



Annual Review  
2009/10

# University of Oxford

## Annual Review 2009/10

The mission of the University of Oxford is to achieve and sustain excellence in every area of its teaching and research, maintaining and developing its historical position as a world-class university, and enriching the international, national and regional communities through the fruits of its research, the skills of its alumni and the publishing of academic and educational materials.



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# Contents

1 The Vice-Chancellor's foreword

2 Year in review

4 Pigeons in flight - lessons to be learned

6 The Jane Austen's Fiction Manuscripts  
Digital Edition

8 How radiocarbon dating helps place  
the Pharaohs in time

10 Making a difference - at a stroke

12 Challenges in wonderland

14 Reaching out

16 Pioneering thinking that inspired a  
worldwide campaign response

18 Recognising students' social  
commitment

20 Environmental sustainability

22 Honorary degrees

25 Honours and awards

26 New heads of house

28 New appointments

30 Giving to Oxford

35 Financial review

36 External research funding

37 Appendices

Student numbers

1. Total students

2. Students by nationality

3. Undergraduates

4. Postgraduates



# The Vice-Chancellor's foreword

As any year draws to a close, there is the opportunity both to reflect on the past 12 months and look ahead to the next. At what is a critical and hugely challenging time for universities in this country, it is important that we recognise our achievements and look clearly to the future. On no issue is this truer than Oxford Thinking, the Campaign for the University of Oxford. Reaching its £1 billion fundraising mark is truly impressive, especially against a forbidding economic backdrop. It includes a remarkable matched-funding initiative from Dr James Martin and also a benefaction of £75 million, representing one of the most generous gifts in Oxford's 900-year history, from Mr Len Blavatnik to establish the Blavatnik School of Government. While these have been transformative contributions to the Campaign, every gift, regardless of its size, has been received with genuine gratitude and a sense of humility. Now it is time to come together across the collegiate University to plan a new phase; a recalibration of the Campaign that will set fresh aspirations for sustaining Oxford's research and teaching excellence.

This *Annual Review* features several examples of the high-quality academic endeavour which is the rationale for our fundraising campaign. These examples demonstrate the huge range of work being carried out in the University, from groundbreaking research into strokes, through questions about fundamental issues of group living, to radiocarbon dating mapping out an accurate chronology of the kings of Ancient Egypt.

Another significant feature of this *Review* is its focus on teaching and on our students. In 2009–10 the University received a record number of applications. Our admissions staff are developing innovative ways to deliver on our commitment to attract the most talented students, whoever and wherever they are. Promoting equality of opportunity is fundamental to a civilised society. To achieve our ambitions in this area we must ensure that there are no financial barriers to prevent students from coming to Oxford. Support for student



bursaries and scholarships – at undergraduate and graduate level – and for teaching must play a bigger role in our fundraising activity. As we reflect in these pages, our students too are making a significant contribution to our research, to the University's work in its communities and to our commitment to encourage new generations to come to Oxford.

They will do so at a time of far-reaching changes to higher education funding. Both Houses of Parliament have now approved the Government's response to Lord Browne's Review of Higher Education Funding and Student Finance. But whatever the external context, we must together ensure that Oxford remains among the very best universities in the world – a centre combining outstanding research and teaching, where the best and brightest staff and students can develop new understanding and knowledge for the benefit of all.

Andrew D. HST

**Professor Andrew Hamilton, FRS**

Featured here are just some of the many news stories and events which have occurred within the University during the academic year 2009/10

## Year in review



### October

On 6 October, at a ceremony in the Sheldonian Theatre, Professor Andrew Hamilton was installed as the 271st Vice-Chancellor of the University. Talking in his inaugural address about what had 'bewitched and beguiled' him about Oxford, he said: 'I am here because Oxford over many centuries has committed itself to the development of ideas at the forefront of knowledge and then to the testing of those ideas through analysis, debate and experimentation. I am here because Oxford is committed to excellence in all of these undertakings. Excellence in the standards it sets for scholarship. Excellence in its academic staff, in the lecturers, tutors and researchers, who are crucial to its success. Excellence in the students it chooses for admission. Excellence in the quality it expects of its administration. And excellence in those twin Oxford jewels, the collegiate structure and the tutorial system.'

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



### November

Undergraduate applications for entry in 2010 showed a record number of applications at more than 17,000, an increase of 12 per cent on the previous year. Applications from state school candidates have increased by 77 per cent over the past 10 years (compared to 68 per cent from independent schools). Oxford is committed to selecting students with the most academic ability and potential, and works to attract applications from talented students from any background. In the last year the collegiate University has carried out more than 1,500 outreach activities with nearly 2,000 UK schools and colleges taking part in an Oxford-specific event.

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



### December

Her Majesty The Queen officially opened the new Ashmolean Museum on 2 December following a major multi-million pound redevelopment, part of the Oxford Thinking Campaign. The redevelopment provides the Ashmolean with 100 per cent more display space, comprising 39 new galleries, including four temporary exhibition galleries, a new education centre, state-of-the-art conservation studios and Oxford's first rooftop restaurant. Since its opening, visitor numbers have quadrupled to 1.2 million, compared to the previous average of 300,000 per annum.

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



### January

Oxford in snow

### February

Professor Dorothy Hodgkin was honoured in a new set of Royal Mail stamps celebrating the 350th anniversary of the Royal Society. The stamp celebrates the advances in X-ray crystallography Professor Hodgson made at Oxford – she determined the molecular structures of penicillin, vitamin B12 and insulin. In 1964 she received the Nobel Prize for Chemistry, becoming the only British woman scientist to win a Nobel. Three of the world's most influential researchers mathematician, Sir Andrew Wiles, physicist, Dr Tim Palmer, and chemist, Carol Robinson, have been appointed Royal Society Professors.



## March

The Bodleian Libraries unveiled plans for the restoration and renovation of the New Bodleian Library with the aim of creating state-of-the-art storage for the library's Special Collections, the development of the library's research facilities, and the expansion of public access to its treasures through new exhibition galleries and other facilities. Once completed, it will be renamed the Weston Library, in honour of the £25 million donation by the Garfield Weston Foundation. The renovation of the New Bodleian is part of an integrated strategy to improve the management of and access to the Bodleian Libraries' historic collections, as well as improving facilities for researchers and readers while continuing to preserve and enhance these collections.

[www.bodleian.ox.ac.uk/about/projects](http://www.bodleian.ox.ac.uk/about/projects)



## April

OPTIMA, the Oxford Project to Investigate Memory and Ageing, celebrated 22 years of research. By collecting information on hundreds of older people, both with and without dementia, the team is able to study the brain and the differences between the two groups. It now holds a unique and growing database of psychological, neurological, biochemical and genetic information and also an extensive biobank of samples that are being used to explore the risk factors or causes of this debilitating condition. It is now building a new cohort, the Longitudinal Early Alzheimer's Disease (LEAD) cohort consisting of people with early or pre-dementia Alzheimer's disease, whose main focus is as a platform to allow research on early diagnosis, including biomarkers, imaging and neuropsychology, and facilitate collaboration with industry to help with evaluation of potential new treatments.

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



## May

Oxford finalist Liz Williams was joint winner of the UK Centre for Legal Education's Student Essay Competition, 2010, sharing first place with Sitanta Ni Mathghamhna, of Birkbeck College, University of London. Liz, who was then in her fourth year studying Law with Law Studies in Europe at Christ Church, wrote her essay to answer the question 'How might a legal education enable students to contribute to the improvement of society?' Having argued in her essay that legal studies fosters diversely applicable skills, and after graduating with a First, Liz has gone on to present a paper at the launch of a legal research project in Bonn, and is studying for a Public Relations qualification while also volunteering and exploring opportunities as a freelance writer and artist.

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



## June

Geoffrey Hill became Professor of Poetry, the 44th since the role was created in 1708. Interest in the Professor of Poetry election reached a peak this year following the introduction of new voting procedures. More than 2,500 votes were cast in person and online between 21 May and 16 June to elect a successor to Christopher Ricks. Professor Hill read English at Keble College. His work, both poetry and prose, is studied in English departments worldwide and his powerful and intricate poetic voice has won him both critical praise and a wide audience.

[www.ox.ac.uk/about\\_the\\_university/oxford\\_people/professor\\_of\\_poetry](http://www.ox.ac.uk/about_the_university/oxford_people/professor_of_poetry)



## July

Mr Leonard Blavatnik, an American industrialist and philanthropist, gave £75 million to establish the Blavatnik School of Government – Europe's first school of government. Until now, schools specialising in government and public policy have been found largely in the United States. This historic benefaction, which is one of the most generous gifts in Oxford's 900-year history, brought the University's fundraising total to £1 billion. This figure was formally announced in October 2010 following input of Campaign figures from the colleges. The University's collegiate Campaign supports world-class teaching, research and facilities.

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



A full round up of news and events can be found at [www.ox.ac.uk/news](http://www.ox.ac.uk/news)



# Pigeons in flight – lessons to be learned

'If you release a number of birds from the same site, each develops its own idiosyncratic route home. What's more, each individual bird will choose a route, refine it and then, by the sixth to eighth flight, stick to it.'

Dr Dora Biro releases a pigeon whose route home will be plotted by a GPS tracking system contained in a tiny backpack

Listen in on any discussion about taking a route from A to B and you'll often hear the phrase 'as the crow flies'. It's meant to indicate taking the most direct route. But is that the way a crow would actually fly? It is a question that has begun to be explored, although, thus far, with pigeons rather than crows.

Dr Dora Biro, Royal Society University Research Fellow and Ernest Cook Junior Research Fellow at Somerville College, is focusing on the mechanisms and consequences of social living and social organisation in animals. One of the ways she's doing that is by examining group decision-making and social learning in the context of navigation by homing pigeons. 'My particular interests focus on how individuals with conflicting knowledge or preferences resolve their differences, and what information is exchanged between group members during socially mediated learning – these are fundamental questions of group living.'

Pigeons have been chosen as the focus of one element of the study because of their breeding, which has built into them an instinct to find their way 'home'. 'This', says Dr Biro, 'means a clarity of purpose in their flight – they are bred to have a particularly strong homing motivation. We can look at their behaviour, observe the mechanisms involved and rule out other motivations such as a need to stop for food, because we know that getting home is what they are trying to do.'

The work has had several phases and involves the use of high-resolution GPS tracking systems to plot in detail the routes the birds take. Commercial GPS devices are stripped down to the bare minimum necessary for them to work in order to reduce the weight the bird has to carry, and are fitted to the pigeons as tiny 17g backpacks. After a journey the backpack can then be removed and the information on it downloaded to allow researchers to plot the actual route taken. This is a significant advance on the way early work in this field was undertaken. Then, researchers had only binoculars to track the bird. They could follow the birds for as long as they remained in range, and had no information on the route they took thereafter.

Phase one was to release a group of birds one by one on what are for them relatively short journeys of, say, 25km. Dr Biro often uses a route from north Oxfordshire back to the study's base at the University farm on the Wytham Estate. 'The results were not what you might expect. We found that instead of taking the most direct route, many pigeons appear to follow lines in the landscape such as roads and rivers, hedgerows and railway tracks.' But why? 'There may be a number of factors', says Dr Biro. 'First, it is cognitively less demanding to follow long and stable features in the landscape rather than memorise a chain of many different landmarks. It also helps to avoid being blown off course, for

example by a strong wind, if you are following a linear feature.'

This led to the second phase: releasing birds in pairs and then in groups to see what they would do then. This is the stage that had lessons for group decision-making. Says Dr Biro: 'When there are two of you used to taking a different route you have three options: split and go your own way, go together down one or other's route, or compromise. Being a sociable bird and feeling a safety in numbers, the pigeons tended to stick together, but the outcome depended on the pairs we chose.'

When birds with very different routes were paired, they did sometimes split. When the two routes were not that different, they flew down the middle – a route which, it emerged, was more efficient than taking either individual's route.

In Oxford, Professor Tim Guilford leads a team of PhD students, supported by the BBSRC and Microsoft Research. In the past their work has been funded by the EPSRC, the NERC and the Leverhulme Trust. The next phase was to observe what would happen in bigger groups, with flocks of 8–10 pigeons. On this, Dr Biro collaborated with a group of statistical physicists from Eötvös University in Hungary, led by Professor Tamás Vicsek. They were interested in decision-making within the flock; which bird made a change of direction and how quickly was that followed? They found that, while most birds have a say in the decision-making, a flexible system of 'rank' means that some are more likely to lead and others to follow. But even the lowest birds in the hierarchy did sometimes influence the flock. Dr Biro says: 'This dynamic, flexible segregation of individuals into leaders and followers – where even the lower-ranking members' opinions can make a contribution – may represent a particularly efficient form of decision-making.'

