

# The University of Edinburgh

Annual Review **2006/2007**



2006/07

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## Our Mission

The University's mission is the advancement and dissemination of knowledge and understanding. As a leading international centre of academic excellence, the University has as its core mission:

- to sustain and develop its position as a research and teaching institution of the highest international quality and to benchmark its performance against world-class standards;
- to provide an outstanding educational environment, supporting study across a broad range of academic disciplines and serving the major professions;
- to produce graduates equipped for high personal and professional achievement; and
- to contribute to society promoting health, economic and cultural wellbeing.

As a great civic university, Edinburgh especially values its intellectual and economic relationship with the Scottish community that forms its base and provides the foundation from which it will continue to look to the widest international horizons, enriching both itself and Scotland.

“The University has again experienced excellent demand for student places from the highest quality applicants.”

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## Principal's Foreword



Last year saw an extraordinary range of achievements by students, alumni and staff. These achievements, together with the invaluable support of our partners and friends, enable the University to continue to go from strength to strength. This success is reflected in the Financial Review (pages 24 and 25), which shows solid growth aligned directly with our mission. The 50 per cent increase in external research funding to £210 million is a clear reflection of the high quality of our academic staff.

The University has again experienced excellent demand for student places from the highest quality applicants. As last year, we did not need to enter the UK Clearing system for any of our 600 undergraduate programmes. The growth in student demand from around the world can be seen in the statistics on pages 32 and 33.

Our international standing is also well demonstrated by those who accepted honorary degrees over the past year (see pages 26 and 27). It was an honour for me to cap such distinguished individuals as the President of the European Commission, José Manuel Barroso, President Mary McAleese of Ireland, the Chair of Microsoft, Bill Gates, and Professor Zhong Nanshan who first identified the SARS virus.

The eight articles that begin on page 4 can only be representative of the tremendous diversity of activity that our community of almost 8,000 staff and some 25,000 students is engaged in.

The University's massive strength in medical and scientific research is demonstrated by articles describing Professor Keith Fox's research on heart disease and Professor Tony Nash's work on infectious diseases. Together with their many colleagues they are having a worldwide impact. As a computer scientist I was especially delighted by the success of Vice-Principal Richard Kenway and Professor Arthur Trew in securing HECToR, the UK's most important high-end research computing facility.

Our strong world position in supercomputing goes back some 30 years but the next article describes the great celebrations of 300 years of the Regius Chair of Public Law and the Law of Nature and Nations. These were accompanied by inspiring philanthropic support from alumni and staff, focussed on scholarships and bursaries for students of law. I also had the recent privilege of meeting law graduates Euan and Donald MacDonald who are showing great leadership and vision through their contribution to the creation of the Euan MacDonald Centre for Motor Neurone Disease Research (see page 8).

A university of the scale of Edinburgh contains many surprises. Among those I enjoyed this year was being taken on a tour of the Virtual University of Edinburgh by Professor Austin Tate, and accepting a wonderful gift of 800 clarinets from the trustees of the late Sir Nicholas Shackleton. The support given through benefactions and other grants is listed on pages 34 to 35. This support is really critical in helping students in need and in underpinning vital research. I want to thank most warmly all of those listed on those pages and indeed all of our many other supporters.

The final article in this year's *Review* describes the University's continuing success in commercialising research and focuses on the spin-out company MTEM. I had the great pleasure of seeing the excitement of the team of students and academics as they realised just how very successful they were.

The articles and statistics in this publication demonstrate the talents and achievements of our students and my colleagues and I do hope you will enjoy reading it as much as I did.

**Professor Timothy O'Shea BSc, PhD, FRSE**

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## Bigger, Faster, Stronger: HECToR Revolutionises Research

One of the most powerful computing systems in the world has been installed at the University of Edinburgh.

The University's Edinburgh Parallel Computing Centre (EPCC) has been chosen to house, manage and direct a £113 million computing facility, known as HECToR (High End Computing Terascale Resource). HECToR will provide UK scientists with the means to undertake increasingly complex research across a wide variety of fields from aeronautics and cosmology to medicine, meteorology and nanoscience.

Composed of some 60 cabinets, each about the size of a wardrobe, and measuring 2,000 square feet, HECToR contains 11,384 microprocessors, making it the largest supercomputer in the UK and one of the top 12 fastest in the world. Cray UK Ltd, a wholly owned subsidiary of Seattle-based Cray, is the organisation behind the machine, and it plans to upgrade its capability in 2009, with a further upgrade scheduled for two years later.

"HECToR is big, HECToR is fast and HECToR can multitask," says Professor Arthur Trew, Director of EPCC. "The microprocessors have to be physically close to communicate quickly enough with each other to make the computations useful. For the kind of work HECToR will undertake the World Wide Web is far, far too slow."

The research HECToR is expected to perform throughout its six-year operation will range from the macro to the micro: from modelling the way the universe develops and simulating climate change to mimicking the action of the heart and exploring science and technology at a microscopic level.

"Traditionally, progress in science has been made through theory and experiment, but an increasing range of subjects, because of their size, speed or complexity, now have to be simulated computationally," explains Professor Trew.

"You cannot, for example, experiment with the universe in order to test the Big Bang Theory or to explore the nature of dark matter and dark energy. But you can simulate a model of the universe and compare that model to the universe we know. The closer our model fits and the more accurate it becomes, the closer we are to understanding our universe.

"Similarly, climate change is far too big and happens over too long a period of time to experiment with. Also, your experiment might be non-reversible. So, you need to simulate."

*"HECToR is the leading national facility in the UK and will enable scientists to open new doors of research."*

Computation simulation was pioneered at the University of Edinburgh more than 20 years ago, so it is fitting that HECToR has found a home here and confirms Edinburgh as a leading centre of computational science in the UK – one that is comparable with the University of California in San Diego or the National Center for Supercomputing Applications (NCSA) at the University of Illinois.

EPCC has a number of different functions covering both research and development and work with industry. Its mission is to accelerate the effective exploitation of novel computing solutions throughout academia, industry and commerce. Today, it is the leading computational science technology transfer centre in Europe having more

than 100 clients ranging from large companies like IBM and Microsoft to local businesses.

"EPCC leads in technical transfer activities into business and commercial development. Working with business is an important aspect of what we do," says Professor Trew.

"We receive strong support from Scottish Enterprise and with the arrival of HECToR we hope to take this relationship on to a new level to impact on the Scottish and local economies."

As an example of how HECToR might be used to develop new materials or processes, Professor Trew points to how the efficiency and safety of aircraft could be improved by simulating the way air interacts with aircraft wings or by replicating how the engines function in order to make combustion more effective.

The Engineering and Physical Sciences Research Council (EPSRC), the UK's main agency for funding research in engineering and the physical sciences, managed the procurement of HECToR and is acting as managing agent for the project.

"We see the investment as the next step in providing a leading edge, high-end computing structure for UK-based scientists," says Jane Nicholson, Head of High-End Computing and Core e-Science Programmes at EPSRC. "HECToR is the leading national facility in the UK contributing to important research problems and will enable scientists to open new doors of research over the next six years."

Professor Trew summarises HECToR's effectiveness: "There are six billion people on Earth. HECToR can do 10,000 calculations per second for every one of those people. Not only that, but when it's upgraded in 2009, it will be four times as powerful as this."

Professor Arthur Trew,  
Director of EPCC



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## Celebrating 300 Years of Legal History

In 2007 the University of Edinburgh School of Law celebrated a very significant anniversary – the tercentenary of its first Chair in law, the Regius Chair of Public Law and the Law of Nature and Nations, marking 300 years of distinguished legal scholarship and education.

Professor Bill Gilmore, former Head of the School and now Director of External Relations, says: “As the largest law school in Scotland and one of the leading law schools in Europe, Edinburgh has produced more of Scotland’s judges and senior advocates than any other institution.

“In recent years this would include some 30 Law Lords and 90 Sheriffs. It also has a remarkable tradition of involvement in public policy making and law reform and has produced a huge number of distinguished public servants and eminent figures of public life in Scotland and beyond.”

Among its alumni are many notable names in history, including Sir Walter Scott, Robert Louis Stevenson, David Hume, James Boswell, Thomas Carlyle, Henry (Lord) Cockburn and Francis Jeffrey.

More recent alumni include Douglas Alexander, Secretary of State for International Development; Kenny MacAskill, Scottish Cabinet Secretary for Justice; The Right Hon Lord Gill, Lord Justice Clerk; Neil MacGregor, Director of the British Museum; Professor Alexander McCall Smith, medical law expert and novelist; and Richard Kean QC, the QC for Henri Paul at the inquest into the death of Diana, Princess of Wales.

The Tercentenary celebrations drew a number of international figures of public life to Edinburgh, notably Irish President Mary McAleese, Justice Albie Sachs of the Constitutional Court of South Africa, and The Right Hon Lord Gill, Lord Justice Clerk, who received honorary degrees in February; Professor Alexander McCall Smith, who was awarded his honorary degree in June; and Antonin Scalia, Associate Justice of the Supreme Court of the United States, who delivered the

Public Law Tercentenary Lecture in December, one of nine Tercentenary Lectures delivered at the University by distinguished legal experts.

An alumni weekend welcomed 300 of the School’s 7,000 graduates worldwide back to the city for the largest alumni event in the School’s history. A similar number attended a House of Lords reception in October while law graduates on the continent were welcomed to a European reception in Brussels.

*“Edinburgh has produced more of Scotland’s judges and senior advocates than any other institution.”*

The Tercentenary Appeal, generously supported by alumni, raised a remarkable £1 million to enhance the continuing standards of excellence at the School in order to meet the needs of the 21st century.

“In historical terms the Appeal was enormously successful. Nothing in 300 years has come close to this,” says Professor Gilmore.

Funds raised are going towards new scholarships and bursaries to ensure the brightest students continue to be educated at the School, irrespective of their financial circumstances. This includes the Dean’s Africa Fund, which will enable one or more African students to study for an LLM, as well as PhD scholarships and travel awards.

The Appeal has also funded new Moot Court facilities. Professor Gilmore explains: “With the new Moot Court already up and running, Edinburgh now has a state-of-the-art facility of international standards for the teaching of advocacy and presentation skills, complete with plasma screens

and video equipment. It’s a flexible facility also designed for activities like client counselling.”

Similarly, the Law Library is due to be upgraded with wireless technology and new study areas while what was already one of the country’s most extensive collections of legal papers, monographs and journals will be improved to take account of legal developments from around the world.

The School’s tradition of involvement in public policy making and law reform ensures it maintains close links with the Scottish Parliament and Government. Professor Sir Neil MacCormick, who has been Regius Professor of Public Law and the Law of Nature and Nations since 1972 and who retires this January, has been appointed a Special Advisor on Europe and External Affairs to Scottish First Minister, Alex Salmond.

As a former Member of the European Parliament for the Scottish National Party from 1999 to 2004, Sir Neil also continues the tradition of public service associated with the School, which began with the first Regius Professor, Charles Areskine, who entered Parliament in 1722 and went on to serve as Solicitor General, Lord Advocate and Lord Justice Clerk.

