the rock in Libya. She has also recently begun work on a project to protect the deteriorating sandstone of the Mogao caves, otherwise known as the Caves of a Thousand Buddhas, in China.

Her focus on the weathering process of rocks and strata can be traced back to her days as a DPhil researcher. Her project, conducted in the Seychelles, involved investigations into the biological weathering of limestone. The research was an epiphany of sorts: finding out more about the symbiotic relationship between rocks and the plants and micro-organisms covering them remains the main theme of her work today.

Professor Viles says one of her proudest achievements has been to turn opinion around about the benefits of ‘greening’ in heritage conservation. For decades, ivy has been ripped away from walls because of fears about the damage it could inflict on the mortar and brickwork. Her research shows that the opposite is often true: ivy can protect walls from the ravages of frost and sunlight by acting as a thermal blanket. Her findings attracted a mass of enquiries, not all of them from the converted, but Professor Viles seems to relish this engagement. ‘It’s fantastic if my research can be applied to things that matter,’ she says. ‘Admittedly I am not solving the world’s most crucial problems, but it is nice to feel that what you are doing is useful. If you are going to engage with that, you have to accept that some people might hate it as well.’

‘It’s nice to feel that what you are doing is useful...but you have to accept that some people might hate it as well’

The Oxford Rock Breakdown Laboratory, run by Professor Viles, is based in the School of Geography and the Environment but draws on many different disciplines. It combines the study of conserving stone-built heritage sites with research into the weathering processes of rocks in the natural environment. The laboratory’s team of ten works with English Heritage, the British Museum, private conservators, architects and stonemasons – as well as with NASA, which wants more information about the rocks on Mars.

Professor Viles spends half her time in the laboratory, but is just as happy to go up damp church towers – even in Yorkshire in February – to conduct field studies. She is currently investigating ‘soft capping’ – using soil, grass and other plants to protect ruined walls – and whilst the benefits are clear, there are still controversies. Many of us might question putting turf on Stonehenge, she concedes.

She has combined her own career with that of her husband, another Oxford geographer, Professor Andrew Goudie, who recently retired as Master of St Cross College. As the wife of the Master, she attended college events whenever possible, but says the college was ‘very egalitarian’ and her presence ‘was never expected’. The couple were entitled to living quarters in Wellington Square, a privilege she now misses. ‘I’ve been able to walk to work in eight minutes, predictably, every day for the last eight years. Now it might take half an hour to 45 minutes to get in,’ she says, ‘although at times, it did feel like we were living in the University Offices!’

When asked how she manages to switch off from the pressures of the job, she laughs, ‘I imagine what my two daughters would say: “Mother? Relax? Never!”’. I knew my work–life balance had gone wrong when my younger daughter was about five and, as we were packing to go on holiday, she said: “Shall I pack the sample bags?” In case you’re wondering, both daughters have ended up as geographers.

More information at www.geog.ox.ac.uk/research/landscape/rubble/
Do you love singing?

CHORISTERSHIPS

NEW COLLEGE CHOIR offers a unique musical experience for boys as choristers. If you have a son who enjoys singing, this could be his chance of a lifetime.

The Director of the Choir, Professor Edward Higginbottom, is always happy to talk to interested families – Edward.higginbottom@new.ox.ac.uk & 01865 279519

KEY DATES
Saturday 5 November 10.00-12.00
New College School open morning

Wednesday 11 January 2012
CHORISTER AUDITIONS (for boys then in Year 2)

for more information see www.newcollegechoir.com
This year it is being celebrated in Buenos Aires, in 2012 it will be in Yerevan in Armenia, in 2013 in Bangkok – and 2014 could be Oxford’s turn. Each year the United Nations Educational, Scientific and Cultural Organisation (UNESCO) awards the title ‘World Book Capital’ to the city that has come up with the most exciting ideas to promote books and reading to people of all ages and from every community.

In Oxford, work is well under way to put together a first-class bid that will involve readers, writers, librarians, publishers and booksellers; one that will celebrate the city’s unique literary heritage but also address the challenge of illiteracy that many of its citizens face today.

Contributions are pouring in: ‘I’ve never met with such instant universal enthusiasm for an idea,’ says Mike Heaney, Executive Secretary of the Bodleian Libraries, who is the University’s representative on the bid’s steering committee. The committee brings together the city and county councils, Arts Council England, the two universities, Blackwell’s, OUP, Oxfam, The Story Museum, The Sunday Times Oxford Literary Festival and several other parties and is coordinated by cultural development agency Oxford Inspires.