Dr Biro believes that the findings could help unravel the decision-making process in other groups, including humans. 'Our study suggests that this sophisticated leadership strategy has advantages over one based on a single leader or those in which all members contribute equally to decision-making. It is easy to see how that has implications for many aspects of our life in social groups and work-related organisations.'

'Collective movement phenomena in animals include many spectacular and familiar examples: among birds, seemingly instantaneous changes in a flock's direction of motion, the abrupt splitting of a flock, or a synchronised landing are all signs of rapid collective decision-making by group members, typically on a very short timescale. What behavioural rules govern such phenomena?'





# The Jane Austen's Fiction Manuscripts Digital Edition



After the death of her sister Cassandra in 1845, Jane Austen's unpublished manuscripts were divided and ended up in private collections and museums across the world. But a digital archive made available online in October has brought together high-quality images of the manuscripts, and being able to study them side-by-side has yielded fresh insights into the way one of Britain's most popular authors worked.

The Jane Austen's Fiction Manuscripts Digital Edition was a three-year project led by Professor Kathryn Sutherland of the Faculty of English Language and Literature, which photographed, transcribed and encoded 1,100 original handwritten pages of Austen's unpublished writings. With funding from the Arts and Humanities Research Council, it is a collaboration with Oxford's Bodleian Library, King's College London, the British Library and other libraries and private collectors worldwide.

## Digitization

The Jane Austen digital edition applied advanced methods of digitization to the process of photographing and analysing the manuscripts. Much of the digital photography was done by the same team that photographed the Dead Sea Scrolls, and using the same high standards and techniques. Professor Sutherland worked with computer experts from King's College London to develop a highly sophisticated markup language, based on XML, to encode and analyse the manuscripts in minute detail. The technical demands of the project were formidable, primarily because the purpose of the online edition was to represent not only the content of the manuscripts as images and transcriptions, but also their 'genetic' features – their temporal sequence of composition. As a result, the project has set new world standards for the complex encoding of draft or working manuscripts – not only for Austen but also for other modern authors.

## Austen's variety

Jane Austen's manuscripts are both fascinating and frustrating. We do not have the manuscripts we most want to see: no working drafts of *Pride and Prejudice* or *Emma* or of any of the famous six novels (other than two chapters of an alternative ending to *Persuasion*). On the other hand, we do have manuscripts that stretch her writing life back to the age of twelve and forward to age 41, when she died. We have teenage notebooks filled with spoof fictions, an abandoned novel and *Sanditon*, the work she was writing in the last months of her life. These manuscripts represent a different Jane Austen: different in the range of fiction they contain from the novels we know only from print; different in what they reveal about the workings of her imagination.

## Quirks of Austen's writing

Being able to view Austen's original manuscripts revealed fascinating details about the mechanics and quirks of

her handwriting. Professor Sutherland said: 'Her famous description of her way of working – "the little bit (two inches wide) of Ivory on which I work with so fine a Brush, as produces little effect after much labour" – is borne out by the small homemade booklets into which she wrote the later manuscripts. Her style appears obsessively economical, and we see this in the tiniest details; in her formation of carets from recycled elements of other letters, and her layered punctuation (the merging of a caret with the down stroke of a 'p' and a semi-colon with an exclamation mark), and her regular use of the dash to maintain a material connection between her thoughts and the paper.'

The homemade booklets also provide clues to how Austen worked. 'They suggest a writing surface that was easy to carry from place to place, that could be kept secret from inquisitive eyes and that offered the writer the sense of an actual book growing, gathering by gathering, beneath her hands. It is important to remember that these little booklets contain working drafts, full of crossings out and revisions. There is a huge difference between using a gathering for making a fair copy and for early composition. This is especially the case where narrative is concerned. As a writing surface, they suggest considerable confidence on the part of the novelist to carry the story forward as a sequence whose elements are threaded together from the start in their proper order. Of course, the writer can delete or insert new lines, but flexibility is limited.'

'Immediately striking when you look at images of Austen's booklet pages is how densely filled they are, apparently closing off options for complex revision very early. She leaves no space for extensive reworking. This suggests that once set down she did not anticipate protracted redrafting of storylines, descriptions or dialogue. She is particularly good at capturing conversations with little alteration. On the few occasions where sustained revision was needed, she literally applied paper patches to the draft manuscript. In *The Watsons*, for example, there are three neat patches, originally pinned to the page, and tailored to the space they were to fill.'

The visual evidence from the manuscripts, now available for all to examine in the digital edition, extends Professor Sutherland's earlier research on Austen's methods of writing published in *Jane Austen's Textual Lives: From Aeschylus to Bollywood*.

The digital edition of Jane Austen's Fiction Manuscripts provides images of the original pages of all the fiction manuscripts for critical examination. We can now see how presentation on the page is so much a part of the meaning of the juvenilia in the original circumstances of coterie reading. We also see how evidence of composition within the working drafts offers an opportunity to reconsider and enrich our appreciation of the printed works.

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~~when they had any business~~  
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 vering ~~the~~ <sup>her husband's</sup> property in the W. Indies,  
 by giving her the writing for her  
 acting for her, & seeing her through  
 all the petty difficulties of the case  
 with the activity & caution of a  
 headstrong ~~man~~ <sup>man</sup>, & a determined  
 friend, convinced her of his  
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 than her own ~~intention~~ <sup>intention</sup> with the  
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### Further digitization projects within Oxford's Humanities Division

- ▶ Electronic Enlightenment – a website which reconstructs the extraordinary web of correspondence that marked the birth of the modern world
- ▶ Digital Image Archive of Medieval Music – the Faculty of Music's expanding online archive of medieval music manuscripts, using high-quality images which have facilitated a level of detailed discovery by using magnification beyond that achievable with the naked eye
- ▶ Multispectral imaging laboratory – a joint project between Classics and Astrophysics to decipher medieval manuscripts
- ▶ The Elements of Drawing – the Ruskin School of Drawing and Fine Art and the Ashmolean Museum's online archive of drawings, prints and photographs assembled by John Ruskin for teaching students
- ▶ Reflective Transformation Imaging capture system – a project by Classics and Oriental Studies which captures images of ancient documents

A page from an unpublished draft of *Persuasion*. The digital edition allows deeper insight into Jane Austen's working methods than has previously been possible



# How radiocarbon dating helps place the Pharaohs in time

'I think scholars and scientists will be glad to hear that our small team of researchers has independently corroborated a century of scholarship in just three years.'

*Right:* Researchers found that Pharaoh Djoser's reign was earlier than previously thought

*Below:* The King List in the temple of Seti I at Abydos is an important source of information about ancient Egyptian chronology



From just a few handfuls of seeds, and fragments of papyrus and textiles, researchers led by a team from Oxford have mapped out an accurate chronology of the kings of ancient Egypt. The international team was led by Christopher Ramsey, Professor of Archaeological Science at Oxford and Director of the Oxford Radiocarbon Accelerator Unit, and involved UK researchers from Oxford and Cranfield along with colleagues from France, Austria and Israel.

In a project supported by the Leverhulme Trust, the research team used radiocarbon techniques to provide new dating evidence for Egypt's Old, Middle and New Kingdoms. These are three of the most definitive periods of ancient Egypt and the new findings have a wide historical significance. Egyptian chronology anchors the timing of historical events in neighbouring areas, by tying them to the reigns of particular Egyptians rulers. The sequence of Pharaohs is well known, as is the length of their reign, but what has been less certain is exactly where they sit in terms of years. Until now, the chronologies of the ancient Egyptian kingdoms have been based on observation from lists on papyri and stone, enhanced by archaeological evidence. This project allowed those historical chronologies to be checked against dates obtained by the radiocarbon method. This determines the age of an object by measuring its radioactive carbon concentration. It is the most widely used scientific method for dating archaeological artefacts and contexts.

The Oxford-led team dated 211 plants, seeds and papyrus samples – some of them more than 4,500 years old. This included items from Tutankhamun's tomb and the rooms under the Saqqara step pyramid. They were provided by museum collections from all over North America and Europe, including Oxford's Ashmolean and Pitt Rivers Museums.

Samples from more recent periods of Egyptian history – whose ages are precisely known – were also radiocarbon dated to test the reliability of the methodology. This included material from the Oxford University Herbaria – a vast collection of plant specimens, archived and housed in the Department of Plant Sciences, which have been brought back to Oxford from all over the world since 1608. They include environmental samples which were collected in Egypt in the eighteenth and nineteenth centuries and therefore had known collection dates. 'This', says Professor Ramsey, 'was critical to the success of the study because we were able to use seeds and plant

## Dynasties of Ancient Egypt

- ▶ Predynastic Egypt
- ▶ Early Dynastic
- ▶ Old Kingdom – the period in the 3rd millennium BCE
- ▶ First Intermediate
- ▶ Middle Kingdom – stretching from the establishment of the 11th Dynasty to the end of the 14th Dynasty
- ▶ Second Intermediate
- ▶ New Kingdom – the period between the 16th century BC and the 11th Century BC covering the 18th, 19th and 20th Dynasties.
- ▶ Third Intermediate
- ▶ Late Period
- ▶ Greek-Roman

material from sites that have been precisely dated. This allowed us to check for a "reservoir effect"; that is a way in which the technology we were using might itself produce inaccurate findings. And there was a minor difference, of a couple of decades, in some cases. This is something we can probably explain as being a growing-season effect, but it does need to be taken into account.'

One of the benefits of having an international team was that the tests could be run in different laboratories – in the UK, France and Austria – to allow cross checking and to diminish the possibility of results being produced that are affected by local factors. OxCal, a computer program devised by Professor Ramsey, was used to combine the dates for the seeds, baskets, textiles, plants stems and fruit with historical information about the order and length of each of the Egyptian rulers to create the full chronology. 'The results', he explained, 'were broadly in line with previous estimates. But the radiocarbon dating pinpoints some periods as being earlier than previously thought. Djoser, one of the best-known pharaohs of the Old Kingdom, was found to have ruled from between 2691 and 2625 BCE, about 50–100 years earlier than some scholars previously thought. The study also suggested that the start of the New Kingdom might have been a few decades earlier, at somewhere between 1570 and 1544 BC.'

Going forward, with techniques and methodology vindicated by the results, there are exciting further possibilities for study. Professor Ramsey says: 'This time, despite the generosity of the museums, we were limited in terms of the material we could use. I'm sure that there is further material to be studied that will allow future projects to look more closely at other periods – for example, ones before the Old Kingdom. It should also be possible with more material to get even greater precision for the Old, Middle and new Kingdoms we studied this time – maybe as close as an exact decade.'

The historical chronologies for dynastic Egypt are based on reign lengths inferred from written and archaeological evidence. These floating chronologies are linked to the absolute calendar by a few ancient astronomical observations, which remain a source of debate. We used 211 radiocarbon measurements made on samples from short-lived plants, together with a Bayesian model incorporating historical information on reign lengths, to produce a chronology for dynastic Egypt. Our radiocarbon data indicate that the New Kingdom started between 1570 and 1544 BCE, and the reign of Djoser in the Old Kingdom started between 2691 and 2625 BCE; both cases are earlier than some previous historical estimates. *Science*, 18 June 2010



'The aim of this project was to investigate the consistency of the historical chronologies with dates obtained via the radiocarbon method.'



# Making a difference – at a stroke

Oxford research has major implications for the prevention of a worldwide killer

Stroke is the second most common cause of death world-wide and is predicted to become the leading cause of death within the next 20 years as the incidence of ischaemic heart disease falls in developed countries. At present, the risk of someone having a stroke within their lifetime is about 25 per cent, with the risk being higher for the over-65s. Spotting and treating the warning signs that a stroke is likely to occur are therefore important strategies.

Research has indicated that hypertension – raised blood pressure – plays a major role in causing stroke, although the mechanism by which this happens is not fully understood. About half of all adults in the UK have hypertension and this is generally treated by doctors with drugs aimed at lowering an individual's average blood pressure level. In March 2010, however, four research papers published simultaneously in *The Lancet* and *The Lancet Neurology* by Peter Rothwell, Oxford's Professor of Clinical Neurology, showed that variability in blood pressure is also a risk factor for stroke, people with intermittent high blood pressure ('episodic hypertension') being at higher risk of stroke than those with consistently high readings.