Sir Neil is replaced by Professor Neil Walker, a former lecturer at the School, who has spent the last eight years as Professor of European Law at the prestigious European University Institute in Florence.

Professor Gilmore adds: “It is most fitting that Professor Walker takes up his post in 2008, as the year marks the 40th anniversary of the Europa Institute at Edinburgh, the first such specialist centre for European law in the UK.

“The School is going from strength to strength. We have a lot to celebrate. The Tercentenary saw us re-engage with our alumni. Our aim now is to build on that success and to reinforce our connections with alumni, friends and supporters in the years to come.”

Professor Sir Neil MacCormick, holder of the Regius Professor of Public Law and the Law of Nature and Nations, 1972–2007





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## Innovation and Regeneration: Fighting Motor Neurone Disease

Research into motor neurone disease (MND), a debilitating, crippling and ultimately fatal condition, has been given a major boost with the opening of a new centre of excellence at the University of Edinburgh.

The first of its kind in Scotland, the Euan MacDonald Centre for Motor Neurone Disease Research will build on an already strong research base into motor neurone biology at the University and will benefit from a wide range of expertise in regenerative medicine and stem cell research, neuroscience, molecular medicine and genetics.

The new centre was made possible by a donation of £1 million from leading Scottish businessman Donald MacDonald and his son, Euan, who was diagnosed with MND four years ago at the age of 29.

Both Donald and Euan are University of Edinburgh law graduates. Their decision to fund the new centre was taken on the basis of the research expertise already gathered at the University through the Edinburgh Motor Neurone Disease (EdMonD) Research Group, a cooperative group of 20 researchers focused on motor neurone biology and MND.

"It was important to us that the University was in a position both to capitalise on the research already being carried out there and to extend the range and number of experts working together across a range of disciplines working together in the fight against the disease," explains Euan.

The overall mission of the new centre is to defeat MND by carrying out innovative fundamental research. Researchers have three basic aims. Firstly, the goal is to learn more about the cellular and molecular biology of motor neurones, the cells that control voluntary muscle activities, such as speaking, walking and breathing, which break down in MND patients. Researchers believe that in the long run, a cure will only be found from a better understanding of the mechanisms that cause the loss of motor neurones.

In the medium term, the aim is to develop effective treatments that slow down or reverse the progression of the disease. Professor Richard Ribchester, Professor of Cellular Neurosciences at the University and Acting Director of the Euan MacDonald Centre, says: "The goal here is to stop motor neurones dying and to replace those that have died, using stem cells.

*"The Centre will enable scientists and clinicians to develop effective new drugs and improved treatments, which are desperately needed."*

"Within five to 10 years we hope to make significant advances in preventing degeneration of damaged motor neurones and in regenerating healthy ones. For example, there are promising avenues of research in stem cell biology suggesting that repair and regeneration of motor neurones may be possible. Other therapies may be based on forms of gene therapy or the development of new drugs that slow down or halt degeneration."

The third objective is to meet the immediate needs of patients whose average life expectancy after diagnosis is two to five years, especially in older people who can be more prone to the disease.

"Patients with MND become progressively weak, so it's also very important to develop palliative technologies that improve patient care, enhancing the quality of day-to-day life as the disease takes its toll," explains Professor Ribchester.

"There is presently no cure and only one licensed drug, Riluzole, which at best prolongs life by a few months but which has unpleasant side-effects. The situation is, therefore, urgent."

Euan MacDonald describes MND as an "orphan disease", one that "flies below the radar" of the major pharmaceutical companies because it affects only one in every 20,000 people. In Scotland, there are around 110 new cases every year, around 280 cases at any given time.

"Our target is early detection and effective treatment," states Professor Ribchester.

"Good progress is being made in understanding the disease. There is growing confidence among researchers in the UK and abroad that MND is a tractable disease, which should be treatable and, ultimately, curable. Internationally, the Euan MacDonald Centre will become a major research base in the worldwide effort to find a cure."

Euan MacDonald, a former investment banker, is married with two children. His father, Donald, co-founder and Vice-Chairman of the City Inn hotel chain and a Director of Caledonian Brewery, is in no doubt as to the importance of the new centre.

He says: "The Centre will enable scientists and clinicians to develop effective new drugs and improved treatments, which are desperately needed. The research into understanding the fundamental mechanisms of motor neurones and how to prevent them deteriorating will lead the way to improving patient care."

The Euan MacDonald Centre is in a phase of active growth in partnership with the University, the MND Association, the Scottish MND Association, the Medical Research Council and other national and international trusts and foundations. Its aim now is to raise a further £6 million to enable research that will make a significant impact on the understanding and treatment of MND.

"The MacDonald family donation is a tremendous endorsement of the research into neuro-degenerative diseases already under way at the University," adds Professor Ribchester. "It marks the beginning of a significant development at the University which is known internationally for its first-class biomedical research."

Professor Richard Ribchester,  
Professor of Cellular Neurosciences



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## Striking a Chord: Musical Collection Continues to Flourish

The University of Edinburgh has received one of the most unique displays of musical instruments ever assembled. The Shackleton Bequest, a collection of 800 clarinets, will be made available to the public and will serve as a magnet for students, musicians, instrument makers and scholars.

Sir Nicholas Shackleton (1937–2006) – a renowned paleoclimatologist to whom we owe our current understanding of climate change – had a passion for both playing and collecting clarinets and chose to leave his unique collection to the University. Valued at £1 million, it is regarded as the finest individual collection in the world devoted to a single genre of instrument.

A distant relative of the famous Antarctic explorer Sir Ernest Shackleton, Sir Nicholas amassed the instruments over 40 years. His decision to donate to the University was based on his appreciation that his collection would not only be well cared for at Edinburgh but they would also be used primarily for research by scholars interested in the history and evolution of the instrument, as well as for teaching. A part of his bequest was also a donation of money to create an endowment to enable curation of the clarinets.

The clarinets are a significant addition to the Edinburgh University Collection of Historic Musical Instruments, and range from a 250-year-old instrument, which typically has only four keys, to a futuristic 20th-century model with square metal keys.

The University now houses 3,000 instruments in its permanent collection, documenting a period of more than 400 years. Among its treasures are a harpsichord played by Mozart and a 16th-century Renaissance ivory recorder, thought to be made by the Bassano family in either Venice or London, and one of only 12 such instruments in existence.

The Collection has long ranked among the world's most important selections of musical heritage, a status confirmed by the then Scottish Executive when the Collection was officially recognised as being of national significance.

Now housed in both the Reid Concert Hall and St Cecilia's Hall museums, the Collection was begun by Professor John Donaldson in 1859 when the Reid Concert Hall Museum was opened.

"The Reid Concert Hall Museum is, in fact, the oldest music-related museum in the world, and still in its original building, while St Cecilia's Hall, dating from 1763, is the oldest concert hall in Scotland and the second oldest in Britain," says Professor Arnold Myers, Director of the Edinburgh University Collection of Historic Musical Instruments.

*"While our collection of keyboard instruments is one of the top two or three in the world, the clarinet collection is simply the best."*

"The Collection always was, and still is, a teaching collection. It is integral to the School of Music and this was of tremendous appeal to Sir Nicholas. We attract players who are interested in the history of their instruments and people who specialise in playing period instruments. We attract instrument makers and provide models for historical instrument makers – a very important part of our work."

Professor Myers continues: "All of our students are exposed to the Collection through their degree courses and there is a special honours option, which is a popular course, on studying the history of instruments. We also offer research courses at masters level and we have doctorate students studying the Collection."

The Shackleton Bequest is also testimony to a philanthropic tradition, which is associated with the University Collection. The Raymond Russell

Collection of Early Keyboard Instruments was given to the University in 1964; the Anne Macaulay Collection of Plucked String Instruments was donated in 1977 and 1985; and, in 2005, the Rodger Mirrey Collection of Early Keyboard Instruments was similarly donated. This last gift makes the University's keyboard collection one of the widest in scope (only that at Yale, in the US, is comparable), encompassing all of the major traditions covering a period of more than 250 years.

It includes a Venetian harpsichord signed by Bernardinus de Trasuntinis in 1574, making it the oldest dated instrument in the University Collection and one that is still playable and is still played.

"While our collection of keyboard instruments is one of the top two or three in the world, the clarinet collection is simply the best," declares Professor Myers.

"There will never be another collection like it. What was around when Sir Nicholas was collecting in the 1960s and '70s will never again be available. It's also more than a learning resource – it is in itself a work of serious scholarship.

"To put it on display this year and to be accredited by the then Scottish Executive at the same time does reinforce the status of our Collection as one of the finest in the world," explains Professor Myers, who has been involved with the Collection for nearly 40 years as curator, historian, guide, teacher and demonstrator.

Work accompanying the Collection is ongoing. Professor Myers explains: "Nearly all of the 3,000 instruments are described in our publications. We have 25 catalogues for the Reid Concert Hall Museum alone, plus the Shackleton Collection book and an online catalogue for St Cecilia's. We are working on a new print catalogue for St Cecilia's to be published this year.

"We're also planning to put sound guides into the museums, wands and/or headphones that will tell you an instrument's history and allow you to hear it played. This will extend what we can offer on guided tours."

PhD student Melanie Pidcocke is studying the Shackleton Bequest for her research project



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## At the Heart of Medical Research: Cutting Cardiovascular Casualties

Research led by the University of Edinburgh has revealed that deaths and complications as a result of heart attacks following admission to hospital have been almost halved in six years as a direct result of advances in medical treatment.

The Global Registry of Acute Coronary Events (GRACE) report, which is the first and largest ever study of its kind, confirms Edinburgh as a global force in cardiovascular research. Its findings also establish a significant decline in heart failure, a progressive disorder that can be caused by repeated heart attacks and leave the patient at risk of death.

Published in the *Journal of American Medicine* in May last year, the GRACE report is the only large-scale, multinational, observational study of patients hospitalised with an acute coronary syndrome. It involved continuous recruitment of patients for more than six years (from July 1999 to December 2006).

In total, the hospital treatment and outcomes for 44,372 patients admitted to 113 hospitals in 14 countries were analysed by an international research team led by Duke of Edinburgh Professor of Cardiology, Keith Fox. He explains: "We collaborated with countries where the healthcare systems are roughly comparable with the UK and US, including those of Belgium, Canada, France, Germany, Poland and Spain.

"For the first time we've demonstrated that acute treatment reduces the development of new heart failure as well as a decline in deaths. The report gives us a gold standard and indicates that provided we apply the evidence based on randomised trials of new treatments and drugs – which were carried out in tandem with the research programme – we are on the right road. It shows we already have the tools. It's about applying them systematically."

The team collected a representative sample of patients who presented with heart attacks or threatened heart attacks and traced them from admission through acute care and follow-up care for a minimum of six months, in some cases for up to two years.

"The results were much better than we expected," says Professor Fox. "To halve the rate of deaths is dramatic and to show this across 14 countries means it's not a quirk of one healthcare system alone. This also means we can apply the same principles of treatment and care across all of them."