The idea of putting Oxford forward grew from the fact that two landmark book-related events are already scheduled for 2014–15. One is the opening of The Story Museum in Pembroke Street, the other the reopening of the New Bodleian as the Weston Library, a transformation that will benefit scholars and greatly increase the Bodleian’s engagement with the wider community.

Of the hundreds of further possible events and activities that have been suggested for inclusion, some are already annual highlights in Oxford’s cultural calendar, notably Oxford Open Doors, the Literary Festival, and The Caine Prize for African Writing. Most, however, are being planned specifically for the bid. They include a joint initiative by Oxford college libraries to showcase rarely viewed collections, public lectures hosted by the English and Modern Languages Faculties, and poetry readings in University museums and the Botanic Garden. Oxford is inviting several relevant academic and professional conferences to come to the city in 2014, while Blackwell’s will host the inaugural Booksellers’ Colloquium.

Most events would be open to all as spectators and participants, including World Book Night (an outdoor celebration of contemporary writing), a book-inspired sound and light installation and a novel-writing month initiated by Oxford Writers’ Workshop. There will be mobile phone apps on literary themes, and walking tours, book-swapping and book-related activities on buses and trains are all possibilities.

The bid will celebrate the city’s cultural diversity and encourage intercultural dialogue, and Oxford’s existing long-standing links with other parts of the world will be developed through Oxfam and other non-governmental organisations. Access to information and freedom of speech as cornerstones of human rights will be important themes via events such as the Oxford Amnesty Lectures. Through citywide activities with children, the bid will also face up to an uncomfortable paradox. Last year, seven-year-olds in this world-leading centre of scholarship achieved the worst results in England in reading and writing at Key Stage One, a reflection of serious social deprivation in a city widely perceived as prosperous and privileged. ‘This would be an ideal opportunity for the universities and the city to come together to address these problems,’ says Mike Heaney.

The year would leave a lasting legacy. ‘If we could be World Book Capital, it could be transformative for a generation or more,’ he adds. ‘We’re keen to hear of any proposals. Let us know if there’s something you want to do.’

More information at www.oxfordworldbookcapital.org or contact Mike Heaney on michael.heaney@bodleian.ox.ac.uk

Book now for 2014!

Jenny Lunnon reports on the progress of Oxford’s bid to be World Book Capital

The World Book Capital City year begins on 23 April, World Book and Copyright Day. Oxford’s bid will be drafted before January and submitted by 31 March. UNESCO will make its decision by July 2012

Top: Mike Heaney of the Bodleian Libraries represents the University on the bid’s steering committee. Bottom: 30,000 books make up the ‘Tower of Babel’ in Buenos Aires, current World Book capital
For a student fascinated by the relationships between different religions, where better to explore this than in a lecture given by the Chief Rabbi, Lord Sacks? Passionate about drama? Where better to find inspiration than in a Q&A session with acclaimed playwright Athol Fugard?

‘This is precisely what the Humanitas programme is about – giving students, the University community and interested members of the public a chance to gain access to experts and scholars in humanities subjects who wouldn’t otherwise come to Oxford,’ explains Clare Oxenbury, coordinator of the Humanitas Visiting Professorships programme, who is based in the University’s Humanities Division.

Humanitas is a series of visiting professorships intended to bring leading practitioners and scholars to the universities of Oxford and Cambridge to address major themes in the arts, social sciences and humanities. Created by publisher and philanthropist Lord Weidenfeld and supported by a number of generous benefactors, the programme in Oxford is a collaboration between the Institute for Strategic Dialogue and the Humanities Division. Each visiting professor delivers a series of lectures, workshops or masterclasses for students and then leads a related symposium. The events are hosted by a college and supervised by an Oxford University academic.

‘This enterprise is the summation of years of endeavours based on an ambition to bring distinguished scholars and eminent practitioners from all over the world, to share ideas and knowledge with students and the general public, at two of Europe’s greatest universities,’ says Lord Weidenfeld.

The Humanitas Programme was established in 2010 and has already brought to Oxford South African playwright Athol Fugard as Professor of Drama; Norman Foster as Professor of Architecture; the Director of New York’s Museum of Modern Art, Glenn D Lowry, as Professor of Museums, Galleries and Libraries; and photographer Thomas Struth as Professor of Contemporary Art.