'Our findings have important implications for the identification of individuals at risk of stroke and for the effective prevention of stroke', says Professor Rothwell, who is also Director of the Stroke Prevention Research Unit at the John Radcliffe Hospital. 'Current clinical guidance tells doctors who see patients whose blood pressure is very high at one clinic visit to repeat measurements several times over the next few weeks and only diagnose hypertension and consider treatment if the blood pressure is consistently raised.'

The discovery is the result of analysis of data from several cohort studies and clinical trials, including the Oxford Vascular Study – a study of all strokes, heart attacks and other acute vascular events in a local population of 100,000 people. As well as identifying the prognostic importance of variability in blood pressure, the research showed that the different drugs used to treat high blood pressure differed in their effects on variability, which correlated with their effectiveness in preventing stroke. 'The

evidence was there, but no one had looked', says Professor Rothwell. 'Previously, everyone had assumed it was just lowering the average blood pressure that correlated with the better outcomes.'

This has important implications for treatment, he stresses: 'Some of the drugs currently used to treat high blood pressure – beta blockers, for example – actually increase variability and therefore paradoxically increase stroke risk despite lowering average pressure, whereas others, such as calcium channel blockers, reduce both variability and the average level and are therefore much more effective at preventing stroke.' He urges pharmaceutical companies to develop new antihypertensive drugs that both lower and stabilise blood pressure. Drugs that stabilise blood pressure without lowering it are also needed for some elderly patients who cannot tolerate reductions in their average blood pressure.

Professor Rothwell believes that the significance of blood pressure variability in assessing the risk of a stroke should now be incorporated into clinical guidelines. He and his team are therefore studying how best to identify variability and instability in blood pressure in routine clinical practice, with particular emphasis on measurements done by people at home. Professor Rothwell's patients in the Oxford Vascular Study are currently being asked to take three blood pressure readings three times each day at home, with the results being transmitted automatically to the research centre using Bluetooth. 'It's a real education about how little what we see in clinic tells us about what's actually going on,' he says. 'We are able to monitor blood pressure and change medication in real time so that blood pressure is properly controlled.'

Home monitoring is also helping researchers investigate how long a period they need to spend assessing variability in blood pressure. Early indications are that variation on a day-to-day basis is a reliable indicator of week-to-week and month-to-month fluctuations.

Also on the research agenda is the significance of blood pressure variability in other brain diseases. In vascular dementia, which is also associated with hypertension, high variability in blood pressure looks again to be a predictor of the condition; it may be that reducing variability can lessen the likelihood of vascular dementia developing.

'The work on variability in blood pressure and other work we have done recently, such as demonstrating the benefits of urgent investigation and treatment of patients with transient ischaemic attacks ("mini-strokes") and minor strokes, and identifying the beneficial effect of aspirin in preventing cancer, have taught me how big an impact simple clinical research can have', says Professor Rothwell. 'All this work could have been tackled 30 years ago, but was neglected at least partly because new fields like molecular biology and genetics were opening up. The headline-grabbing laboratory-based work is great, but we also need to do the simple stuff if we really want to make a difference in practice.'

## What is a stroke?

Most strokes occur when the blood supply to the brain is disturbed, resulting in loss of function. In the UK, around 150,000 people a year have a stroke and in half these cases the stroke is either fatal or permanently disabling. While stroke is most common in those over 65, the annual figure includes an estimated 20,000 people under the age of 45.

Around three-quarters of strokes are due to ischaemia – lack of blood flow to the brain because of a blockage – and the remainder result from haemorrhage (leakage of blood). Common problems after a stroke include: weakness or paralysis; problems understanding other people, or struggling to find words; difficulty in reading, writing or speaking; poor balance; and difficulty with mental processes such as concentration and memory.

Professor Peter Rothwell (right) discovered that variability in blood pressure is a powerful risk factor for stroke







# Challenges in wonderland

From T. Rex and trilobites, to birds, bees and butterflies, the University Museum contains six million specimens that represent the rich diversity of life on earth

To the families, tourists and school parties that flock there each year – now numbering more than half a million visitors – the purpose of the Oxford University Museum of Natural History must seem obvious. It is a ‘wonderland of natural history’ where examples of the rich diversity of the living Earth inform and delight children, such as those who chose it for the *Guardian* Family Friendly Award in 2005. In 2009 it shared a Queen’s Anniversary Prize with the other Oxford museums and libraries for their ‘outstanding quality and high public benefit’. The award was a well-deserved curtain-raiser for a year of public events celebrating the century and a half since the museum’s foundation in 1860.

Yet its nineteenth-century purpose was very different. Championed by a few influential voices within Oxford, led by the anatomist Henry Acland, the museum embodied a revival of science teaching and research in Oxford, largely moribund since the late seventeenth century. The ‘cathedral of science’, designed by Benjamin Woodward in the Italian Gothic style, opened its doors in time to welcome delegates to the Oxford meeting of the British Association for the Advancement of Science in June 1860 (see box). It included offices, lecture rooms and laboratories for the professors of medicine, comparative anatomy, zoology, geology, mineralogy, natural philosophy (physics) and chemistry. But science expanded so rapidly that the professors soon outgrew the museum. One by one they migrated to purpose-built laboratories in neighbouring Parks Road and South Parks Road.

If it is no longer the centre of science teaching and research in Oxford, what is the purpose of the museum today? As Lady Heseltine, Chair of the Museum’s Advisory Board, said at the anniversary dinner in May: ‘The most important work of the museum is invisible to the casual visitor. The research that goes on behind closed doors, the incredible collections – these are the inner heartbeat of the museum.’ Six million specimens, most of them secreted in storerooms far from the public gaze, hold the answers to questions about the history of the Earth and its living things, a fantastic resource at a time of biodiversity loss and environmental change.

Curatorial staff spend much of their time answering

requests from scholars all over the world for loans of specimens, and the task of preparing, identifying, classifying and cataloguing both the existing holdings and new acquisitions is never-ending. When they can, they go off into the field themselves, diving for shrimps, collecting beetles or digging for fossils. In 2010 the public had the privilege of seeing some of the most remarkable recent discoveries for themselves in the exhibition ‘Exceptional fossils from Chengjiang, China: Early animal life’. These fossils of soft-bodied creatures representing more than 100 species are from the early Cambrian period, around 525 million years old: the exhibition was the first to show them outside China.

In addition to its academic work, the museum’s public role has been transformed in the past two decades. Under its first Director, Keith Thomson, and his successor Jim Kennedy, an enthusiastic team of education and outreach staff has guided thousands of schoolchildren and families to discover the museum for themselves. They have gone out into the local community, taking exhibits to audiences who have limited opportunities to come to the museum. Almost all this activity was made possible by funding from the Renaissance in the Regions programme of the Museums, Libraries and Archives Council (MLA). Meanwhile, generous donors have helped to transform the overstuffed cases that once filled the court into attractive exhibits that draw the visitor in to learn more about the dodo or the *Megalosaurus*.

When Jim Kennedy retired as Director this year, he was able to say that he had achieved his aim of making the museum ‘the public focus for science in Oxford and the friendliest place for the public in the University’. His successor, Susan Iversen, recognises that there will be challenging times ahead, with projected cuts to University funding including earmarked support for museums and libraries. ‘We have a responsibility to maintain curation of these internationally significant collections, to protect biological specimens vulnerable to decay, and to exploit them for research’, she says. ‘And just as important are the activities for the wider community that are now such an integral part of the museum’s daily life.’



## Anniversary events in 2010

Delegates at the 1860 British Association meeting were treated to a robust exchange of views on human descent between the Bishop of Oxford, Samuel Wilberforce, and ‘Darwin’s bulldog’, the biologist Thomas Henry Huxley. The details are disputed, but the legend provides a wonderful entry point for the idea of life’s common origins. In September 2010 the Vice-Chancellor unveiled a stone plinth commemorating the occasion, designed by local schoolgirl Poppy Simonson and sculpted by Alec Peever, and hosted the son et lumière and anniversary dinner.

## Other anniversary events have included:

- ▶ ‘A wonderland of natural history’: drawings and photographs documenting the early history of the museum
- ▶ ‘A few of our favourite things’: chosen by the staff, now online at [www.oum.ox.ac.uk/favouritethings](http://www.oum.ox.ac.uk/favouritethings)
- ▶ the unveiling of a bust of Nobel prizewinner Dorothy Hodgkin (1910–1994), and a première of a play about her life
- ▶ installations on the museum lawn: the CIAO! Ark Project and the Ghost Forest
- ▶ lecture series featuring David Attenborough, Richard Fortey and Tracey Chevalier







# Reaching out

## Undergraduate applications for 2010 entry

- ▶ applications to the University shot up by 12 per cent to more than 17,000
- ▶ the percentage of state school applicants for 2010 entry was 63.6 per cent compared to 60.8 per cent in 2009
- ▶ applications from state school candidates have increased by 77 per cent over the past 10 years
- ▶ offers to state school students for 2010 increased by around two percentage points compared to 2009
- ▶ money spent on outreach across the collegiate University in 2009–10 was around £4 million

A UNIQ summer schools student examines one of the inhabitants of Wytham Woods to learn about insect ecology

Each year the University extends its efforts to attract the best and brightest students, irrespective of their background, and to raise aspiration for higher education among under-represented groups. A number of innovations have taken place during the past year in order to reach out to the undergraduates of the future.

### A UNIQ experience

Oxford launched the UNIQ summer schools in July 2010 to widespread publicity. This flagship outreach programme offered high-performing state school and college sixth-form students the chance to spend a week finding out what life at Oxford is like. Students attended lectures in their chosen subject, lived in college accommodation, met current undergraduates and found out more about applying to Oxford, as well as engaging in a wide range of social activities ranging from open-air community theatre trips to a twilight tour of the Natural History Museum.

The UNIQ summer schools were supported by the *News of the World*, which campaigned for young readers to apply. The then Education Secretary Ed Balls was one of many MPs who pledged support for the programme and promoted the opportunity to schools across the country.

From more than 3,600 applications, 507 participants were selected to participate in UNIQ. Student feedback was overwhelmingly positive, with 95 per cent of students reporting a more informed view of their subject and feeling more confident that they would fit in at Oxford. Sixty-nine per cent of participants have subsequently applied to study in Oxford.

'It was a fantastic week that far exceeded my expectations. I feel much more confident that I would fit in if I was successful in gaining a place,' said one participant.

### Regional outreach

During the past academic year, the University has put in place a regional outreach programme in order to simplify communication between the University and schools throughout the UK. Each Oxford college is now linked to a number of local authorities so that schools in each area have a named point of contact within the University. The scheme allows the University to get to know schools in specific regions better and gives schools a more direct way of staying in touch.

The recruitment team also organised seven Regional Teachers' Conferences. These are designed to give teachers advice so that they can support their students who are applying to Oxford and help to break down any misconceptions that might deter them from applying. Funded by the Helsington Foundation, the programme covers all aspects of the admissions process from identifying candidates to writing references and preparing candidates

for admissions tests and interviews. 'This was very useful and made Oxford seem very "human"', said one teacher from Exeter. 'It demystified the process – particularly interviews.'

### Taking science to the community

The Oxford Science Tent was the brainchild of a member the University's Widening Participation team, which works with children under 16 from the local area. As a scientist, she felt strongly that science was exciting and fun and she wanted to communicate this to the community. The idea was piloted at the 2009 Royal County of Berkshire Show. Over the course of the week-end, children visiting the tent were able to create soap and bath bombs to take home with them, while members of the public built their own exploding volcanoes. Also taking part were Marcus' Marvellous Mathematicians, a group of mathematics students championed by Marcus du Sautoy, the Charles Simonyi Professor for the Public Understanding of Science, and Chemistry Connect, the outreach arm of the Department of Chemistry. The first appearance of the tent in Oxford was at the Cowley Road Carnival in July 2010, where it attracted more than 35,000 visitors, and the team is hoping that it will become a regular feature at many more Oxfordshire community events in the future.

### Digital recruitment tools

The University continues to expand its range of digital recruitment tools designed to help prospective students find out more about the reality of studying at Oxford. The latest tools include a series of audio admissions tours for visitors to download from the Oxford University website onto their MP3 players. The tours, which take between 60 and 90 minutes, enable prospective students to follow different routes around Oxford according to the subject area they are interested in. They include colleges, departments and central University locations, and tell listeners more about the University and about the admissions process.