While this is good news for all the countries involved it is also of particular relevance to Scotland, given its reputation for having a high incidence of heart disease.

*"For the first time we've demonstrated that acute treatment reduces the development of new heart failure as well as a decline in deaths."*

"In Scotland there has been a 40 per cent decline in age-adjusted deaths from coronary diseases in the last 10 years which is wonderful. Undoubtedly, this is partly due to changes in lifestyle like better diet and more exercise, but it's also due to better treatment, including acute treatment," says Professor Fox, who currently holds the British Heart Foundation chair.

While deaths from cardiovascular disease are declining rapidly, the least change still occurs in areas of deprivation. Guidelines by SIGN (Scottish Intercollegiate Guidelines Network) outline the treatment everyone should have equal access to, but in areas of deprivation the target now is to intervene early by introducing treatments at a lower level than in other areas.

"This is part of the solution. The focus is now on how we roll out the SIGN guidelines across the country," explains Professor Fox, who is also Chairman of the SIGN Implementation.

Randomised trials of new treatments carried out in conjunction with the research programme included the first long-term trial to open blocked arteries (RITA-3), which has shown to reduce incidences of heart attacks and deaths.

The next step, according to Professor Fox, is to understand plaques – fatty deposits in the internal lining of the arteries caused by a build-up of cholesterol – and the inflammation mechanism that causes them to rupture. "If we can identify the mechanisms we can treat the plaques before they rupture," he says.

The centre for this research is the groundbreaking Queen's Medical Research Institute (QMRI) at the University, one of the largest research conglomerations in Europe. Opened in 2005, it now houses 500 researchers, one third of whom specialise in cardiovascular science.

"Our whole programme here is collaborative and innovative, linking medical researchers with other scientists – physicists, chemists, mathematicians – across the University in order to understand key mechanisms and devise new treatments," says Professor Fox. "Part of our developing programme also looks at genetics and stem cell research. Our collaborative approach is a model others are now setting out to adopt."

It is also a model supported by the British Heart Foundation (BHF). BHF Scotland Director, Marjory Burns, says: "BHF-funded research has already contributed to breakthroughs like clot-busting drugs, pacemakers and statins that keep thousands of Scots' hearts beating today. Professor Fox and his team continue to carry out world-class research that will make a difference to the heart health of future generations in Scotland and around the globe."

"The University was not noted for cardiovascular research 15 years ago," adds Professor Fox. "Now, it is a leading force and is internationally competitive. The GRACE programme is the ultimate example of how you translate research and novel therapies into practice. That is what we are about."

Professor Keith Fox, Duke of Edinburgh Professor of Cardiology



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## Parallel Universe: Learning in the Virtual World

The University of Edinburgh is taking a lead in exploring and developing virtual worlds for teaching, research and training purposes.

In Second Life – a three-dimensional world in which users create digital identities, or avatars, of themselves – tutorials are already taking place in a simulated version of Holyrood Park where there are no desks or whiteboards and where students can ‘fly’ in to join the group.

This Holyrood Park is a virtual open space in which the School of Education conducts classes with students on the MSc in e-learning. It exists on the University’s island, Virtual University of Edinburgh (VUE), in Second Life. Here, participants can talk, work and learn with others in cyberspace.

The MSc programme was one of the first in the UK to make use of Second Life. Programme Director Dr Siane Bayne says: “We have been in two years now and most of our 80 students from around the world use it. It’s a way of re-thinking what a teaching space can be. The majority of our students, who are based across the UK, Europe, Asia and Africa, are not on campus; but being at a virtual version of the University within Second Life helps them feel present and connected.”

She continues: “As a student you have access to a small-group teaching environment where you can discuss ideas and take part in classes. There are fixed tutorial sessions but students also meet casually. It’s about bonding and co-presence in a simulated space.

“Its visuality is probably its biggest motivator. It’s a world created and crafted by us, the users, and it creates something of that sense of immediacy you get in real life.”

Students and staff on the course agree that Second Life breaks down barriers between tutors and students and makes distance learning more sociable. “It’s a good medium for interacting and socialising with the rest of the group, especially as Second Life enables me to ‘see’ who I am talking to. That makes group work easier and, importantly, fun,” explains student Wendy Jenkins.

Second Life currently has some 700,000 ‘citizens’ worldwide, occupying almost 2,000 ‘acres’ of virtual land.

While the University’s involvement in Second Life took shape in the School of Education, it is also being used by a range of other schools including Management and Informatics, and is likely to extend into other disciplines and activities in the near future.

*“We are using Second Life because it has a growing international user base; it is sophisticated enough for education and research.”*

“The School of Informatics has 10 groups using Second Life, mostly for research purposes and there’s no doubt that it will be a long-term part of the University’s teaching, research and outreach programmes,” says Professor Austin Tate, Director of the Artificial Intelligence Applications Unit, whose own research specialism is the application of artificial intelligence to search and rescue work.

Professor Tate also helped set up the VUE group, a virtual educational and research institute bringing together all those interested in the use of virtual worlds for teaching, research and outreach at the University.

“We are using Second Life because it has a growing international user base; it is sophisticated enough for education and research; it has high-resolution graphic realism; and it is an open environment you can use as you want,” he says.

“It is superbly suited to animated, interactive teaching aids and is an excellent way of

presenting in ways which the student can interact with. It has all sorts of different resources from video streaming and voice to external programmes and databases and is admirably suited to collaborative projects. It could be used by any school, discipline or subject.”

Its potential is also being explored by offices like Development and Alumni and the Disability Office.

Alistair Knock, Assistant Director of the Disability Office (and a student on the MSc e-learning course), says: “Second Life has potential for helping with experiential-based training such as staff development.

“We are looking at having a training course built in Second Life that would allow staff to experience some of the barriers that universities create for disabled people – and, more importantly, to think about ways to remove those barriers.”

Eduserv, a not-for-profit professional IT services group offering leading-edge technology to education institutions and public sector bodies, has commissioned a £300,000 research project on education in virtual worlds. Andy Powell, Head of Development at Eduserv, says: “We are still at a relatively early stage in understanding how virtual worlds can be used in education. It’s a bit like the early days of the internet. Everybody knows it has huge potential, but they are still figuring out what the best uses might be.

“But for students who for a variety of reasons struggle to communicate, or simply lack confidence in the classroom, Second Life could be just the thing.”

The University has long been supportive of using innovative technologies to expand both the experience of students and the boundaries of research. “The University of Edinburgh has been involved with virtual worlds for over 20 years,” says Professor Tate. “As educational and research users in a UK context we have always been and will remain pioneers.”

Professor Austin Tate,  
Director of the Artificial  
Intelligence Applications Unit





2006/07

## Joining the Global Fight Against Avian Flu

Since December 2003 there have been substantial lethal outbreaks of avian flu affecting wild birds and poultry in Asia, Africa, India and Europe (including an isolated case in Scotland, at Cellardyke in Fife, two years ago). In response to the issue, a world research centre of excellence was launched at the University to help combat the global threat of this virus.

The Interdisciplinary Centre for Human and Avian Influenza Research (ICHAIR) brings together 15 of Scotland's leading biologists, virologists and epidemiologists from the universities of Edinburgh, Glasgow and St Andrews. Edinburgh's Professor Tony Nash, Chair of Veterinary Pathology and Director of the Centre for Infectious Diseases, will lead the Centre.

ICHAIR has been established with £2 million funding from the Scottish Funding Council, partnered by £2.3 million from the collaborating universities. It aims to advance ways of controlling the virus by the development of a new generation of vaccines and anti-viral drugs, through the study of how the virus causes disease. This will put the University at the forefront of the world's efforts to prevent a flu pandemic.

The Centre creates a synergy between strong, but historically somewhat disparate, centres of Scottish research excellence and is multidisciplinary in nature.

"We have brought together leading researchers from different disciplines who had not previously worked on influenza. This gives us both a fresh perspective and a full coverage of research from population dynamics of infection to viral pathogenesis and therapeutic control," says Professor Nash.

"Because of the way the Centre's research is structured, ICHAIR occupies an important niche in influenza research in the UK and internationally. It is this configuration of scientific excellence coupled with outstanding infrastructure which makes the Centre a world-class operation able to deliver maximum benefits to the academic community, policy makers and the Scottish, and UK, public."

The national and global importance of the new Centre hardly needs emphasising.

The H5N1 strain of the virus has spread to infect man, causing more than 180 deaths. So far it has not mutated to spread from human to human, but if it does, infection rates will be high because most of the population have no immunity to the virus. The World Health Organisation estimates the number of deaths from a new pandemic to be between 2 million and 7.4 million.

H5N1 is a major health priority for the Scottish Government, as it is for governments around the world, and the Centre has been established to meet this strategic need.

*"ICHAIR occupies an important niche in influenza research in the UK and internationally."*

"The challenge presented by avian influenza and the high probability of a pandemic virus needs an interdisciplinary, cross-university approach to tackle the big issues affecting the control of an outbreak. Such problems are unlikely to be solved by one university working in isolation," says Professor Nash.

ICHAIR brings together Scottish scientists of international standing in virology, structural biology, epidemiology, evolutionary biology, inflammation biology and protein chemistry to tackle fundamental questions in influenza research and to deliver new insight into the control of infection, the mechanism of disease, the dynamics of outbreaks and evolution of pathogenic viruses.

Among the tools that will be used by the Centre's experts are supercomputers, firstly, to predict the emergence of virulent strains in the context of epidemics and pandemics, and, secondly, to predict outbreak scenarios and model the spread of virus in Scotland.

"In Scotland, a pandemic virus would be expected to spread rapidly in the central belt

between Edinburgh and Glasgow, impacting on health and potentially crippling public services and the economy," says Professor Nash.

A primary objective is to understand the interaction between the virus and the host, and why the host develops an aggressive immune response that damages the body's own immune system.

Professor Nash explains: "It is important to control the magnitude of the immune response in order to prevent damage to the lung. We are looking to develop new therapies to control influenza infection. This will involve developing new vaccines – something we are already working on – and new generation anti-virals."

Professor Nash is confident substantial progress will be made over the next four years at the Centre, which is working to establish international collaboration in the Far East, Africa, the US and Europe. He adds: "Influenza is an international problem and the Centre needs to be part of a global network in fighting this killer disease."

The Centre significantly strengthens the Scottish virology research base while exposing research workers to new technologies and methodologies as well as providing training for new postdoctoral scientists/clinicians and postgraduate students.

Dr Jim McMenamin, an epidemiologist with surveillance agency Health Protection Scotland, says: "Anything that assists in treatment or effectiveness of vaccines is certainly welcome. Having that research on our doorstep is certainly going to be of benefit to Scotland and potentially the rest of the UK."

Given the Centre's strengths and strategies, Professor Nash believes ICHAIR is likely to extend its remit in future years to include other viruses, which are spreading from Africa into Europe as a result of climate change.

He reveals: "We anticipate that, in time, we will be well placed to address new and re-emerging zoonotic viral diseases, such as West Nile virus and Rift Valley Fever virus, which are transmitted by insects and which are spreading due to the influence of global warming."