‘A number of visiting professors have already been confirmed for the next academic year and we hope to unveil more leading names in the near future,’ adds Clare Oxenbury. Those confirmed include Chief Rabbi Lord Sacks (Interfaith Studies), former director of the Metropolitan Opera Joseph Volpe (Opera Studies), historian and writer Saul Friedlander (Historiography), Grammy-award-winning opera singer Jessye Norman (Classical Music and Music Education), artist Shirin Neshat (Contemporary Art), economist Sir Partha Dasgupta (Economic Thought) and Director of the Museum of Fine Arts in Boston, Malcolm Rogers (Museums, Galleries and Libraries).

Professor Vincent Crawford, who will host Sir Partha Dasgupta, Visiting Professor of Economic Thought, at All Souls College, says: ‘Sir Partha Dasgupta is one of the world’s leading economists, whose research has added to our understanding of a remarkable variety of topics, spanning development economics, malnutrition, environmental and resource economics, technological change, and game theory.’

Lord Sacks will visit Lady Margaret Hall in Hilary term and his academic host, theologian Professor Guy Stroumsa, says: ‘As Chief Rabbi of the United Hebrew Congregations of the Commonwealth, Jonathan Sacks is in a unique position to speak to students on the subject of interfaith studies and we are greatly looking forward to his lectures and seminars in February 2012.’
New Heads of House take office

**Balliol College**

**Professor Sir Drummond Bone** has taken office as Master of Balliol College. Sir Drummond was a Snell Exhibitioner at Balliol from 1968 to 1972, after graduating from Glasgow University. His previous posts include Professor of English Literature and Dean of the Faculty of Arts at the University of Glasgow, Principal of Royal Holloway and Bedford New College, Vice-Chancellor of the University of Liverpool, and President of Universities UK.

He is an expert on Byron and President of the Scottish Byron Society. A Fellow of the Royal Society of Arts, he has served as a member of the CBI Science and Innovation committee and chaired the Northern Way’s industry and innovation group. In 2008 he was elected a Fellow of the Royal Society of Edinburgh and knighted for services to higher education and the regeneration of north-west England.

**Brasenose College**

**Professor Alan Bowman**, formerly Oxford’s Camden Professor of Ancient History, has become Principal of Brasenose, following a year as Acting Principal while his predecessor, Professor Roger Cashmore, was on research leave.

He read Greats at The Queen’s College, Oxford, and took his doctorate at the University of Toronto. Previous posts include Assistant Professor of Classics at Rutgers (the State University of New Jersey), Lecturer in Ancient History at the University of Manchester, and Official Student of Christ Church and University Lecturer in Ancient History, University of Oxford. He became Camden Professor of Ancient History and a fellow of Brasenose in 2002.

His research interests include Roman Egypt and Vindolanda and he was elected a Fellow of the British Academy in 1994.

**Mansfield College**

**Baroness Helena Kennedy**, a leading barrister and expert in human rights law, civil liberties and constitutional issues, is the new Principal of Mansfield College. She attended the Inns of Court School of Law and was called to the Bar in 1972, being appointed Queen’s Counsel in 1991. She is a member of the House of Lords and chairs Justice, the British arm of the International Commission of Jurists.

Baroness Kennedy is a member of the Doughty Street Chambers and has acted in many high-profile cases including the Brighton Bombing and the Guildford Four appeal. She is currently on the defence team for Wikileaks founder Julian Assange. She chaired the British Council 1998–2004 and the Human Genetics Commission 1998–2006, and has been a judge of several literary prizes including the Man Booker Prize. She was the first Chancellor of Oxford Brookes University and was for 10 years President of the School of Oriental and African Studies.

Helena Kennedy has received many honours from British universities and learned institutions as well as from the governments of France and Italy. She was this year given the Royal Medal by the Royal Society of Edinburgh.

**Hertford College**

**Will Hutton** has taken office as Principal of Hertford College. An economist and leading public intellectual whose career began in the City, Mr Hutton is best known for his work in journalism. He was editor, then editor-in-chief, at The Observer from 1996 to 2000, when he joined The Work Foundation. He has conducted independent reviews into Britain’s education and training compared to EU countries, pay in the public sector, accountability in the NHS, and the creative industries. He currently chairs the Ownership Commission, established by the outgoing Labour government, which is due to report shortly.