A series of animations, explaining the application process and helping students to understand the collegiate system, have also been made available for the first time. These use a fun and engaging style to capture the interest of the prospective students and to answer some of their most common queries. A video which explains what Open Days are all about and to assist students to make the most of their visit was launched in August 2010. These new online initiatives are proving extremely popular and the (undergraduate) admissions site is averaging 61,365 hits per day, representing an 13 per cent increase compared to the same time last year.





# Pioneering thinking that inspired a worldwide campaign response

'Some great people from across the planet have been attracted to our vision. Together we are funding solutions that will really make a difference.'

Dr James Martin

It is the most ambitious fundraising campaign ever mounted by a European university. Ambitious at any time, but especially so in an economic downturn. By the end of the 2009–10 academic year, Oxford Thinking: The Campaign for the University of Oxford had raised £1 billion, with £240.4 million raised in 2009–10 alone – a considerable achievement by any measure, but particularly during a time of such economic uncertainty.

For the collegiate University, the challenge to reach the minimum target of £1.25 billion continues, with the focus on the three campaign themes: support for tutors and research to help attract and retain the world's finest academics; support for students so that the brightest and most gifted students can flourish at Oxford regardless of their financial circumstances; and support for the University environment, restoring, refurbishing, renovating and upgrading existing buildings and developing new ones.

In each area there have been significant benefactions across a wide variety of disciplines. Examples in the latter part of the academic year included:

- ▶ a gift of £350,000 from the Simons Foundation to fund two postdoctoral fellowships at the Mathematical Institute
- ▶ a pledge of £3 million to fund the Stanley Lewis Chair in Israel Studies
- ▶ a pledge of £5 million over five years from the Li Ka Shing Foundation to battle infectious diseases in Asia
- ▶ a £2.3 million gift from the Tasso Leventis Conservation Foundation to establish a chair in biodiversity
- ▶ a pledge of £1.5 million from Dr Leonard Polonsky to support library digitisation initiatives as well as the digital imaging facilities in the redeveloped New Bodleian Library – to be known as the Weston Library when it reopens
- ▶ a gift of £1 million from Sir Ronald Cohen for the purchase and refurbishment of Exeter College's 'Third Quadrangle' on Walton Street

The success of Oxford Thinking has been built on a huge amount of hard work and activity both in the UK and around the world: everything from students playing an enthusiastic part in telethon programmes to the Vice-Chancellor hosting major campaign events in international cities. There have also been continuing milestones in terms of the impact on the University's buildings and facilities, including completion of the new Earth Sciences building supported by campaign pledges exceeding £6 million.

In the period covered by this review, nearly £60 million (\$100 million) has been raised by a pioneering matched funding challenge set by Dr James Martin. Already a hugely significant supporter of the University, Dr Martin offered to match donations of at least \$1 million up to a total of \$50 million for Oxford research projects aimed at solving some of the toughest challenges facing humanity





in the twenty-first century. Dr Martin, one of the world's most influential computer scientists, says: 'When the matched funding scheme was announced, many people said this is crazy timing as this is the worst economic crash in recent history. The Oxford Vice-Chancellor and I disagreed with them. Foundations and wealthy individuals do give money in bad times, if the cause is exceptionally important.'

Dr Martin's campaign pledge came in addition to an original donation made in 2005 to set up the James Martin 21st Century School (now renamed the Oxford Martin School) with an endowment of \$100 million. The school supports work on subjects as diverse as the future of cities, brain manipulation and vaccine design. Interdisciplinary teams of researchers in the school are exploring issues such as global poverty and the impact of climate change; they will push forward the frontiers in innovative health and computer technologies, and examine ways to prevent future economic crashes.

In July 2010 Mr Leonard Blavatnik gave £75 million to establish the Blavatnik School of Government; a historic gift to create Europe's first school of government. The School will train outstanding graduates from across the world in the skills and responsibilities of government. This global outlook will reflect the strongly international character of Oxford's graduate community, two-thirds of whom are from overseas. 'The School represents a huge milestone in Oxford's history', said the Vice-Chancellor,

Professor Andrew Hamilton. 'It will give tomorrow's leaders the best of Oxford's traditional strengths alongside new and practical ways of understanding and addressing the challenges of good governance.'

The campaign has been notable for the variety of donors it has attracted and for the range of gifts both in terms of size and where they have come from. 'The Oxford Thinking Campaign has demonstrated the worldwide support for the University of Oxford', says Sue Cunningham, Director of Development, 'Alumni and friends have provided the much needed support for the advancement of the University because of an unprecedented commitment to excellence in teaching and research. This level of engagement will be critical for the future of Oxford colleges, departments, museums and libraries.' In campaign newsletters and updates the University has thanked all those who have made a contribution to Oxford Thinking. There have been a variety of events and dinners, including the North American Reunion in New York, where Michael Moritz and Harriet Heyman were awarded the prestigious Sheldon Medal – the University's highest level of recognition for philanthropy – for their £25 million gift to Christ Church.

The Vice-Chancellor says: 'Each gift adds to the pool of resources from which the University seeks to secure the present and build the future. Each gift also represents a tangible vote of confidence in what Oxford has been and what it aspires to be.'

Oxford Thinking  
minimum target:  
£1.25 billion

Amount raised  
1 August 2004 to  
31 July 2010:  
£1.009 billion\*  
(\*£1 billion  
confirmed in  
October following  
input of Campaign  
figures from the  
colleges)

Number of donors  
1 August 2004 to  
31 July 2010:  
26,665

Dr James Martin's matched  
funding scheme has raised  
almost £60 million for  
research projects aimed at  
solving some of the toughest  
challenges facing humanity





# Recognising students' social commitment

Each year Oxford rewards its top athletes with Blues and its most talented musicians with instrumental scholarships. This year, for the first time, students who have worked to bring about positive change in the community, whether at home or abroad, have also been recognised. The Vice-Chancellor's Civic Awards were granted to six students who demonstrated outstanding social or environmental commitment.

Professor Andrew Hamilton presented the inaugural awards at a lunch at Rhodes

House, which formed part of the Encaenia celebrations on 23 June. 'As a world-leading institution, Oxford should expect to make a major impact on the world beyond its main achievements in teaching and research', he said. 'Recognising students who show a commitment to improving the quality of life for others will help to promote active citizenship in the local community and the wider world.'

The award scheme was proposed by and developed in partnership with the Oxford Hub, a student-led charity founded by Oxford stu-

dents in 2007 in order to promote and support social action, philanthropy and volunteering. Oxford Hub facilitates student involvement in charities, social enterprises and in the local community – and ensures that this work is effective and sustainable.'

It was particularly keen to work with the University to find a way to acknowledge students' achievements in this important area.

The award winners received leadership training and mentoring from Oxford alumni with experience in relevant fields.

## Adam Grodecki

Founder and chairman,  
Student Hubs

Adam Grodecki founded Student Hubs, a student-led charity working to promote and support social action, philanthropy and volunteering in universities, while studying for a theology degree at St Peter's College.

Adam first became aware that there were problems with the way the charity 'scene' in Oxford operated while leading a UNICEF (United Nations Children's Fund) group during his first year. 'There was a lack of student engagement with social and environmental issues, and students were unaware of opportunities available to them for making a difference', he says. 'The work taking place was also highly disparate, and not as effective or sustainable as it could be.'

He realised these problems resulted from a lack of support for social action at Oxford, and so in 2007 he and fellow students Adam O'Boyle (St John's), Rachel Stephenson (St John's) and John Mellor (Balliol) co-founded Oxford Hub with funding from the Oxfordshire Community Foundation, the Garfield Weston Foundation and Barclays Capital. Their vision was for the University to have 'a flourishing community of socially aware and socially active students who make a positive difference at home or abroad during their time at university and in their future careers'. They also wanted to equip tomorrow's social, political, financial and commercial leaders with the knowledge, passion and skills they will need to tackle the major social and environmental challenges of the future.

Three years later, Oxford Hub has expanded

to become a national network called Student Hubs – with hubs in Bristol, Cambridge and Southampton as well as in Sydney, and more than 14,000 members. The charity has the support of some of the UK's leading graduate recruiters, including Barclays Capital, Man Group plc and Clifford Chance. Its community volunteering programme has launched 20 student-led projects and sent 800 student volunteers into the local community; and it has set up a scheme which has placed more than 50 students in four- to eight-week work placements in local charities and social enterprises. It also runs the UK's leading student conferences on international development, climate change and social entrepreneurship – which have been attended by more than 3,000 students.

The students' work is making an impact. One of Oxford Hub's first community projects was Students Together to Improve Reading. Students help out in primary schools to support the reading development of some of Oxford's most underprivileged children, giving them the encouragement to read that they often lack in their home environment. A recent evaluation revealed that literacy rates had improved by 10 per cent over the previous year in one of the target schools.

'We've now reached a sort of critical mass', Adam says, 'where we have loads of incredible people working on all sorts of amazing projects, and new opportunities seem to present themselves every day. It seems like the culture change we're aiming at is starting to manifest itself – although of course there is a long way to go yet!'

Adam, who recently completed his theology degree, is currently working full-time

as chairman of Student Hubs, getting the organisation ready to roll out further across the UK. He leads the charity's strategic planning, business development and fundraising and continues to be dedicated to its success. 'I passionately believe that Oxford should not only produce world-class brains, but also world-class citizens', he says.



Adam Grodecki



Suzie Sheehy

## Suzie Sheehy

Co-founder, Accelerate!

What exactly does a particle physicist do? Why do they need huge machines like the Hadron Collider at CERN in Switzerland to investigate particles too tiny to see? And how do you accelerate something to 99.999999 per cent of the speed of light? These are just some of the questions answered by the Accelerate! programme, co-founded by postgraduate physics student, Suzie Sheehy.

Suzie moved to Oxford from Melbourne in 2007 to study for a doctorate in particle physics at Lady Margaret Hall. Her research focused on designing a new type of particle accelerator for cancer treatment. She already had experience of inspiring young people to get involved in science, having worked at Scienceworks, a hands-on science museum in Melbourne, and on an outreach programme, the International Physics and Laser Show, which brought 'physics and fun' to around 50,000 Australian schoolchildren. She conceived the idea of creating a free interactive show about particle physics over coffee with Dr Emmanuel Tsismelis of CERN (the European Organisation for Particle Physics). The pair then enlisted the help of Professor Brian Foster, Suzanne's head of department, and applied to the Science and Technology Facilities Council (STFC) for a Small Award for Public Engagement. In July 2008, they received an award of £8,000 spread over two years and the first Accelerate! show was run in December 2008.

The 45-minute show, run by postgraduate physics students from Oxford with support from CERN and the STFC, includes levitating superconductors, exploding hydrogen balloons, giant beach balls 'riding' an audience 'Mexican wave' to demonstrate

acceleration of particles, a plasma ball which lights up a fluorescent tube as if by magic, and a Van de Graaf generator which makes your hair stand on end.

Over the past two years, the volunteers have presented the show to more than 5,000 people throughout the UK, including school children and members of the public. They also took the show to the Big Bang Fair 2010 and the British Science Festival 2010. Alongside the show, they run sessions for teachers and provide teaching aids to help them weave the content into their curriculum.

'I believe science communication and outreach are important for two reasons', Suzie says. 'First, it allows the public, who in most cases are funding the research, to understand, on their own terms, the research being done and its implications; and second, it inspires the next generation of students and helps create a scientifically literate society that is able to understand and face the challenges of the future.'

In September 2010 Suzie submitted her DPhil thesis and in November she will take up a three-year fellowship from the Royal Commission for the Exhibition of 1851. She will be investigating the use of high power proton accelerators to create accelerator driven reactors for safe, emission free power. However, she is determined that her outreach and communication work will continue alongside her work in particle physics.

'The Vice Chancellor's award was important to me, as it was an official recognition of all the years of hard work I've put into outreach and science communication', Suzie says. 'It is also important because it indicates that the University is serious about outreach. It is very encouraging to know that Oxford recognises the value of outreach and encourages its students and staff to pursue these activities.'

'In the nineteenth century, Oxford students set up Oxford House in East London, which accommodated students while they helped out full-time in the local community – so it could be said that student volunteering in this country has its roots in Oxford', explained Richard Jarman, Head of Government and Community Relations within the University. 'In addition, "Raise and Give" (RAG), now a feature of many UK student universities, was created by Oxford students. The Vice-Chancellor's Civic Awards formally recognises the contribution our students are making to society locally, nationally and internationally. The Awards are a small token of how much the University appreciates our student body's community activity of every kind.'