Professor Tony Nash,  
Chair of Veterinary Pathology  
and Director of the Centre for  
Infectious Diseases



2006/07

## Commercialisation: A Continuing Success Story

The University's progress in research knowledge transfer and commercialisation continues as it builds on the success of its so-called 'spin-outs'.

In the last financial year, the total value of research awards exceeded the £200 million mark for the first time, with monies coming from government, industry (UK and overseas), the European Commission, research councils and charities.

"We've exceeded £200 million and this represents the biggest research award total for any university in Scotland and puts Edinburgh in the top six universities in the UK," says Derek Waddell, Director of Research, Services and Commercialisation at the University.

Mr Waddell, who is also Managing Director of Edinburgh Research and Innovation (ERI), the University's research and commercialisation office, says that around half of the funding was awarded to projects in Science & Engineering, and the rest to Medicine & Veterinary Medicine and Humanities & Social Science.

"The University's success is not simply a matter of the increased number and value of grant applications that ERI helps to put together (up 7% and 19%)," explains Mr Waddell. "The reality is that the quality of the science at the University has to be excellent in the first place – and it clearly is. Otherwise, we would not be getting significant awards from major partners like Lloyds TSB, for example, who have chosen to continue their research collaboration with the University with a £5 million investment to explore further developments in e-commerce and virtual banking."

This research at the University's Centre for Communication Interface Research is an important resource for the bank, according to Sally Jones-Evans, Managing Director of Telephone Banking at Lloyds TSB. "Working in collaboration with such a team of world-class academics at the University helps us to continue to make sure that our future services are best placed to meet our customer needs," she states.

The University also signed a landmark deal with the Braveheart Investment Group to raise £25 million to invest in University companies, both start-ups and spin-outs. The eight-year deal will see the first £5 million raised by March 2008.

Mr Waddell explains: "We already provide high levels of support to staff and students who wish to create new companies and, on average, we produce one new company every month.

"The dedicated fund – the largest of its kind in Scotland and one of the biggest in the UK – will allow ERI to pool resources and expertise with Braveheart to help with the commercialisation of companies and their technologies."

*"The quality of the science at the University has to be excellent in the first place – and it clearly is."*

He adds: "It is basically an investment in the track record of the University. As venture capitalists, Braveheart know we are good at creating companies that make money."

A notable example of a University spin-out success is MTEM, the oil field technology firm sold to Norwegian group Petroleum Geo-Services (PGS) for £138 million.

Founded by a team from the University's School of Geosciences, MTEM (Multi-Transient Electro-Magnetic Technology) began trading in November 2004, raising £7.4 million initial capital to commercialise its leading-edge survey technology.

"Major oil companies are now taking our technology very seriously because we are part of PGS, who are providing the financial support to enable the technology to be developed rapidly

and made into a really commercial product," says Professor Anton Ziolkowski, the company's co-founder and Chief Scientist.

From the sale of its equity stake in MTEM, the University is investing £2.6 million of its profits in PhD scholarships and £1.5 million in endowed scholarships.

"This is a really sensible investment," says Professor Ziolkowski. "MTEM was founded on the science and technology that was developed at the University. Our breakthrough came in a PhD project that resulted in our fundamental patent."

Reward for the University's achievements came last year when it was voted one of five finalists in the inaugural Knowledge Transfer Challenge Awards run by the Engineering and Physical Sciences Research Council, receiving a prize of £100,000.

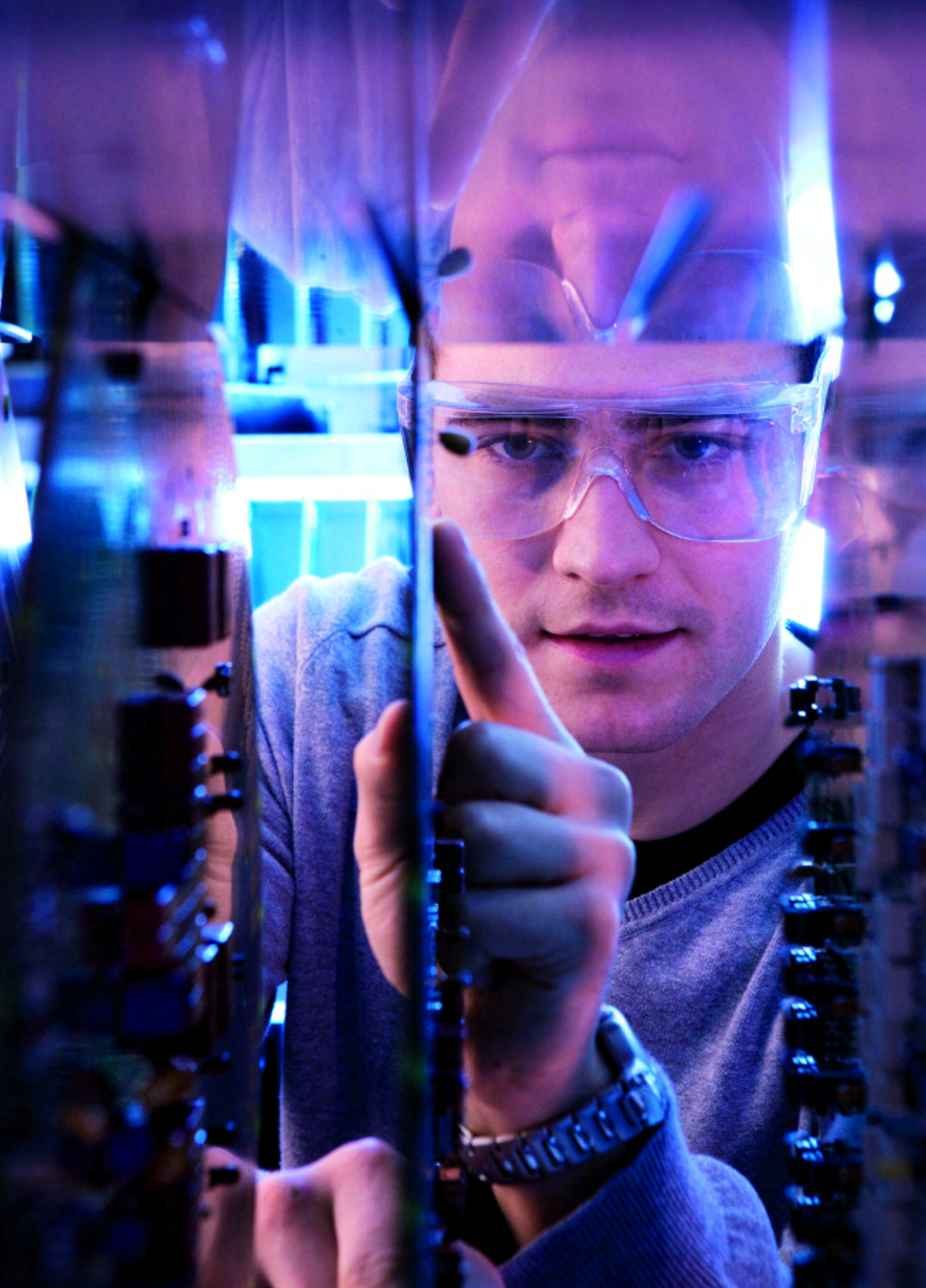
One of the leading spin-out companies recognised by the award is Wolfson Microelectronics, now one of the 50 biggest semiconductor companies in existence and suppliers of audio chips to the iPod.

EPIS, the Edinburgh Pre-Incubator Scheme set up and delivered by ERI to promote and support innovation in Edinburgh and the Lothians, also received a further £1 million from SEEL (Scottish Enterprise Edinburgh and Lothian).

The first scheme of its kind in Scotland, EPIS breaks down barriers between commerce and academia, enabling entrepreneurs to develop knowledge-led business ideas on campus. It also supports a range of innovative business projects initiated by graduates. Of the 34 entrepreneurs who have been awarded a place on EPIS, 25 have already started a company.

"Through ERI and EPIS, the businesses which we help to create provide highly skilled jobs which make an important contribution to a smart, successful Scotland," says Derek Waddell. Additionally, the record levels of research income that we have generated help us to attract academics of the highest calibre to Edinburgh."

Edinburgh graduate Calum Tait at work at Wolfson Microelectronics, one of the University's leading spin-out companies



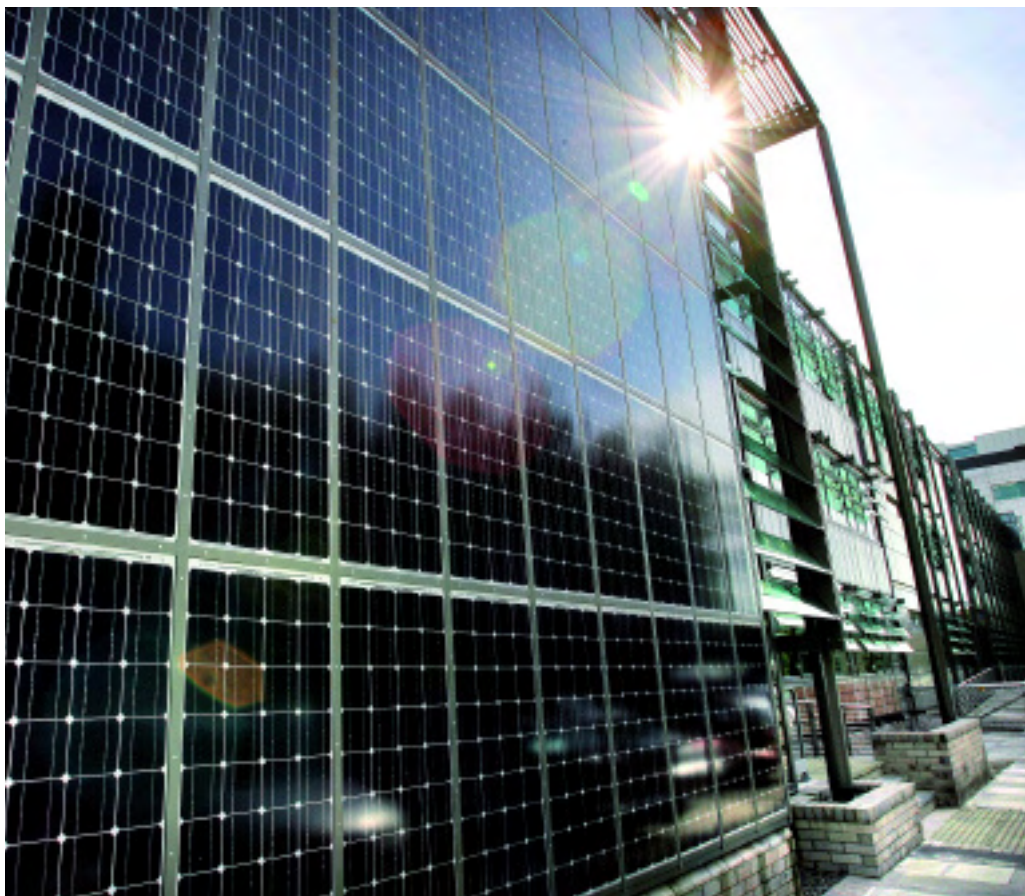
2006/07

## The Review of the Year

### August 2006

#### University hosts Festival events

The annual Fringe Festival brings a carnival atmosphere to Edinburgh every August, attracting thousands of international visitors and providing an ample opportunity for the University to engage with both the local community and visitors from further afield. The University Festivals Office provides homes to some of the biggest players on the festival scene. Its venues sold 436,000 tickets, and saw 800,000 people pass through its doors. Shows playing ranged from Broadway legends Mummenschanz to Brazilian company Circo Teatro Udi Grudi, plus a number of big names in comedy including Doug Stanhope and Jimeoin.