He is a governor of the London School of Economics and the Ditchley Foundation, and has received honorary degrees from many universities including Bristol, East Anglia, Kingston and Glasgow Caledonian.

**St Cross College**

**Sir Mark Jones**, formerly Director of the Victoria and Albert Museum is now Master of St Cross. He read PPE at Worcester College, Oxford, and gained an MA at the Courtauld Institute of Art. He joined the British Museum in 1974 as Assistant Keeper of Coins and Medals, and headed that department from 1990. In 1992 he became Director of the National Museums of Scotland, where he oversaw the creation of the award-winning Museum of Scotland, the National War Museum of Scotland and the Museum of Scottish Country Life. He was appointed Director of the V&A in 2001 and led a £120m programme of renewal of the museum’s buildings and displays.

He is a Fellow of the Royal Society of Edinburgh and an honorary professor at Edinburgh University, and holds honorary degrees from Royal Holloway College and Abertay University, Dundee. He was knighted in 2010.
Why am I here?
Angelika Kaiser
Research administrator, Oxford Institute of Population Ageing

Tell us about the OIA
The Oxford Institute of Population Ageing (OIA) is a multidisciplinary group of academics undertaking research into the implications of population change, with demography being the main focus. We have an active academic visitor programme hosting international specialists in ageing and related fields such as sociology, economics, international relations and social policy. We also have regional networks in Africa, Asia, Latin America and Europe, with members actively engaged with the OIA in activities such as research and conferences.

What’s your own role?
I’m responsible for the research grants portfolio and the administration office and aim to provide a creative and constructive environment for the academics. Acting as a bridge between research and administration is very stimulating: for example, I’ve been involved in research on a care-giver migration project across Europe, I’ve organised the first-ever Spring School on Global Ageing Research and I facilitate conferences on life-long learning in Singapore. I enjoy my responsibilities and can also keep up to date my own knowledge of the exciting research being undertaken in ageing populations, both here in the UK and abroad.

What do you most enjoy about your job?
I love working with the ethnically diverse and multi-talented researchers, academic visitors and graduate students at the OIA and I greatly value the admin team I work with on a daily basis. I enjoy having a great deal of independence and scope to take on tasks that challenge me and I get to use my skills and experience in a creative and positive way.

When you were a child, what did you want to be when you grew up?
I dreamt of being an interpreter as I was constantly divided between two worlds – the Austrian one I grew up in and the Canadian one my family adopted when we emigrated to Canada. Although I didn’t fully realise my childhood dream, I did later work at the United Nations Industrial Development Agency in Vienna where I was exposed to these roles.

What actually was your first job?
My very first job was as a marketing co-ordinator at Citibank. I enjoyed the job but realised that it was essential to me to work in an environment in which I believed in the ‘product’. This led me to a post at the Heart and Stroke Foundation in Ontario where I felt that I was able to make a difference in raising funds, developing education and communication programmes and working alongside stroke and heart disease survivors and volunteers. The job underlined the importance of a heart-healthy lifestyle and sparked my interest in the impact of disease on our ageing society.

So how did you get from there to here?
When I came to Oxford, I studied for a Master’s degree in European History at St Antony’s College and was struck by the depiction of older people within the 12 million expellees being forcibly sent back into Germany post-World War II. While this massive influx of migrants back to the homeland was seen as a huge problem, the media focus on elderly people served to allay public fears – apparently the problem would soon be resolved as mortality was imminent. In fact, elderly people only accounted for about 9% of this population.

This whole scenario made me realise that our ageing society has more often than not conveniently served as a scapegoat, encouraged by the media. When I was approached by the Institute to join a European research project working on migration and eldercare workers, I was more than eager to participate. At the same time, Professor Sarah Harper, the OIA’s director, offered me a golden opportunity to join the Institute and organise the first Spring School.

Aside from work-related things, what’s on your desk at the moment?
The first black and white photograph of Venice I developed when I studied at the Kunsthochle in Vienna, plus several reminders of my lovely colleagues – staff, students and visitors – including photos taken at events, a small painting and a lovely rhino dish from Kenya.

And finally, how would you spend your ideal day?
My life is full of many perfect days already! But there is nothing more heavenly than sitting beside the sea in Platanos in Greece with my soulmate, all my family and our dearest friends, a glass of wine and a plate of mezes. Equally, I am blissfully happy wandering the streets of Berlin and exploring all the fascinating history that makes that city unique and compelling.

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