## The other students who received awards were:

**Niel Bowerman While:** in the second year of his physics degree at Linacre College, Neil founded Climate Justice Project, a national student-led campaign focused on reducing carbon emissions, and later co-founded Climatico, an independent network of climate change experts. Bowerman, who is now studying for a doctorate in atmospheric, oceanic and planetary physics, has given speeches on climate change at institutions such as the World Bank and the European Parliament, and Climatico was recently named one of the most influential websites on climate policy by Social Media Labs.

**Rachel Dedman:** An undergraduate studying History of Art at St John's College, Rachel was President of the University charity committee RAG (Raise and Give) in 2009–10. In this role, she restructured and relaunched the society, organised the first ever University-wide charity ball, represented Oxford at the National RAG Conference and raised more than £50,000 for charities, including Helen and Douglas House, a local children's hospice, and Shelter, the homeless charity. 'I am thrilled that the University has recognised the hard work put into fundraising and volunteering by so many students', she says.

**Xin Hui Chan:** A postgraduate medical student at Lincoln College, Xin Hui came to Oxford from Singapore. Her volunteer work while studying took her to Kenya, Morocco, Bosnia and Georgia. As president of Medsin, the Oxford branch of the International Federation of Medical Student Associations, she helped Oxford win the bid to host the Medsin National Global Health Conference. To promote understanding between different cultures, she also co-wrote the first ever OUSU International Students' Handbook and organised the inaugural Oxford International Festival.

**Johanna Carys Roberts:** A philosophy, politics and economics (PPE) student at University College, Johanna contributed to her college's access scheme, Univ Ambassadors. She initiated and led student-run Univ roadshows, as well as a PPE taster day for sixthformers at comprehensive schools in Hackney. Johanna is also the founder and co-ordinator of Maths Plus, a volunteer-led initiative through which university students spend one hour a week with underperforming school students, preparing them to take GCSE Maths.



# Environmental sustainability

Initiatives such as the mobile cycle repair scheme and safe cycling workshops encourage University staff and students to get on their bikes

## Energy and CO<sub>2</sub> emissions

Total CO<sub>2</sub> emissions from buildings, business air travel, fleet vehicles and water were 87,630 tCO<sub>2</sub> compared to 85,916 tCO<sub>2</sub> last year – an increase of 2%. Building-related energy consumption was 211,670,605 kWh (generating 80,615 tCO<sub>2</sub>) compared to last year's 211,237,530 kWh (generating 79,140 tCO<sub>2</sub>) – an annual increase of 1,475 tCO<sub>2</sub> (1.8%). In the Biochemistry building 3,500 kWh of on-site renewable energy was generated from photovoltaic cells.

Despite total CO<sub>2</sub> emissions increasing by 2%, the University reduced its building-related emissions by 1.4% per m<sup>2</sup> of floor area. This is because the estate grew by 18,000m<sup>2</sup> due to the development of the Biochemistry building, the Ashmolean Museum extension and the Old Road Campus Research Building.

In April 2010 the University signed up to the global 10:10 Campaign, setting a voluntary target of 10% CO<sub>2</sub> reduction between April 2010 and March 2011. The University financed departmental energy projects, reducing 3,572 tCO<sub>2</sub> through its Energy Conservation Levy, and 524 tCO<sub>2</sub> through the HEFCE and Salix Finance Revolving Green Fund. In addition, the University was awarded funding from the HEFCE Leadership Governance and Management fund for 'Midnight Oil' – a study targeting the University's energy use in 24-hour buildings. The University will publish a Carbon Management Strategy and revised CO<sub>2</sub> reduction targets in 2011.

## Travel and emissions

During the year business air travel generated 6,199 tCO<sub>2</sub> (7%) of the University's total emissions compared to last year's 5,826 tCO<sub>2</sub> (6.8%). The University's 111 fleet vehicles generated 398 tCO<sub>2</sub> (0.5%) compared to 110 vehicles generating 395 tCO<sub>2</sub> (0.4%) last year.

### Sustainable travel initiatives:

- ▶ repaired 2,750 staff bicycles through the mobile cycle repair scheme
- ▶ held four safe cycling workshops for more than 300 staff and students
- ▶ provided staff pooled bikes for Old Road Campus, the Estates Directorate, Nuffield Department of Medicine and University Offices
- ▶ developed a WebEx web based online meeting service for staff

## Water

The University consumed a total of 398,613m<sup>3</sup> water – a decrease of 0.9% compared to 2008/9 (402,450m<sup>3</sup>). Indirect CO<sub>2</sub> emissions from water accounted for 419 tCO<sub>2</sub>

(0.5% of the University's total CO<sub>2</sub> emissions) – an increase of 29 tCO<sub>2</sub> (6.9%) compared to 2008/9.

## Waste

The University conducted a waste baseline survey, and is currently developing a waste strategy. Annual total non-hazardous waste collected by the University's preferred waste supplier was 1,994 tonnes. Of this, 1,523t went to landfill (compared to 1,794t last year) – a decrease of 271 tonnes (15%); 471t was recycled (compared to 415t last year) – an increase of 56 tonnes (13%). The University reused a total of 2,196 items such as office furniture, laboratory equipment and stationery through the University 'virtual' Swap Shop.

## Sustainable buildings

The University aims to achieve BREEAM\* Excellent rating for all new buildings and major refurbishments over £1 million. To date, four University buildings have rain-water harvesting, increasing to six buildings in 2010/11. A ground source heat pump will be installed in 2010/11 and another by 2011/12. A combined heat and power (CHP) system will be installed in 2010/11.

\*Building Research Establishment Environmental Assessment Method

## Energy

Total energy consumption & CO<sub>2</sub> emissions\*

2008/9	t CO <sub>2</sub>	%	2009/10	t CO <sub>2</sub>	%
Electricity	57,432	66.9	Electricity	59,607	68.0
Gas	16,641	19.4	Gas	16,462	18.8
Oil (heating)	186	0.2	Oil (heating)	152	0.2
Water (indirect)	390	0.5	Water (indirect)	419	0.5
Medium temp hot water (gas)	1,105	1.3	Medium temp hot water (gas)	604	0.7
Heat (gas)	3,775	4.4	Heat (gas)	3,790	4.3
University vehicle fleet	395	0.5	University vehicle fleet	398	0.5
Business air travel	5,826	6.8	Business air travel	6,199	7.0
<b>Total</b>	<b>85,750</b>	<b>100</b>	<b>Total</b>	<b>87,630</b>	<b>100</b>

\*Includes data from the Land Agent and University-owned student accommodation

The University's environmental performance for energy, water, waste and travel from 2008/09 to 2009/10 covers the University only and does not include information relating to Oxford's independent colleges and halls.







# Honorary degrees



**The following honorary degree was conferred on 12 June, the Vice-Chancellor, Professor Andrew Hamilton, presiding:**

## Doctor of Letters

**Henry Reece**  
Former Chief Executive of Oxford University Press and Secretary to the Delegates

*'Outstanding publisher, whose labours have brought us great benefits ...'*

**Dr Reece** took his undergraduate degree at Bristol University, going on to study for a DPhil in Modern History at St John's College, Oxford. He taught briefly at Exeter University before joining Prentice Hall in 1979, then Simon & Schuster (which acquired Prentice Hall in the mid-1980s). Dr Reece moved to Pearson in 1991, taking directorial roles at Pitman Publishing, then Longman Group. In 1995 he became Executive Director of Pearson Professional. He joined Oxford University Press (OUP) as Chief Executive in 1998. During his 11 years of leadership, OUP saw tremendous growth, consolidating its position as the largest university press in the world. The period saw substantial investment in the Oxford English Dictionary, the completion of the new edition of the *Oxford Dictionary of National Biography*, the successful launch of a range of new online initiatives spearheaded by *Oxford Scholarship Online* and an expansion of OUP's global reach. Dr Reece is



an emeritus fellow of Jesus College and an honorary fellow of St John's College.

**The following honorary degrees were conferred at Encaenia on 23 June, the Chancellor, the Rt Hon Lord Patten of Barnes, presiding.**

## Doctor of Civil Law

**Justice Stephen Breyer, AB**  
Associate Justice of the US Supreme Court

*'A profoundly judicious interpreter of the law ...'*

**Justice Breyer**, administrative lawyer and academic, has served as Clerk to Associate Justice Arthur Goldberg of the US Supreme Court; Special Assistant to the Assistant US Attorney General for Antitrust; Assistant Special Prosecutor of the Watergate Special Prosecution Force; and Special Counsel and subsequently Chief Counsel of the US Senate Judiciary Committee. In 1994 he was appointed an Associate Justice of the US Supreme Court by President Bill Clinton. A former Professor at Harvard Law School and the Kennedy School of Government at Harvard, his publications include *Active Liberty: Interpreting Our Democratic Constitution*; *Breaking the Vicious Circle: Toward Effective Risk Regulation and Regulation and its Reform*. His most recent book, *Making Our Democracy Work: A*



*Judge's View*, was published in September 2010. He is an honorary fellow of Magdalen College, where he read Philosophy, Politics and Economics (PPE) as a Marshall Scholar.

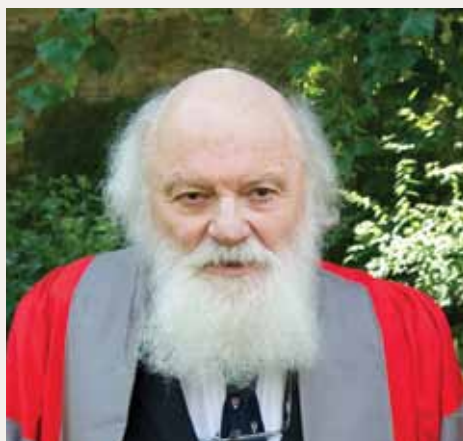
**Lord Sainsbury of Turville, MBA, Hon FRS**

**Former Parliamentary Under-Secretary at the Department of Trade and Industry (Minister for Science and Innovation)**

*'A man equally adept in business and in statecraft ...'*

**Lord Sainsbury** read history and psychology at King's College, Cambridge and has an MBA from Columbia Business School. He joined J Sainsbury plc in 1963 and became, successively, Finance Director, Deputy Chairman and Chairman. He took his seat in the House of Lords in 1997 and the following year was appointed Minister of Science and Innovation in the Department of Trade and Industry, a position he held until 2006. Among his achievements in post were an increase in the funding of basic science; a major boost for knowledge transfer through the establishment of the University Challenge, Science Enterprise Centre and Higher Education Innovation schemes; and a new emphasis on research and development across government, including the introduction of science and innovation strategies and chief scientific advisers in all major government departments. He is an honorary fellow of Nuffield College.

# Honorary degrees



## Doctor of Letters

### **Dame Eileen Atkins, DBE** **Actor**

**'Light and glory of the English stage ...'**

**Dame Eileen Atkins** is one of the UK's leading actors who is known both for her work in the theatre and for roles on the small screen and in film. Her many theatre honours include the Clarence Derwent Award for her performance in Ionesco's *Exit the King* and two Olivier Awards for her performances in *Mountain Language* and in *The Unexpected Man*. She has frequently performed on Broadway, her greatest success being the adaptation of Virginia Woolf's *A Room of One's Own*. Her television credits include the BBC costume drama *Cranford* (for which she won a Bafta and an Emmy in 2008), *Sons and Lovers* and *The Duchess of Malfi*; her films include *The Hours* and *Gosford Park*. Dame Eileen is also a writer, and was the co-creator of the popular television series *Upstairs, Downstairs* and *The House of Eliott*. She has adapted Virginia Woolf's *Mrs Dalloway* for the screen and turned the letters of Vita Sackville-West and Virginia Woolf into a play, *Vita and Virginia*.

### **Professor Geoffrey Hill, FRSL, FAAAS** **Poet and critic**

**'Searcher of the depths, who sees what others have not seen ...'**

**Professor Hill** read English at Keble College, where he is now an honorary fellow. While

still an undergraduate, he published his first collection of poems. Other poems were published during his time at Oxford in *Isis*, *The Oxford Guardian* and *Poetry Oxford*. He has had a distinguished academic career in teaching and as a critic, and is University Professor Emeritus and Professor Emeritus of Literature and Religion at Boston University, Massachusetts, and former Professor of English Literature at the University of Leeds. While at Boston he was, with Christopher Ricks, a founding co-director of the University's Editorial Institute. His work is the subject of study in its own right, and has been the subject of numerous doctoral dissertations. Professor Hill's awards include the Hawthornden Prize, the Geoffrey Faber Memorial Prize, the Whitbread Award for Poetry and the Duff Cooper Memorial Prize. In June he was elected Professor of Poetry at Oxford, a post he took up in October 2010.