### September 2006

#### New £5.5 million engineering facility officially opens

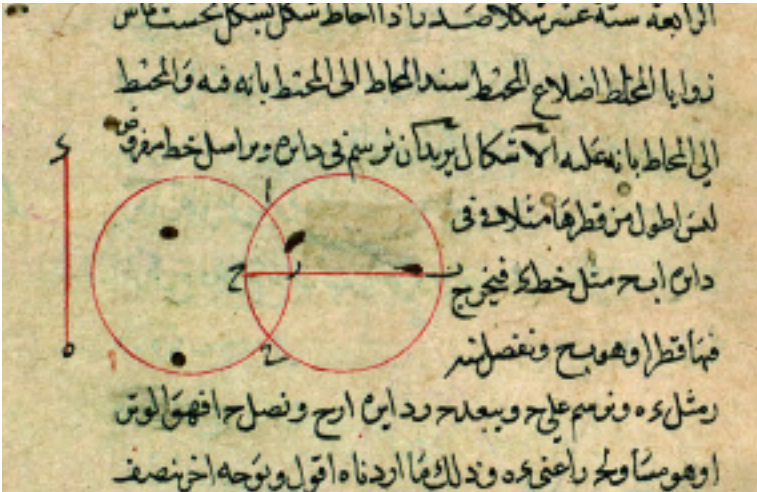
The William Rankine Building, a £5.5 million facility that will help researchers tackle some of the toughest challenges in civil and environmental engineering was officially opened by Gordon Masterton, President of the Institution of Civil Engineers. Work carried out at the William Rankine Building will have a direct impact on industry and commerce and help support green initiatives in the wider community. Appropriately, the building incorporates state-of-the-art, environmentally friendly technology. Solar panels help reduce dependency on the national grid and hard wood timber cladding, from a sustainable source, will insulate the building and keep it dry. The building also features a sunlight-tracking device – the first of its kind in the United Kingdom – that draws daylight into the building and further reduces energy bills. The building is the result of substantial investment by the University in the School of Engineering & Electronics.



### October 2006

#### The University of Edinburgh Campaign launches

October saw the launch of the University of Edinburgh Campaign, the largest fundraising campaign for higher education in Scotland. Andrew Marr (*pictured*) helped to officially launch the Campaign, which aims to raise £350 million for more than 30 priority projects by 2011, and has already hit a £200 million milestone. Projects to benefit will include scholarships, the Main Library's redevelopment, regenerative medicine research and the new Vet School. The Campaign will also address the needs for refurbishment and restoration of Teviot, the McEwan Hall and Old College Quad, as well as raising funds for a variety of chairs and fellowships. Vice-Principal of Development, Young Dawkins, says: "People recognise that making a stronger University makes a stronger Scotland. The gifts we receive make a huge difference to the University, its students and to the impact of the University's research on the world."



**November 2006**

### Arab world study centre established

The creation of a new national centre of excellence focusing on research into the Arabic-speaking world was announced. Based at the University of Edinburgh, the Centre for the Advanced Study of the Arab World (CASAW) brings together world-class scholars from the universities of Edinburgh, Durham and Manchester in the first initiative of its kind in the UK. The Centre will provide a coordinated approach to teaching and research in the field of Arab World studies at both masters and PhD level. Initially, its core activity will be the provision of a unique and innovative Masters programme in Arab World Studies, which will provide intensive language teaching and develop students' knowledge and understanding of the region. The Centre will focus on training the next generation of scholars in Arab World studies, and provide a vital flow of expertise for the private and public sectors. The centre was established with funding worth £5 million, provided by ESRC, AHRC, HEFCE and SFC.



**December 2006**

### Edinburgh University Association Football Club reaches Scottish Cup second round

Edinburgh University AFC made club history by reaching the second round of the Tennent's Scottish Cup. The team's last Scottish Cup appearance was in 1973. An impressive attendance of 1,000 witnessed the University team beat Highland League side Keith 2-1, in a victory that would take them to face Second Division side Cowdenbeath FC – a clash that would become the biggest game in the club's history. Despite a 5-1 defeat to Cowdenbeath FC, the club's achievements were hailed a success by Head Coach Dougie Samuel, who commented: "There was a great sense of disappointment and frustration in the dressing room after the Cowdenbeath match, but these feelings will pass and, in time, the players will look on this season's Scottish Cup run as having been a wonderful experience."



**January 2007**

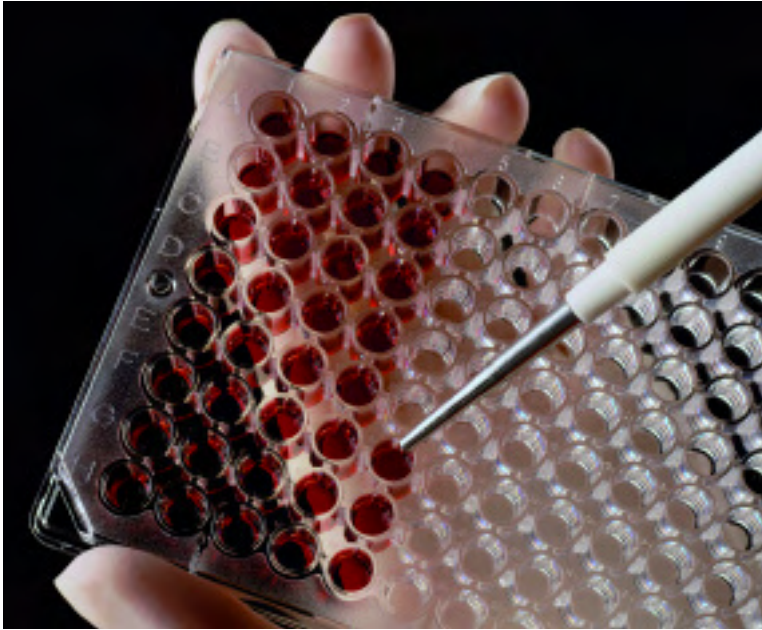
### University to develop Scottish Centre for Regenerative Medicine

The Scottish Executive announced funding of £24 million to enable the University to develop a Scottish Centre for Regenerative Medicine (SCRM). The University will work in close collaboration with Scottish Enterprise in developing the £59 million centre to provide state-of-the-art research facilities, manufacturing capacity and commercialisation facilities. Principal Professor Timothy O'Shea said: "Scotland has a world lead in fundamental stem cell sciences. The most important area of

application is regenerative medicine, particularly in relation to degenerative diseases such as multiple sclerosis and Parkinson's disease. This backing will allow Scotland to build on its international lead and at the same time make a very significant contribution to the health of many people across the world." Former First Minister Jack McConnell and his deputy Nicol Stephen (both pictured above) were invited to view plans of the new centre.

2006/07

## The Review of the Year *continued*

**February 2007**

### University researchers discover treatment hope for Rett Syndrome

University of Edinburgh researchers discovered that the symptoms of Rett Syndrome – a severe autism spectrum disorder, which was previously considered untreatable – could be reversed. The condition, which affects at least 10,000 children in the UK, can leave sufferers wheelchair bound, unable to speak, and afflicted with breathing difficulties. A team of experts at the University, led by Professor Adrian Bird, has now been able to make symptoms disappear in mice by activating a specific gene. Professor Bird says: "The results we came across were entirely unexpected. Until now it had been thought that Rett Syndrome is irrevocable, but our findings show that the damage to nerve cell function is, in fact, reversible. This gives a major boost to the search for treatments or a potential cure." Further research may also show that the results could apply to other autism spectrum disorders.

**April 2007**

### Final lecture delivered in Scotland and the Union series

The final lecture in a high-profile series that marks the tercentenary of the Anglo-Scottish Union of 1707 was delivered at the University in April. The University of Edinburgh's popular Scotland and the Union series of lectures featured leading scholars and commentators. Debates and lectures considered the controversial origins of the Treaty Union, the global consequences of the Anglo-Scottish relationship, nationalism and devolution in the late 20th century and the state of the Union today. Speakers included Professor Tom Devine (*pictured*), Dr Richard Holloway, Dr Tam Dalyell, Alan Massie and Dr Magnus Linklater. The four events, which were supported by Simon Fennell, Goldman & Sachs, also provided audience members with the opportunity to comment.

**March 2007**

### University delegation celebrates links with China in Beijing

More than 150 years of collaboration between the University and China was marked when a delegation of staff visited Beijing to celebrate Chinese academic achievement at the University. The contingent was led by the Principal, Professor Timothy O'Shea, who presided over a special ceremony at the State Guest House in Beijing. The highlight of the event was the awarding of an honorary degree to University of Edinburgh alumnus Professor Zhong Nanshan, who identified the SARS virus. The award was made in the presence of Chinese graduates of the University who were invited to attend the ceremony. The ceremony was held 152 years after Huang Kuan, the first Chinese graduate of any European University, graduated in medicine from the University of Edinburgh. The delegation also visited Peking University, China's premier academic institution, to further the existing research and educational links with the University of Edinburgh.



## May 2007

### BioQuarter plans announced

The University of Edinburgh, Scottish Enterprise and NHS Lothian formed a joint venture to develop a new commercial research campus at the Centre for Biomedical Research. The new partnership is expected to create 6,500 new jobs and attract millions of pounds in investment. The campus, next to the Royal Infirmary of Edinburgh and the University's Queen's Medical Research Institute at Little France, is being re-branded as Edinburgh BioQuarter. The multioccupancy building will house state-of-the-art facilities to bridge the gap between research and commercialisation and offer access to lab space for exploratory research. Once complete, the project is expected to generate an additional £350 million per annum for the Scottish economy with the development creating one of Europe's top centres for biomedical research.



## June 2007

### The Royal (Dick) School of Veterinary Studies marks 50 years with homecoming weekend

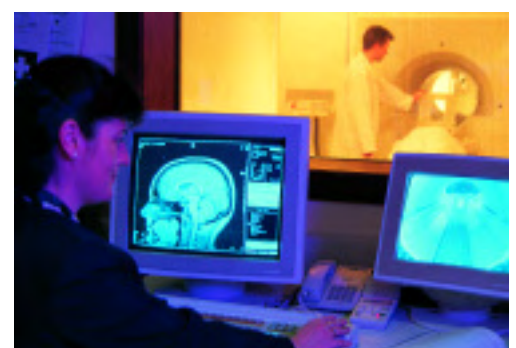
The half century since the first vets received degrees from the University of Edinburgh was marked with a homecoming weekend for alumni and special graduation ceremony. More than 300 alumni from all over the world came to Edinburgh for the weekend to mark 50 years since the first students graduated with Bachelor of Veterinary Medicine and Surgery degrees after the Royal (Dick) School of Veterinary Studies joined the University in 1951. Among the alumni were 10 out of the original 17 vets who graduated from the University in 1957 after six years of study. Members from the 'Class of 1957' (pictured with Head of School Elaine Watson) joined a graduation procession for 109 newly qualified vets and postgraduate students. The School's patron, HRH The Princess Royal, also attended the ceremony and praised the "leading-edge work carried out by staff and students".



## July 2007

### Researchers discover brain shrinking in bipolar disorder sufferers

University of Edinburgh researchers found that people with bipolar disorder, also known as manic depression, suffer from an accelerated shrinking of their brain. The study shows for the first time that bipolar disorder – a condition characterised by periods of depression and periods of mania – is associated with a reduction in brain tissue and proves that the changes get progressively worse with each relapse. Dr Andrew McIntosh, Health Foundation Clinician Scientist and lead researcher, said: "This discovery has implications not only for the way we research the disease, but may also impact the way this condition is treated." Bipolar disorder, in its severe form, is a serious mental illness which affects around half a million people in the UK alone. This work is supported by the Sackler Foundation, Health Foundation and the UK Medical Research Council.



2006/07

## Financial Review

The strong financial performance of the University over recent years continued last year, rooted, as ever, in the University's excellence in teaching, research, commercial spin-out and support activity. With a number of important new projects and activities under way we can be confident that the University will maintain its strong performance in the future.

A buoyant, high quality and engaged student body is vital to the health of any university and we are fortunate in the success of our efforts to recruit the best students from both here in Scotland and the UK, and from around the world. This past financial year saw another excellent performance in terms of UK student recruitment and our international student body continues to grow strongly, reflecting the reputation of the University and of the city, as a great place to study and live.

The University's research activity has once again grown substantially. Our ability to attract external research funds is a key measure of our research excellence. In 2006–07, 943 research awards valued at £209.7 million were received – an outstanding 50 per cent increase from the previous year.

The Operating Surplus for the year was £7.6 million. This was augmented by the exceptional profit of £8.2 million on the sale of the University's investment in MTEM, a spin-out company set up in 2004, and by £0.3 million from property sales. After taking account of transfers to specific endowment reserves, the overall surplus for the year was £14.9 million. Gross income increased by £41.5 million (9.5 per cent) compared to the previous year. Funding Council Grants increased by £14.2 million (9.5 per cent), partly reflecting the application of infrastructure funds to major refurbishment projects and partly as a result of above inflation increases in research funding, including further success in attracting new research pooling grants.

The continued growth in student numbers was, once again, particularly notable in international students where fee income increased by

£3.7 million (12.6 per cent). The growth in research grants and contracts income, up by £7.1 million, from £113.7 million to £120.8 million (6.3 per cent), was boosted by the increasing take-up of full economic costing and pricing for research. Other income was boosted by an increase of £3.4 million in Development Trust income, including legacies. Endowment and investment income grew by £0.7 million, 5 per cent over the previous year – in part as a result of increased deposit balances, and also due to interest rates being higher than the previous year. The total value of endowment funds at the year end increased to £216 million, reflecting the investment of £5.8 million new endowments and capital appreciation of £10.5 million. The University of Edinburgh Endowment Fund made a total return of 9.48 per cent for the year (compared to its benchmark of 9.24 per cent). Over five years the fund has returned 12.1 per cent per annum compared to the benchmark return of 11.1 per cent. The net cash inflow from operating activities continued to be strong, allowing a strategic reserve of £20 million to be transferred to fixed asset investments during the year.

The overall position has supported increased capital expenditure on the estate, of £41.5 million (2006: £28.4 million), with a significant proportion again funded from external sources. Projects completed during the year included the Combined Heat and Power project in George Square and the Hugh Robson Building refurbishment. Other major ongoing projects during the year included continuing work on the new Informatics Building at Potterrow, the refurbishment of the Main Library, the George Square Lecture Theatre and the Advanced Computing Facility. Elsewhere, steps have been taken with regard to further major developments, including a Scottish Centre for Regenerative Medicine at Little France, the refurbishment of the John McIntyre Centre at Pollock Halls of Residence, the construction of a new hall of residence, and new research and teaching buildings at the Royal (Dick) School of Veterinary Studies at Easter Bush. In total the cost of

completing these and other projects will be in excess of £170 million. The funding will come from a mixture of external sources, fundraising via our £350 million University of Edinburgh Campaign, and a major increase in internally generated funds.

In recent years the University has grown strongly using real increases in funding from Government to grow its turnover by 37 per cent in four years, reflecting the quality, improvement and volume growth in its student and research activity. The announcement of the comprehensive spending review outcome for the three years from April 2008 gives a clear guide to a tightening financial environment for Scottish universities. Although the UK funding to the research councils continues to grow in real terms to meet the cost of moving to funding 80 per cent of the full economic cost, recurrent funding from the Scottish Funding Council will go up little above the Government's measure of inflation. The UK 2006 pay agreement for all University staff will increase pay by about 6.5 per cent during 2008, so sustaining existing activity will be difficult unless we are able to expand existing income streams and identify new opportunities.

The University will continue its efforts to impress upon the Scottish Government that in order to remain competitive with the top universities elsewhere in the UK, Scottish universities must benefit from a similar level of funding. The current position, whereby the Higher Education Funding Council for England has received a greater uplift in recurrent funding than that awarded to the Scottish Funding Council, puts Scottish universities at a disadvantage. This is all the more the case when one considers the likely growth in income from tuition fees at English institutions.

With the University likely to achieve a turnover greater than £0.5 billion in the financial year now in progress, Edinburgh is showing it has the academic and financial strength to compete successfully internationally. The University will be striving even harder in the years ahead to build on this solid position.

2006/07

## Financial Review

### Group income and expenditure account for the year ended 31 July 2007

	2007 £ 000s	2006 £ 000s
<b>Income</b>		
Funding council grants	162,865	148,693
Tuition fees and education contracts	73,373	65,417
Research grants and contracts	120,849	113,674
Other income	105,104	93,680
Endowment and investment income	14,871	14,105
<b>Total income</b>	<b>477,062</b>	<b>435,569</b>
<b>Expenditure</b>		
Staff costs	267,852	238,849
Other operating expenses	178,627	166,894
Depreciation	19,036	19,017
Interest payable	3,994	3,919
<b>Total expenditure</b>	<b>469,509</b>	<b>428,679</b>
<b>Surplus on continuing operations after depreciation of assets at valuation and before taxation</b>	<b>7,553</b>	<b>6,890</b>
Gains on disposal of fixed assets	8,476	3,283
<b>Surplus after depreciation of assets at valuation and disposal of assets but before taxation</b>	<b>16,029</b>	<b>10,173</b>
Taxation	(22)	(8)
Minority interest	4	3
Transfers to accumulated income within specific endowment asset investments	(1,131)	(1,958)
<b>Surplus for the year retained within general reserves</b>	<b>14,880</b>	<b>8,210</b>

### Group balance sheet as at 31 July 2007

	2007 £ 000s	2006 £ 000s
Fixed assets	870,505	832,149
Endowment asset investments	215,972	201,310
Net current assets	50,915	56,830
<b>Total assets less current liabilities</b>	<b>1,137,392</b>	<b>1,090,289</b>
Creditors: amounts falling due after more than one year	(62,674)	(63,806)
Provisions for liabilities and charges	(7,095)	(8,059)
Pension liability	(29,000)	(50,623)
<b>Total net assets</b>	<b>1,038,623</b>	<b>967,801</b>
<b>Represented by:</b>		
Deferred capital grants	224,103	204,650
Endowments		
Specific	212,017	197,554
General	3,955	3,756
	<b>215,972</b>	<b>201,310</b>
<b>Reserves</b>		
Revaluation reserve	429,886	437,554
General reserves excluding pension liability	197,650	174,902
Pension reserve	(29,000)	(50,623)
<b>Total reserves</b>	<b>598,536</b>	<b>561,833</b>
Minority interests	12	8
<b>Total funds</b>	<b>1,038,623</b>	<b>967,801</b>

The above information reflects the audited accounts for the year to July 2007 published in December 2007. Anyone wishing further information is invited to contact the Director of Finance at the University.

2006/07

## Honorary Graduations and Other Distinctions

Those awarded honorary degrees between 1 August 2006 and 31 July 2007.



**Mr José Manuel Barroso**  
President of the European Commission (Degree of Doctor of Science in Social Science)



**Dr William Henry Gates III**  
**KBE**  
Chairman of Microsoft (Degree of Doctor *honoris causa*)



**Dr Freda Marion Scott-Park**  
Former President of the British Veterinary Association and Veterinary Consultant (Degree of Doctor of Veterinary Medicine and Surgery)



**Professor John F Roulston**  
**OBE**  
Group Chief Executive Officer, Filtronics plc (Degree of Doctor of Science)



**President Mary McAleese**  
President of Ireland (Degree of Doctor of Laws)



**Professor Alexander McCall Smith**  
**CBE**  
Emeritus Professor of Medical Law, University of Edinburgh (Degree of Doctor of Laws)



**Baroness Onora O'Neill**  
**of Bengarve**  
**CBE**  
Former Principal of Newnham College, Cambridge (Degree of Doctor of Letters)



**The Rt Hon Lord Gill**  
Lord Justice Clerk, Senator of the College of Justice (Degree of Doctor of Laws)



**Professor Martha Nussbaum**  
Ernst Freund Distinguished Service Professor of Law and Ethics, University of Chicago (Degree of Doctor of Laws)



**Professor Alison Richard**  
Anthropologist and Vice-Chancellor of the University of Cambridge (Degree of Doctor of Science in Social Science)



**Justice Albie Sachs**  
Constitutional Court of South Africa (Degree of Doctor of Laws)



**Professor Reinhard Zimmermann**  
Director Max-Planck-Institut für Ausländisches and Internationales Privatrecht (Degree of Doctor of Laws)



**Mr James Naughtie**  
Broadcaster, journalist and author (Degree of Doctor of Letters)



**Professor Zhong Nanshan**  
President of the Chinese Medical Association (Degree of Doctor of Medicine)



**Professor Mary-Lou Pardue**  
Professor of Biology, Massachusetts Institute of Technology (Degree of Doctor of Science)



**Dr Robert Spiro**  
President Emeritus, University of Edinburgh USA Development Trust (University Benefactor)



**Mr Robert Paul Moore**  
Junior Vice-President of the Royal College of Veterinary Surgeons and practising farm animal veterinary surgeon (Degree of Doctor of Veterinary Medicine and Surgery)



**Professor Daan Frenkel**  
FOM Institute for Atomic and Molecular Physics, Amsterdam (Degree of Doctor of Science)



**Sir Duncan Michael**

Former Chairman of Ove Arup Partnership (Degree of Doctor of Science)