### **Professor Sir Ian Kershaw, FBA, FRHS** **Professor Emeritus of Modern History at the University of Sheffield**

**'A great master of both medieval and modern history ...'**

**Sir Ian Kershaw** is widely regarded as the world's leading authority on Nazi Germany. He was an undergraduate at the University of Liverpool and a doctoral student at Merton College, Oxford, of which he is now an honorary fellow.

He began his career as a lecturer first in medieval, then in modern, history at the University of Manchester. In 1987 he was appointed to a Chair at the University of Nottingham before moving two years later to the University of Sheffield, where he was Professor of Modern History until his retirement in 2008. His publications include *Popular Opinion and Political Dissent in the Third Reich: Bavaria, 1933–1945*; *The 'Hitler Myth': Image and Reality in the Third Reich*; and *The Nazi Dictatorship: Problems and Perspectives of Interpretation*, his classic study of the historiography of the Third Reich. His two-volume biography of Hitler, *Hubris and Nemesis*, redefined the study of the dictator and became an international best-seller.

### **Lord Weidenfeld of Chelsea** **Co-founder and Chairman of the publishing firm Weidenfeld & Nicholson**

**'Skilful publisher, who has brought pleasure to countless readers ...'**

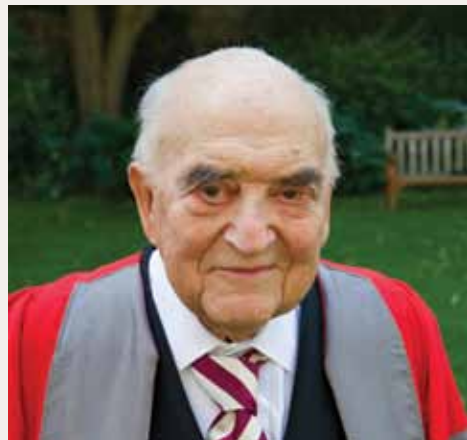
**Lord Weidenfeld** attended the University and the Diplomatic College of Vienna. He moved to England in 1938, becoming a British citizen in 1946. In 1948 he

► Left to right:

Henry Reece, Justice Stephen Breyer, Lord Sainsbury of Turville, Dame Eileen Atkins, Professor Geoffrey Hill and Professor Sir Ian Kershaw



# Honorary degrees



co-founded the publishing firm Weidenfeld & Nicolson. In 1949 he spent a year in Israel as Political Advisor and Chef de Cabinet to President Chaim Weizmann. He is a campaigner for open dialogue across Europe, both through the Europaeum, an association of ten leading European university institutions, including Oxford, and the independent think-tank, the Institute for Strategic Dialogue, of which he is President. In 2007 the Institute and Oxford launched the Weidenfeld Scholarships, which each year support around 25 postgraduate students primarily from Eastern Europe, North Africa, the Middle East and Central Asia. Lord Weidenfeld is the recipient of numerous European honours and was awarded a peerage in 1976. He is an honorary fellow of St Anne's and of St Peter's Colleges.

## Doctor of Science

### Professor Brigitte Askonas, FRS Immunologist

**'A medical scientist of masterly achievement...'**

**Professor Askonas** is a Canadian immunologist celebrated for her work on understanding the molecular basis of lymphocyte-mediated immune responses to proteins and to infectious agents. She worked at the National Institute for Medical Research from 1952 to 1989, latterly as Head of the Division of Immunology, and

continues, in her retirement, to advise scientists at all levels, particularly young researchers, and to take an interest in the development of immunology research in the UK. She has had a profoundly positive influence on immunology at Oxford and actively supports the work of the Weatherall Institute of Molecular Medicine. She has twice served on the Royal Society's Council and was a vice-president of the Society from 1989 to 1990. She is a founding Fellow of the Academy of Medical Sciences; an Honorary Member of the American Society of Immunology, of the Société Française d'Immunologie and of the Deutsche Gesellschaft für Immunologie; and a Foreign Associate of the US National Academy of Sciences.

### Professor Roald Hoffmann, FAAAS, FAPS, FNAS

#### Frank H T Rhodes Professor Emeritus of Humane Letters, Cornell University

**'Most wise master, who has explained chemistry to the layman and given new understanding of it to the experts ...'**

**Professor Hoffmann** was born in Zloczow, then Poland, now in Ukraine. After surviving the Nazi occupation, he left Poland with his family, arriving in the United States in 1949. After graduating from Columbia University with an MA in physics, he read for a doctorate in chemical physics

at Harvard University. In 1965 he went to Cornell University, where he is now Frank H T Rhodes Professor of Humane Letters Emeritus. His research, with Robert B Woodward, on symmetry rules for chemical reactions, led to the development of the 'Woodward Hoffmann Rules', which are accepted as the underpinning theoretical basis of an enormous body of knowledge dealing with organic reaction mechanisms and the structure of molecules. In 1981 he was awarded, jointly with Kenichi Fukui, the Nobel Prize in Chemistry, and his achievements have also been recognised by the award of the National Medal of Science, the National Academy of Sciences Award in the Chemical Sciences, and the Joseph Priestley Medal of the American Chemical Society. He is also a writer, poet and broadcaster.

► Left to right:  
Lord Weidenfeld of Chelsea, Professor Brigitte Askonas and Professor Roald Hoffmann

# Honours and awards

## New Year's Honours

### Three Oxford academics were recognised:

**Professor Valerie Beral**, Professor of Epidemiology and Director of the Cancer Research UK Epidemiology Unit, was made a DBE for services to science.

**Professor Marcus du Sautoy**, Charles Simonyi Professor for the Public Understanding of Science and Professor of Mathematics, was made an OBE for services to science.

**Professor Bob Williams**, Royal Society's Napier Research Professor Emeritus, was made an MBE for services to the community in North Oxford.

## Queen's Birthday Honours

### Four Oxford academics were recognised:

**Professor Fergus Millar, FBA, FSA**, Camden Professor Emeritus of Ancient History, was knighted for services to scholarship.

**Professor David MacDonald**, Professor of Wildlife Conservation and Director of the Wildlife Conservation Research Unit in the Department of Zoology, was made a CBE for services to natural sciences.

**Dr Peter Carey**, emeritus fellow of Trinity College and co-founder of the Cambodia Trust, was made an MBE for services to the rehabilitation of the disabled in South East Asia.

**Dame Valerie Beral**, Professor of Epidemiology and Director of the Cancer Epidemiology Unit, was made a Companion of the Order of Australia in the Australian Queen's Birthday Honours list for 'eminent service to medicine and women's health through significant advances in cancer research and epidemiology, through seminal contributions to public health policy and as a mentor to young scientists'.

## Royal Society

### The achievements of seven Oxford academics have been recognised by the Royal Society.

**Professor Sir David Cox, FRS**, honorary fellow of Nuffield College and Warden 1988–94, was one of two recipients of the Copley Medal. He was awarded the prize for his contributions to the theory and applications of statistics.

**Professor Allen Hill, FRS**, of the Department of Chemistry, was awarded the Royal Medal for his pioneering work on protein electrochemistry, which revolutionised the diagnostic testing of glucose and many other bioelectrochemical assays.

**Professor Carol Robinson, FRS**, Royal Society Professor and Dr Lee's Professor of Chemistry, was awarded the Davy Medal for her ground-breaking and novel use of mass spectrometry for the characterisation of large protein complexes.

**Dr Graeme Segal, FRS**, of the Mathematical Institute, was awarded the Sylvester Medal for his work on the development of topology, geometry and quantum field theory, bridging the gap between physics and pure mathematics.

**Professor Katherine Blundell**, Professor of Astrophysics and University Research Fellow of the Royal Society, won the Rosalind Franklin Award.

**Professor Gil McVean**, University Lecturer in Mathematical Genetics, was selected to give the Francis Crick Lecture.

**Dame Professor Jocelyn Bell Burnell, DBE, FRS, FRAS**, Visiting Professor in Astrophysics, was awarded the Michael Faraday Prize and Lecture in recognition of her excellence in communicating science.

### Four Oxford researchers were elected as new Fellows:

**Philip Candelas**, Rouse-Ball Professor of Mathematics at the Mathematical Institute.

**Georg Gottlob**, Professor of Computing Science.

**Robert C Griffiths**, Professor of Mathematical Genetics.

**Ian Hickson**, Professor of Molecular Oncology at the Weatherall Institute of Molecular Medicine.

## British Academy

### Eight Oxford academics were elected as new Fellows:

**Eric Clarke**, Heather Professor of Music.

**Professor Robert Gildea**, Professor of Modern History.

**Professor Cecilia Heyes**, Senior Research Fellow in Theoretical Life Sciences at All Souls College and in the Department of Experimental Psychology.

**Terence Irwin**, Professor of Ancient Philosophy in the Faculty of Philosophy.

**Aditi Lahiri**, Professor of Linguistics.

**Professor Emilie Savage-Smith** of the Faculty of Oriental Studies and Senior Research Consultant of the Bodleian Library.

**Michael Sheringham**, Marshal Foch Professor of French Literature.

**Roland Smith**, Lincoln Professor of Classical Archaeology and Art.

## American Academy

**The Vice-Chancellor, Professor Andrew Hamilton**, was elected to join the American Academy of Arts & Sciences, one of America's most prestigious honorary societies. Professor Hamilton was elected as a Foreign Honorary Member for his work in chemistry.

## Sheldon Medal

In March **Michael Moritz** and **Harriet Heyman** were awarded the prestigious Sheldon Medal – the University's highest level of recognition for philanthropy – for their £25 million gift to Christ Church. The couple's donation is the largest financial gift in the college's history and among the largest ever by an alumnus to an Oxford college.

## Chancellor's Court of Benefactors

In Michaelmas term 2009, seven new members were admitted to the Court in recognition of their generosity to the collegiate University. The benefactors admitted were: **Graham Sharp**, Founder of the Helsington Foundation; **Martin Smith**, Founder and Partner of Oxford-based Beaumont Partners; **Dr Elise Becket Smith**, an arts administrator in the classical music world; **Dr Lawrence Tseu**, a well-respected Hawaii dentist; **Dr Catherine Wills**, Trustee of the Dulverton Trust, as the representative of the Dulverton Trust; **Christopher Lintott**, partner of Penningtons Solicitors LLP, as the representative of the City Solicitors' Educational Trust; and **Peter Mather**, Head of Country, UK and vice-president, Europe Region at BP, as the representative for BP.

In addition, eight members were honoured with the new Chancellor's Court of Benefactors Fellowship as a result of their exceptional support for the University. The new CCB Fellows are: **Dr James Martin**; **Mr Paul Ramsbottom**, representing the Wolfson Foundation; **Mr Wafic Rida Saïd** and **Mrs Rosemary Saïd**; **Lord Sainsbury of Preston Candover** and **Lady Sainsbury**, representing the Linbury Trust; **Dame Stephanie Shirley**, representing the Shirley Foundation; and **Mr Guy Weston**, representing the Garfield Weston Foundation.



# New Heads of house



## Linacre College

**Dr Nick Brown**, lecturer in Plant Sciences and a fellow and senior tutor at Linacre, took up the office as Principal of the college on 1 October. Dr Brown's research interests range from the microscopic and local to international policy concerns. He is currently working with the Woodland Trust to assess changes in woodland cover in the UK and is also investigating the best methods for restoring ancient semi-natural woodland. He works with the United Nations Environment Programme (UNEP) Post Conflict Assessment Unit to investigate the environmental impacts of conflicts and pre-existing chronic environmental problems. This work has taken him to countries such as Iraq and Rwanda, and he was also a member of a UN taskforce investigating the environmental impacts of the Boxing Day 2004 tsunami in the Maldives. He is also keen to promote public understanding and engagement with science, and has often featured on BBC Radio 4's *Home Planet*.

## Corpus Christi College

**Professor Richard Carwardine, FBA**, Rhodes Professor of American History at Oxford and Fellow of St Catherine's College, took up office as President of Corpus Christi on 1 January 2010. Professor Carwardine read Modern History at Corpus between 1965 and 1968, and obtained his DPhil at The Queen's College, Oxford. Prior to



his appointment as Rhodes Professor, he was Professor of History at Sheffield University. Professor Carwardine specialises in nineteenth-century American history.