**Ms Lorna Davidson**

EUSA Student Advisor from 1984–2006 (Degree of Doctor *honoris causa*)



**Professor John Toland**

Professor of Mathematics, University of Bath (Degree of Doctor of Science)



**Professor Dr Kyung-Seo Park**

Ambassador for Human Rights, Republic of Korea (Degree of Doctor of Divinity)



**Dr Chris Masters CBE**

Former Chairman, Scottish Higher Education Funding Council (Degree of Doctor *honoris causa*)



**Sir Keith Peters**

Regius Professor of Physic, University of Cambridge (Degree of Doctor of Medicine)



**Mr Michael Palin CBE**

Comedian, actor, presenter and broadcaster (Degree of Doctor of Letters)



**Professor Walter Nimmo**

Former Chief Executive Officer of Inveresk Research (Degree of Doctor of Medicine)



**Ms Catherine Lockerbie**

Director of the Edinburgh Book Festival since 2000 and University of Edinburgh graduate (Degree of Doctor of Letters)



**Mr Tony George Stanger**

Rugby Union player and coach (Degree of Doctor of Education)



**Professor Daniel Dennett**

Professor and AB Fletcher Professor of Philosophy, Tufts University (Degree of Doctor of Letters)



**Mr Tony Gavin CBE**

University of Edinburgh Court member until 2006, Vice-Convenor. Former headteacher St Margaret's Academy in Livingston, West Lothian (Degree of Doctor *honoris causa*)

2006/07

## Awards

### Dr Cait MacPhee

Dr MacPhee, a Research Fellow in the School of Physics, received a Woman of the Future award in the category of science. These awards honour the achievements of women under 35. Dr MacPhee was recognised for her pioneering research into the behaviour of biological molecules that can cause diseases like Alzheimer's and Parkinson's. The judges commended Dr MacPhee for her natural instinct for science as well as her commercial and personal success.

### Professor Garret FitzGerald

Professor FitzGerald, Professor of Medicine and Director of the Institute for Translational Medicine and Therapeutics, at the University of Pennsylvania, has been awarded the Cameron Prize for his groundbreaking work on non-steroidal anti-inflammatory drugs. Professor FitzGerald is one of the world's leading cardiovascular clinical pharmacologists and was also awarded an honorary degree of Doctor of Science from the University in 2004. The Cameron Prize was founded in 1878 by Edinburgh alumnus Dr Andrew Robertson Cameron of Richmond, New South Wales. The prize may be awarded biennially to a person who, in the course of the five years preceding, has made any highly important and valuable addition to Practical Therapeutics.

### Professor Ian Deary and Dr John Starr

Professor Deary in Psychology and Dr Starr in Geriatric Medicine were winners of the 2006 Margaret MacLellan Award, presented by medical charity Tenovus Scotland. The award is awarded every second year to honour the best piece of research carried out in Scotland in a nominated subject. Professor Deary and Dr Starr were awarded, along with their colleague Lawrence Whalley from the University of Aberdeen, for carrying out the best research on the brain in recent years. Professor Deary was also elected a Fellow of the Academy of Medical Sciences for his groundbreaking research into the effects of the aging brain.

### Professor Alan Bundy

Professor Bundy of the School of Informatics has won the 2007 Herbrand Award. Established in 1992, the Herbrand Award for Distinguished Contributions to Automated Reasoning honours an individual, or group of individuals, for exceptional contributions to the field of Automated Deduction. Professor Bundy also won the IJCAI Award for Research Excellence, which is given to a scientist who has carried out a programme of research of consistently high quality, yielding several substantial results.

### Dr Richard Mitchell

Dr Mitchell, Associate Director of the College of Medicine and Veterinary Medicine's Research Unit in Health, Behaviour and Change, was awarded a prestigious Erskine Visiting Fellowship at the University of Canterbury, New Zealand. As part of the Fellowship he spent three months at the institution carrying out teaching and research focusing on issues around health and the physical environment.

### Professor Sethu Vijayakumar

Professor Vijayakumar, Director of the Institute for Perception, Action and Behaviour within the School of Informatics, was awarded a Royal Academy of Engineering Senior Research Fellowship, which is co-funded by Microsoft Research. Professor Vijayakumar will develop the Statistical Machine Learning and Motor Control group to work on techniques to allow robots to do the same.

### Dr Michael Eddleston

Dr Eddleston, of the University's Edinburgh Unit of the National Poisons Information Service and Clinical Pharmacology Unit, beat off international competition to win the inaugural Early Toxicologist Award of the International Union of Toxicology (IUTOX). He was recognised for his work researching patients who had poisoned themselves in Sri Lanka where pesticides are the most common form of self harm.

### Dr Stephen Waring

Dr Waring, from the Edinburgh Unit of the National Poisons Information Service and Clinical Pharmacology Unit, received the European Association of Poisons Centres and Clinical Toxicologists (EAPCCT) Young Investigator Award for his work on the effects of antidepressants.

### Dr Vicky Coltman

Dr Coltman, Lecturer in History of Art in the School of Arts, Culture and Environment, has won a Philip Leverhulme Prize from the Leverhulme Trust. The award was made in recognition of her research achievement, in particular her book *Fabricating the Antique: Neo-classicism in Britain 1760–1800* (University of Chicago Press).

### Ms Pei-Yun Hsueh

Ms Hsueh, a research student at the School of Informatics, was selected as a Google Anita Borg Memorial Scholar. Ms Hsueh's research looks at the marriage of artificial intelligence and human-computer interaction, with a focus on integrating machine learning and empirical analysis approaches for natural language and understanding. The scholarships were set up to encourage women to excel in the field of informatics and are awarded to individuals who represent this.

### Mr Hamish Mackay

The University's Chief Internal Auditor was elected to serve on the governing council of the Association of Chartered Certified Accountants (ACCA). ACCA is the largest and fastest growing international professional accountancy body with over 115,000 members and 296,000 students in more than 170 countries. Mr Mackay joined the University in 1999.

### Mr Melvyn Cornish

The University Secretary, Mr Cornish, has been appointed to the Governing Body of the UHI Millennium Institute.

### Senior Vice-Principal

#### Professor Michael Anderson

Professor Anderson was elected as an Honorary Fellow of the Faculty of Actuaries. Formed in 1856, the Faculty of Actuaries was set up by actuaries in Scotland to unite practising actuaries in the country and promote actuarial education.

### Vice-Principal Professor Geoffrey Boulton

Professor Boulton was awarded two honorary degrees. Keele University awarded him the DSc(Hon) in recognition of his outstanding contribution to geology and science policy. Birmingham University also awarded him the DSc(Hon) to mark his achievements as "one of the most influential Earth scientists of his generation". Professor Boulton was also appointed to the Council of the University of Heidelberg. A major responsibility of the Council is to advise on the University's strategy as part of the German 'Excellence Initiative', designed to support a number of German institutions in achieving the highest international standings.

### Professor Sir Neil MacCormick

Professor MacCormick of the School of Law was elected President of the International Association for Philosophy of Law and Social Philosophy. Founded in Berlin in 1909, the Association has branches in 44 countries covering all the inhabited continents. Its purpose is the cultivation and promotion of jurisprudence and political and social philosophy at both the national and the international level. Professor MacCormick has been Regius Professor of Public Law and the Law of Nature and Nations in the University since 1972, and will retire from that position in 2008.

### Dr Bruce Nelson

The University's Academic Registrar and Deputy Secretary was appointed as a Non-Executive Director for the Student Awards Agency Scotland (SAAS) for the period 2007–2010. SAAS is part of the Scottish Government and is responsible to Scottish Ministers. It deals with financial support and gives advice to eligible Scottish students in higher education throughout the United Kingdom.

## Royal Society Fellows

The following University of Edinburgh academics were elected to the Fellowship of the Royal Society:

### **Professor Michael Cates**

Professor of Natural Philosophy at the School of Physics

### **Professor John Peacock**

Professor of Astronomy at the Institute of Astronomy

### **Professor Veronica van Heyningen**

Head of Medical Developmental Genetics Section at the MRC Human Genetics Unit

## British Academy Fellow

Elected to the British Academy in July 2007:

### **Professor Carole Hillenbrand**

Professor of Islamic History at the School of Literatures, Languages and Cultures

## New Year's Honours List

Staff members and alumni of the University of Edinburgh in the New Year's Honours List include:

### **Professor Alexander McCall Smith**

CBE for services to literature

### **Dr Stuart K Monro**

OBE for services to science

### **Professor Stuart Gowans Macpherson**

OBE for services to Medicine in Scotland

### **Professor J Fraser Stoddart**

Knights Bachelor for services to chemistry and molecular nanotechnology

### **Dr Dame Evelyn Elizabeth Ann Glennie**

Dame Commander of the Order of the British Empire for services to music

## Queen's Birthday Honours List

Staff members and alumni of the University of Edinburgh in the Queen's Birthday Honours List include:

### **Professor Robert Donovan**

OBE for services to science

### **Dr Helen Hammond**

OBE for services to medicine

### **Professor Jeanne Bell**

CBE for services to medicine

### **Professor Richard Morris**

CBE for services to science

### **Dr Peter Nettleton**

MBE for services to veterinary medicine

### **Ms Hilary Patrick**

MBE for services to mental health law in Scotland

## Alumnus of the Year 2006

### **Professor Alexander McCall Smith**

Professor Alexander McCall Smith received the Alumnus of the Year award at the Freshers' Welcoming Ceremony at the McEwan Hall in September 2006.

Professor McCall Smith graduated LLB in 1971 and taught in the University's School of Law for many years before retiring from his post as Professor of Medical Law in 2005 in order to concentrate on his writing career.

He received the award in recognition of his outstanding contribution to the fields of law and medical ethics, his achievements as an international bestselling author of fiction, and the ambassadorial role he has played on behalf of the University.

## Chancellor's Awards 2006

These awards are presented in recognition of innovation, relevance, creativity and personal dedication. They are presented by HRH Prince Philip, Duke of Edinburgh, Chancellor of the University, at a dinner at the Palace of Holyroodhouse.

**Dr Simon Bates**, of the School of Physics, won the Teaching Award for his development of innovative teaching techniques.

**Professor Donald MacKenzie**, of the School of Political and Social Studies, won the Research Award for his internationally acclaimed research on the sociology of information technology.

**Professor Stuart West**, of the School of Biological Sciences, who has been described as one of the world's top five evolutionary ecologists aged under 40, received the Rising Star Award, which rewards academics in the early stages of their career.

2006/07

# Appointments

Appointments commenced between 1 August 2006 and 31 July 2007.