His biography of Abraham Lincoln won him the prestigious Lincoln Prize (awarded annually since 1991 for the best non-fiction historical work on the American Civil War). He is now working on a study of religion in American national construction between the Revolution and the Civil War. In 2006 he was elected a Fellow of the British Academy.

## St Peter's College

**Mark Damazer**, Controller of BBC Radio 4 and Radio 7, took up office as Master of St Peter's College on 1 October 2010. Mr Damazer was appointed to his role with the BBC in 2004, having been Deputy Director of BBC News since 2001. He was previously Assistant Chief Executive of the News Division and, before that, he was Head of Political Programmes, responsible for the BBC's news and current affairs journalism from Westminster. Mr Damazer took his first degree at Cambridge, where he obtained a Double Starred First in History. Following this, he was awarded a Harkness Fellowship at Harvard University. He is a Board Member of the Institute of Contemporary British History, a former Vice-Chair of the International Press Institute Executive Board, and a Fellow of the Radio Academy.



## Keble College

**Sir Jonathan Phillips, KCB**, formerly Permanent Secretary at the Northern Ireland Office, took up office as Warden of Keble on 1 October 2010. Sir Jonathan comes to Oxford following a career in Whitehall which spanned many aspects of public policy. After 25 years working mainly in economics departments, he moved, in 2002, to the Northern Ireland Office as its political director. He has supported two prime ministers and four secretaries of state in the Northern Ireland political process and was appointed Permanent Secretary in 2005. He left that role after the successful devolution of policing and justice powers to the Northern Ireland Executive in June 2010. Sir Jonathan was educated at Queen Mary's Grammar School in Walsall. His was the first generation in his family to go to university – he read history at St John's College, Cambridge, after which he completed a doctoral thesis on the campaign for government funding of Catholic higher education in Ireland in the late nineteenth century – one of the elements of the Irish home rule question.

## Merton College

**Professor Sir Martin Taylor, FRS**, Professor of Pure Mathematics at the University of Manchester and past Vice-President and Physical Secretary of the Royal Society, took up office as Warden of Merton College on 2 October 2010. Professor

# New Heads of house



Taylor was a professor of pure mathematics at Manchester since he moved from Trinity College, Cambridge, in 1986. Most recently his research has led him to study various aspects of arithmetic geometry: in particular, he and his collaborators have demonstrated how geometric properties of zeros of integral polynomials in many variables can be determined by the behaviour associated L-functions. Professor Taylor read Mathematics at Pembroke College, Oxford before gaining a PhD at King's College London. In 1982 he was awarded the London Mathematical Society's Whitehead Prize and the Adams prize (shared) in 1983. He became President of the London Mathematical Society in 1998, and in the same year was given an EPSRC Senior Fellowship. In 2003 he received a Royal Society Wolfson Merit award and became Chairman of the International Review of Mathematics (Steering group).

## Somerville College

**Dr Alice Prochaska, FRHists**, University Librarian at Yale, took up office as Principal of Somerville College on 1 September 2010. Dr Prochaska received both her BA and her DPhil in Modern History from Oxford, where she studied at Somerville. She has pursued an extensive career in research and academic administration, from museums and the National Archives and the University of London's Institute

of Historical Research, to Director of Special Collections at the British Library. Dr Prochaska has chaired the Rare Books and Manuscripts Standing Committee of the International Federation of Library Associations, the National Council on Archives, and the Board of the Center for Research Libraries, and recently became Chair of the Winston Churchill Archives Trust. Her research interests include the history of trade unions in Britain and sources for modern British, American and Irish history. Her current special interest is in the stewardship of primary sources and international collections, and the history and ethics of cultural restitution.

## Green Templeton College

**Sir David Watson**, Professor of Higher Education Management at the Institute of Education, University of London, took up office as Principal of Green Templeton College on 1 October 2010. He has contributed widely to developments in UK higher education, including as a member of the Committee of Inquiry chaired by Lord Dearing in 1996–7. More recently Sir David chaired the Commission of Inquiry into the Future for Lifelong Learning, which reported in September 2009. He was Vice-Chancellor of the University of Brighton (formerly Brighton Polytechnic) between 1990 and 2005. His academic interests are in the history of American ideas and in higher education policy

and he has written numerous books, including *Managing Strategy* (2000), *Higher Education and the Lifecourse* (2003), *Managing Institutional Self-Study* (2005) and *The Question of Morale* (2009). He is currently a trustee of the Nuffield Foundation and President of the Society for Research into Higher Education. In 2008 he was awarded a National Teaching Fellowship.



► Left to right:

Dr Nick Brown, Professor Richard Carwardine, Mark Damazer, Sir Jonathan Phillips, Professor Sir Martin Taylor, Dr Alice Prochaska and Sir David Watson



# New appointments



## Administrative and academic Academic Year 2009–10

### Director of Continuing Professional Development

**Dr Adrian Stokes**, Director of Masters Programmes and Continuing Professional Development at Warwick Medical School, took up the post of Director of Continuing Professional Development on 1 March and became a fellow of Kellogg College.

## Academic Year 2010–11

### Registrar

**Ewan McKendrick**, Pro-Vice-Chancellor (Education, Academic Services and University Collections) and Herbert Smith Professor of English Private Law at Oxford was appointed Registrar with effect from 1 January 2011.

### Pro-Vice-Chancellor

**Nicholas Rawlins**, Watts Professor of Psychology and Associate Head of Medical Sciences Division (Education) at Oxford, took up the post of Pro-Vice-Chancellor (Development and External Affairs) on 1 October.

### Saïd Business School

**Peter Tufano**, Sylvan C Coleman Professor of Financial Management at Harvard Business School, was appointed Dean of the Saïd Business School with effect from 1 July.

## Professors

### Academic Year 2009–10

#### Paediatrics

**Georg Hollander**, Full Professor of Molecular

Medicine in Paediatrics at Basel University, Switzerland, Head of Research at Basel University Children's Hospital and Visiting Professor at the University of Tokushima, Japan, took up the post of Professor of Paediatrics on 1 September and became a fellow of Jesus College.

#### Mathematics

**L Mahadevan**, Lola England De Valpine Professor of Applied Mathematics at Harvard University, was appointed Schlumberger Visiting Professor of Mathematics for three years from 1 February 2010.

#### Energy Materials

**Dr James Marrow**, Reader in Physical Metallurgy and Director of the Materials Performance Centre at Manchester University, took up the James Martin Professorship of Energy Materials on 1 September and became a fellow of Mansfield College.

## Academic Year 2010–11

#### Fine Art

**Zainab Bahrani**, Edith Porada Professor of Ancient Near Eastern Art and Archaeology at Columbia University, New York, was appointed Slade Visiting Professor of Fine Art. The post is associated with All Souls College.

#### Biomedical Engineering

**Constantin Coussios**, Bellhouse Foundation Lecturer in Biomedical Engineering at Oxford, was appointed Professor of Biomedical Engineering and became a fellow of Magdalen College on 1 January.

#### Political Economy

**Vincent Crawford**, Distinguished Professor

of Economics at the University of California, San Diego, was appointed Drummond Professor of Political Economy and a fellow of St Anne's College, with effect from 1 January.

#### Media

**Matthew Engel**, a columnist for the *Financial Times*, was appointed the News International Visiting Professor of Media and a visiting fellow of Green College.

### George Eastman Visiting Professor

**Edward Fisher**, Leon H Charney Professor of Cardiovascular Medicine at New York University School of Medicine, was appointed George Eastman Visiting Professor and a fellow of Balliol College.

### Newton-Abraham Visiting Professor

**Anthony Green**, Professor of Haemato-Oncology at the University of Cambridge and Honorary Consultant Haematologist at Addenbrooke's Hospital was appointed Newton-Abraham Visiting Professor and a visiting fellow of Lincoln College for the period from 1 April to 30 September 2011.

#### Mathematical Modelling

**Alain Goriely**, Mathematics Professor at the University of Arizona, Tucson, was appointed Professor of Mathematical Modelling and a fellow of St Catherine's College, with effect from 4 January.

#### English Literature

**Laura Marcus**, Regius Professor of Rhetoric and English Literature at the University of Edinburgh, was appointed Goldsmiths' Professor of English Literature and a fellow of New College, with effect from 4 January.

# New appointments



## Materials Modelling

**Nicola Marzari**, Associate Professor of Computational Materials Science at the Massachusetts Institute of Technology, Cambridge, was appointed Professor of Materials Modelling and a fellow of St Anne's College, with effect from 1 February.

## Contemporary Theatre

**Trevor Nunn**, theatre and film director, was appointed Cameron Mackintosh Visiting Professor of Contemporary Theatre. The post is based at St Catherine's College.

## German Language and Literature

**Ritchie Robertson**, Professor of German at Oxford, was appointed Taylor Professor of the German Language and Literature and a fellow of The Queen's College, with effect from 1 October.

## Internet Governance and Regulation

**Viktor Mayer-Schoenberger**, Director and Associate Professor of Public Policy, Information and Innovation Policy Research Centre at the National University of Singapore, was appointed Professor of Internet Governance and Regulation and a fellow of Keble College, with effect from 1 October.

## Entrepreneurship and Innovation

**Linda Scott**, Professor of Marketing at Oxford, was appointed Dubai Ports World Professor of Entrepreneurship and Innovation and a fellow of Green Templeton College, with effect from 1 October.

## American History

**Ian Tyrrell**, Scientia Professor of History



at the University of New South Wales, was appointed Harold Vyvyan Harmsworth Visiting Professor of American History and a fellow of The Queen's College.

## Operations Management

**David Upton**, Albert J Weatherhead III Professor of Business Administration at Harvard Business School, was appointed American Standard Companies Professor of Operations Management and a Student of Christ Church, with effect from 4 January.

## Social and Political Theory

**Jeremy Waldron**, University Professor at New York University Law School, was appointed Chichele Professor of Social and Political Theory and a fellow of All Souls College, with effect from 1 October. He has been appointed initially on a 50 per cent basis, while retaining his association with the New York University Law School.

## American Government

**Joseph White**, Professor of Political Science and Director of the Center for Policy Studies at Case Western Reserve University, USA was appointed Winant Visiting Professor in American Government and a fellow of Balliol College for the period from 27 September to 11 December 2010.

## Biodiversity

**Katherine Willis**, Professorial Research Fellow at Oxford's School of Geography and the Environment and Professor II at the Biological Institute, University of Bergen, Norway, was appointed Tasso Leventis Professor of Biodiversity and a fellow of



Merton College, with effect from 1 October.

## History of Ideas

**Kenneth Winkler**, Professor of Philosophy at Yale University, was appointed Isaiah Berlin Visiting Professor in the History of Ideas. The post is associated with a visiting fellowship at Corpus Christi College.

## American Government

**Alan Wolfe**, Professor of Political Science, Boston College and Director of the Boisi Center for Religion and American Public Life, was appointed Winant Visiting Professor in American Government and a fellow of Balliol College for the period from 14 January to 26 June 2011.

## American Government

**Shira Wolosky**, Professor of English and American Literature, the Hebrew University of Jerusalem, was appointed Drue Heinz Visiting Professor of American Literature for the Hilary term.

## European and Comparative Literature

**James Wood**, Professor of the Practice of Literary Criticism at Harvard University, was appointed Weidenfeld Visiting Professor in European and Comparative Literature. He will be resident at St Anne's College throughout May.

► Left to right:

Ewan McKendrick, Nicholas Rawlins, Laura Marcus, Ritchie Robertson, Nicola Marzari and Katherine Willis



# Financial review

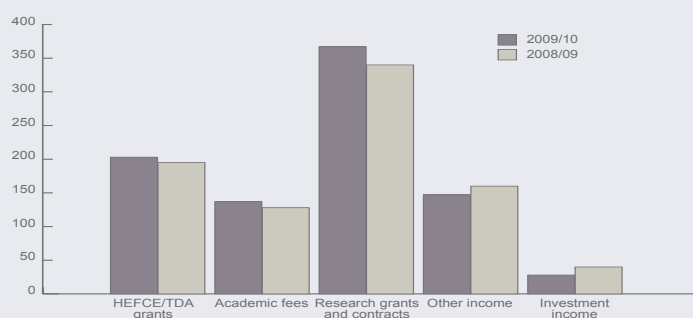
## Planning and finance

The University generated a surplus of £6.2 million (2008/09 £1.2 million). The small increase in the surplus was mainly because 2008/09 contained a number of one-off gains and losses, notably the £14.7 million impairment of Icelandic bank deposits that was partly offset by one-off investment gains and endowment reclassifications.

	2009/10 £'m	2008/09 £'m
Income	880	863
Expenditure	(885)	(852)
Impairment of Icelandic bank deposits	–	(15)
(Deficit) before donation of heritage assets	(5)	(4)
Donation of heritage assets & minority interests	–	1
Transfer from expendable endowments	11	4
Surplus for the year retained within general reserves	6	1

## Year-on-year income

Total income increased by 2.0% to £880 million (2008/09: £863 million)

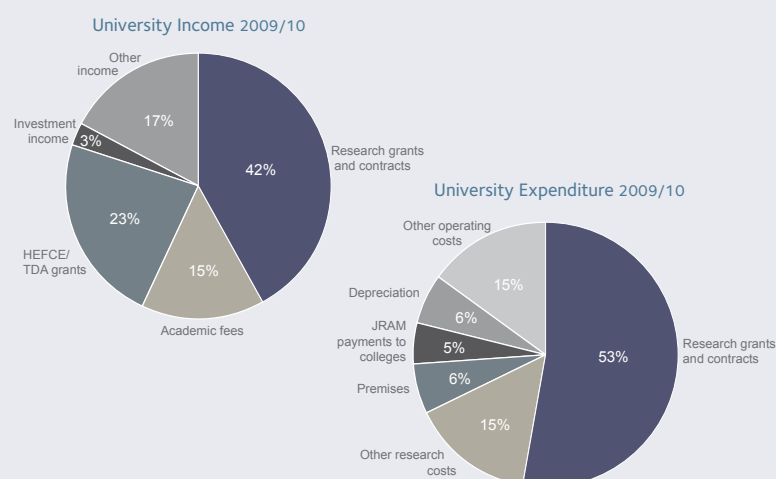


Research grants and contracts continue to be the largest source of income to the University, most of which was matched by related expenditure and increased by 7.8% to £367 million.

Grants from the Higher Education Funding Council for England (HEFCE) represent the second largest source of University income and amounted to £203 million, up by 3.9%.

Academic fees and support grants amounted to £137 million, up by 11.9% as a result of increased student numbers and revisions to fees charged for some courses.

Endowment and investment income decreased by 32.6% to £25 million. The 2008/09 figure of £37 million included a one-off investment gain arising from the sale of University-owned investments as part of the ongoing change in investment allocation strategy. Compared with 2008/09, the level of interest income is also reduced primarily as a result of lower average rates of interest.



Total expenditure increased by 2.0% to £885 million (2008/09: £867 million). The 2008/09 figure includes £15 million relating to the impairment of Icelandic bank deposits (2009/10: £0 million).

Staff costs increased by 7.2% to £469 million (2008/09: £438 million) and were equivalent to 53.0% of total expenditure (2008/09: 50.5%). This increase resulted from an annual negotiated pay settlement of 0.5% in October 2009, annual promotional salary increments, early retirement charges, an increase in the pension charge and an increase in staff numbers. The increase in staff numbers and costs is driven partly by the increase in research activity and is therefore matched by higher research income.

Other operating expenses amounted to £360 million, a decrease of 2.1%. Major factors explaining the decrease include a reduction in energy prices and lower revenue expenditure on capital projects.

Depreciation has increased from £44 million in 2008/09 to £52 million in 2009/10, due to the addition of new buildings, the largest of which is the newly refurbished Ashmolean Museum, opened in November 2009, and new equipment.

## Icelandic bank deposits

In autumn 2008, a number of Icelandic banks went into administration, including three with which the University held deposits. The University currently has £26 million of fixed-term deposits with these banks and debtors include a further £3 million of accrued interest in relation to these deposits. The University is working together with other affected bodies to recover these amounts. The financial statements for the year ended 31 July 2009 included an impairment of £15 million relating to the Icelandic bank deposits. The amount ultimately to be recovered remains uncertain and to a large extent will be determined by the outcome of legal action now being taken in Iceland.

## Cashflow

The net cash outflow, before use of liquid resources and financing for the year, was £17 million and compares with an outflow of £52 million in the previous year. The net cash outflow is largely the result of a switch from current asset investments to fixed asset investments as the University places more of its investments into the new Oxford Capital Fund.

## Balance sheet

	31/07/10 £'m	31/07/09 £'m
Fixed asset	1,275	1,129
Endowment assets	629	585
Net other liabilities	(103)	(100)
Net assets	1,801	1,614

The balance sheet shows an increase in net assets of 11.6%, from £1,614 million to £1,801 million. Fixed asset cost (including heritage assets and fixed asset investments) increased by £146 million, reflecting the continued building programme to support the University's expanding research base and an increase in longer-term fixed asset investments in the Oxford Capital Fund. Significant capital expenditure was incurred on a number of projects in 2009/10, including the completion of the new £27 million book storage facility at Swindon and demolition and site clearance was completed at the Radcliffe Observatory Quarter, where site infrastructure works have now commenced. In December 2009, Her Majesty The Queen officially opened the new Ashmolean Museum following a major multi-million pound refurbishment.

Endowment funds increased in total value from £585 million to £629 million as a result of stronger equity markets. New funds invested during the year amounted to £18 million.

# External research funding

For the range, intensity and quality of its research and the scale of its cross-disciplinary work and collaboration, the University of Oxford has few peers anywhere worldwide. Much of this activity and its impact in intellectual, social, cultural and economic terms, depends on external funding. During 2008/9 (the most recent reporting period for which the Higher Education Statistics Agency has published financial results across the UK sector) Oxford secured more external funding than any other UK university. In 2009/10, its external research income stood at £367 million, representing an increase of 8% on the previous financial year.

In addition to this £367 million funding from external sources, the Higher Education Funding Council for England (HEFCE) provides an additional block grant for research to support research infrastructure, including the salaries of permanent academic staff, premises, libraries and central computing costs. Overall funding for research received from HEFCE in 2009/10 totalled £119 million, the largest component of which was allocated by HEFCE on the basis of Oxford's outstanding results in the 2008 Research Assessment Exercise (RAE).

The UK charity sector and the UK Research Councils are the largest sources of competitive research funding to Oxford. The scale and diversity of charity funding for research not only at Oxford but also at many UK universities is a very special feature of the national landscape. Support comes from across the UK charity sector, from the largest funders, such as the Wellcome Trust, Cancer Research UK, British Heart Foundation and the Leverhulme Trust, as well as a large number of smaller charities whose support is equally important and valued. The University greatly appreciates this aspect of the charities' work and the generous support provided by their donors, volunteers and staff.

Research funding from overseas, especially from the European Commission and various public and charitable agencies in the USA, continues to grow very strongly, marking a continued diversification of Oxford's research funding profile.

Oxford also receives significant research funding from business and from government departments (often to support collaborative research).

It is this external funding for research, major programmes, projects, fellowships, studentships, travel, equipment and more which is so important in facilitating world-class research at Oxford and its application for public benefit.

The University would like to acknowledge warmly not only these organisations, but also all those external parties that provide research funding to the University.

## Oxford's research funding 2009/10

Research Councils	£112.9m
UK Charity	£112.7m
UK Industry	£14.1m
European Commission & other EU Government Bodies	£24.4m
UK Government & Health Authorities	£38.1m
Other UK and Overseas Sources	£64.8m
<b>Total External Research Funding</b>	<b>£367.0m</b>
HEFCE Research Funding	£119.4m
<b>Total Funding for Research</b>	<b>£486.4m</b>

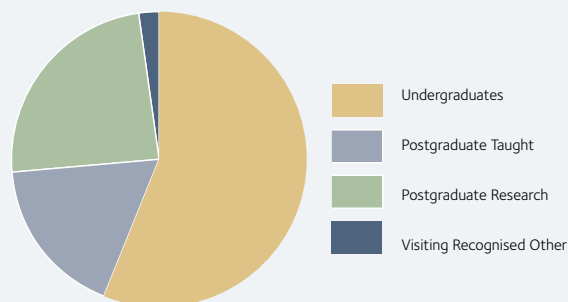


# Appendices

## Student numbers 2009/10

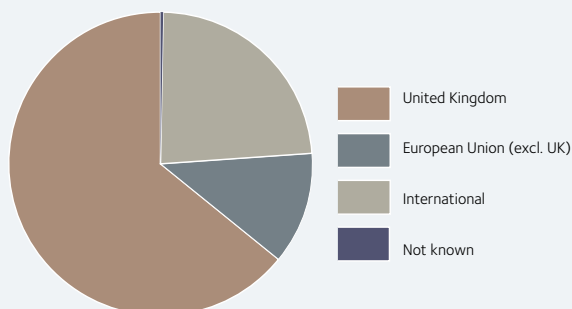
### 1. Total students

	UNDERGRADUATES	POSTGRADUATE TAUGHT	POSTGRADUATE RESEARCH	VISITING RECOGNISED OTHER	TOTAL
Men	6,269	2,041	2,921	207	11,438
Women	5,497	1,647	2,092	254	9,490
Total	11,766	3,688	5,013	461	20,928



### 2. Students by nationality

	UNDERGRADUATES	POSTGRADUATE TAUGHT	POSTGRADUATE RESEARCH	VISITING RECOGNISED OTHER	TOTAL
United Kingdom	10,051	1,392	1,970	10	13,423
European Union (excl. UK)	731	719	1,020	48	2,518
International	978	1,562	2,013	399	4,952
Not known	6	15	10	4	35
Total	11,766	3,688	5,013	461	20,928



Students come to Oxford from 145 countries and territories, creating a vibrant and diverse student community. The largest groups of international students come from:

	UNDERGRADUATES	POSTGRADUATE TAUGHT	POSTGRADUATE RESEARCH	VISITING RECOGNISED OTHER	TOTAL
USA	122	489	466	320	1,397
China and Hong Kong	294	167	252	19	732
Germany	196	206	268	25	695
Canada	39	132	196	11	378
India	55	141	120	4	320
Australia	33	83	143	2	261
Italy	35	64	108	3	210
Ireland	79	54	61	-	194
France	67	49	68	8	192
Singapore	94	39	27	3	163
Poland	73	41	41	1	156
Greece	20	35	95	1	151
South Korea	53	27	48	4	132
Malaysia	47	19	64	1	131
Netherlands	27	47	40	2	116
South Africa	6	47	63	-	116

# Appendices

## 3. Undergraduates

1. Ancient and Modern History	54
2. Archaeology and Anthropology	63
3. Biochemistry, Molecular and Cellular	357
4. Biological Sciences	318
5. Chemistry	715
6. Classical Archaeology and Ancient History	60
7. Classics and English	26
8. Classics and Modern Languages	37
9. Classics and Oriental Studies	10
10. Computer Science	74
11. Economics and Management	263
12. Engineering and Computer Science	4
13. Engineering, Economics and Management	73
14. Engineering Science	554
15. English	724
16. English and Modern Languages	95
17. European and Middle Eastern Languages	42
18. Experimental Psychology	160
19. Fine Art	62
20. Geography	249
21. Geology/Earth Sciences	118
22. History	720
23. History and Economics	27
24. History and English	22
25. History and Modern Languages	67
26. History and Politics	143
27. History of Art	34
28. Human Sciences	99
29. Jurisprudence	563
30. Jurisprudence with Law in Europe	124
31. Literae Humaniores	445
32. Materials, Economics and Management	13
33. Materials Science	100
34. Mathematics	599
35. Mathematics and Computer Science	71
36. Mathematics and Philosophy	79
37. Mathematics and Statistics	111
38. Medicine (Pre-clinical, Clinical & Graduate Entry)	966
39. Modern Languages	693
40. Modern Languages and Linguistics	75
41. Music	201
42. Oriental Studies	160
43. Philosophy and Modern Languages	72
44. Philosophy, Politics and Economics	727
45. Philosophy and Theology	81
46. Physics	615
47. Physics and Philosophy	55
48. Physiological Sciences	73
49. Psychology, Philosophy and Physiology	99
50. Theology	150
51. Continuing Education Certificates and Diplomas	413
52. Certificate in Theology/Bachelor in Theology	111
<b>Total</b>	<b>11,766</b>

## 4. Postgraduates

	POSTGRADUATE TAUGHT	POSTGRADUATE RESEARCH	TOTAL
Medical Sciences	202	1,008	1,210
Social Sciences	1,894	1,187	3,081
Mathematical, Physical & Life Sciences	185	1,764	1,949
Humanities	698	1,003	1,701
Continuing Education	709	51	760
<b>Total</b>	<b>3,688</b>	<b>5,013</b>	<b>8,701</b>



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