## COLLEGE OF SCIENCE & ENGINEERING

### Personal Chairs

- Professor Rebecca Cheung**  
Personal Chair of Nanoelectronics
- Professor Ilan Davis**  
Personal Chair of Cell Biology
- Professor Wenfei Fan**  
Personal Chair of Web Data Management
- Professor Jane Hillston**  
Personal Chair of Quantitative Modelling
- Professor John Moncrieff**  
Personal Chair of Micrometeorology
- Professor Franz Muheim**  
Personal Chair of Particle Physics
- Professor Michael O'Boyle**  
Personal Chair of Computer Science
- Professor Michael Singer**  
Personal Chair of Geometry
- Professor Arthur Trew**  
Personal Chair of Computational Science
- Professor Robin Wallace**  
Personal Chair of Renewable Energy Systems
- Professor David Willshaw**  
Personal Chair of Computational Neurobiology
- Professor James Wright**  
Personal Chair of Mathematical Analysis
- Professor Andrew Taylor**  
Personal Chair of Astrophysics

### Professorships

- Professor Thomas Crowley**  
Director of the Scottish Alliance for GeoScience, Environment and Society (SAGES) and Personal Chair of Geosciences
- Professor Alexander Medvinsky**  
Chair of Haematopoietic Stem Cell Biology
- Professor Paul Sharp**  
Alan Robertson Chair of Genetics
- Professor Eleanor Campbell**  
Chair of Physical Chemistry
- Professor Rebecca Barhlemie**  
Ewart Farvis Chair of Energy Systems
- Professor Stefano Brandani**  
Chair of Chemical Engineering
- Professor Yong Lu**  
Chair of Structural Mechanics
- Professor Roya Sheikholeslami**  
Chair of Chemical Process Engineering

- Professor Dick Kroon**  
Regius Professor of Geology
- Professor Mark Rounsevell**  
David Kinloch Michie Chair of Rural Economy and Environmental Sustainability
- Professor Martin Siegert**  
Chair of Geosciences and Head of School
- Professor Lynn Staeheli**  
Ogilvie Professor of Geography
- Professor Simon Tett**  
Chair of Earth System Dynamics and Modelling
- Professor Iain Gordon**  
Chair of Mathematics
- Professor Benedict Leimkuhler**  
Chair of Applied Mathematics
- Professor Constantin Teleman**  
Chair of Mathematics
- Professor Alexander Volberg**  
Sir Edmund Whittaker Chair of Mathematical Science

### Senior Honorary Professorial Fellows

- Professor Dougal Drysdale**  
Engineering and Electronics
- Professor Joseph McGeough**  
Engineering and Electronics
- Professor Stephen Salter**  
Engineering and Electronics

### Honorary Professors

- Professor Colin Cunningham**  
Engineering and Electronics
- Professor Maggie Gill**  
GeoSciences
- Professor Andrew Blake**  
Informatics
- Professor Mark Jerrum**  
Informatics
- Professor Gordon Rintoul**  
Informatics
- Professor Martyn Guest**  
Physics

## COLLEGE OF MEDICINE & VETERINARY MEDICINE

### Personal Chairs

- Professor Duncan Jodrell**  
Personal Chair of Cancer Therapeutics
- Professor Adriano Rossi**  
Personal Chair of Respiratory and Inflammation Pharmacology
- Professor Amanda Amos**  
Personal Chair of Health Promotion
- Professor Ian Dransfield**  
Personal Chair of Leukocyte and Lung Cell Biology
- Professor David Gally**  
Personal Chair of Microbial Genetics
- Professor David Hume**  
Personal Chair of Mammalian Functional Genomics
- Professor Susan Welburn**  
Personal Chair of Medical and Veterinary Molecular Epidemiology
- Professor Margarete Heck**  
Personal Chair of Cell Biology and Genetics
- Professor Richard Clutton**  
Personal Chair of Veterinary Anaesthesiology
- Professor Brendan Corcoran**  
Personal Chair of Veterinary Cardiopulmonary Medicine
- Professor Roderick Else**  
Personal Chair of Diagnostic Veterinary Pathology
- Professor Danielle Gunn-Moore**  
Personal Chair of Feline Medicine
- Professor James Simpson**  
Personal Chair of Canine Medicine
- Professor Keith Thoday**  
Personal Chair of Veterinary Dermatology

### Professorships

- Professor Charles French-Constant**  
Chair in Medical Neurology
- Professor Jonathan Lamb**  
Chair of Veterinary Clinical Immunology



## Honorary Professors

- Professor Heather Cubie**  
Biomedical Sciences
- Professor Walter Nimmo**  
Clinical Sciences and Community Health
- Professor Bal Dhillon**  
Clinical Sciences and Community Health
- Professor Anne O'Hare**  
Clinical Sciences and Community Health
- Professor Robert Hill**  
Molecular and Clinical Medicine
- Professor Klaus Ebmeier**  
Molecular and Clinical Medicine

## COLLEGE OF HUMANITIES & SOCIAL SCIENCE

### Personal Chairs

- Professor Arnold Myers**  
Chair of Organology
- Professor Marcella Althaus-Reid**  
Chair of Contextual Theology
- Professor James Cox**  
Chair of Religious Studies
- Professor Candace Currie**  
Chair of Child and Adolescent Health
- Professor Pete Higgins**  
Chair of Outdoor and Environmental Education
- Professor Jill Stephenson**  
Chair of Modern German History
- Professor Douglas Brodie**  
Chair of Employment Law
- Professor Jake Ansell**  
Chair of Risk Management
- Professor Tim Hayward**  
Chair of Environmental Political Theory
- Professor Fran Wasoff**  
Chair of Family Policies
- Professor Miriam Meyerhoff**  
Chair of Sociolinguistics

## Professorships

- Professor Geoffrey Pullum**  
Chair of General Linguistics
- Professor Duncan Pritchard**  
Chair of Epistemology
- Professor Fernanda Ferreira**  
Chair of Language and Cognition
- Professor John Henderson**  
Chair of Visual Cognition and Cognitive Neuroscience
- Professor Sandra Nutley**  
Chair of Public Management
- Professor Stephen Osborne**  
Chair of International Public Management
- Professor Nicholas Oliver**  
Chair of Management
- Professor Cecile Fabre**  
Chair of Political Theory
- Professor Jochen Clasen**  
Chair of Comparative Social Policy
- Professor Oliver O'Donovan**  
Chair of Christian Ethics and Practical Theology
- Professor Morwenna Griffiths**  
Chair of Classroom Learning

## Honorary Professors

- Professor Alastair Sutton**  
Law
- Professor Alice Brown**  
Social and Political Studies

2006/07

## Appendix 1

### 1. Undergraduate applications and acceptances

	2005 Year of Entry			2006 Year of Entry			2007 Year of Entry		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Applications*	18,767	22,959	<b>41,726</b>	20,578	24,636	<b>45,214</b>	22,144	26,609	<b>48,783</b>
Places taken up	2,043	2,477	<b>4,520</b>	1,842	2,319	<b>4,161</b>	1,936	2,442	<b>4,378</b>

\* Figures defined as number of applications received in each cycle for entry in the same year or deferred entry for following year.

## Appendix 2

### 2.1 Headcount by level of study and gender 2006/07

	Undergraduate			Postgraduate Taught			Postgraduate Research			Total		
	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07
Female	10,011	10,424	10,589	1,640	1,655	2,096	1,485	1,485	1,701	13,136	13,574	14,386
Male	7,522	7,855	7,851	1,149	1,169	1,385	1,899	1,870	1,969	10,570	10,894	11,205
<b>Total</b>	<b>17,533</b>	<b>18,279</b>	<b>18,440</b>	<b>2,789</b>	<b>2,834</b>	<b>3,481</b>	<b>3,011</b>	<b>3,384</b>	<b>3,670</b>	<b>23,706</b>	<b>24,468</b>	<b>25,591</b>

### 2.2 Headcount by college 2006/07

	Undergraduate			Postgraduate Taught			Postgraduate Research			Total		
	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07
Humanities & Social Science	10,565	11,012	10,987	2,249	2,226	2,694	1,198	1,200	1,430	14,012	14,438	15,111
Medicine & Veterinary Medicine	1,818	1,974	2,080	99	113	229	907	881	868	2,824	2,968	3,177
Science & Engineering	5,150	5,293	5,373	441	495	558	1,279	1,274	1,372	6,870	7,062	7,303
<b>Total</b>	<b>17,533</b>	<b>18,279</b>	<b>18,440</b>	<b>2,789</b>	<b>2,834</b>	<b>3,481</b>	<b>3,384</b>	<b>3,355</b>	<b>3,670</b>	<b>23,706</b>	<b>24,468</b>	<b>25,591</b>

## 2.3 Headcount by domicile 2006/07

	Undergraduate			Postgraduate Taught			Postgraduate Research			Total		
	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07
Scotland	8,199	8,518	8,661	1,413	1,374	1,693	1,367	1,443	1,545	10,979	11,335	11,899
Other UK	6,520	6,781	6,579	302	319	422	622	591	613	7,444	7,691	7,614
EU (non-UK)	1,143	1,168	1,217	365	341	396	504	491	586	2,012	2,000	2,199
Outwith EU	1,671	1,812	1,983	709	800	970	891	830	926	3,271	3,442	3,879
<b>Total</b>	<b>17,533</b>	<b>18,260</b>	<b>18,440</b>	<b>2,789</b>	<b>2,831</b>	<b>3,481</b>	<b>3,384</b>	<b>3,353</b>	<b>3,670</b>	<b>23,706</b>	<b>24,468</b>	<b>25,591</b>

## 2.4 Headcount by domicile top 10 non-UK countries

	Undergraduate			Postgraduate Taught			Postgraduate Research			Total		
	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07	2004/05	2005/06	2006/07
United States of America	713	819	901	131	165	169	199	163	175	<b>1,043</b>	<b>1,147</b>	<b>1,245</b>
People's Republic of China	165	158	164	225	223	280	122	123	152	<b>512</b>	<b>504</b>	<b>596</b>
Germany	203	192	172	61	53	58	73	79	109	<b>337</b>	<b>324</b>	<b>339</b>
Greece	78	67	51	114	114	137	134	117	112	<b>326</b>	<b>298</b>	<b>300</b>
Republic of Ireland	140	161	154	49	45	54	52	52	52	<b>241</b>	<b>258</b>	<b>260</b>
Canada	119	93	131	40	41	56	58	51	59	<b>217</b>	<b>185</b>	<b>246</b>
France	162	170	182	23	15	17	38	41	43	<b>223</b>	<b>226</b>	<b>242</b>
Italy	60	66	64	16	17	17	63	61	74	<b>139</b>	<b>144</b>	<b>155</b>
Malaysia	94	101	106	16	11	9	37	34	30	<b>147</b>	<b>146</b>	<b>145</b>
Taiwan	7	8	8	47	49	64	50	52	60	<b>104</b>	<b>109</b>	<b>132</b>

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## Appendix 3

### Benefactions (This list reflects giving from 1 August 2006 to 31 July 2007)

#### Elsie Inglis Benefactors (£1,000–£4,999)

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The late Dr Helen Tonge  
The late Dr Anthony Watson  
The Estate of Mr Melvin Wiederlight  
Wolfson Foundation  
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\* Denotes donors to the University of Edinburgh USA Development Trust Inc., an independent organisation formed to advance the purpose of the University of Edinburgh

2006/07

## Appendix 4

## Research grants and other sources of funding

## 1. From charities, industry and other institutions

Sponsor type	Sponsor name	Project total £000	Sponsor type	Sponsor name	Project total £000
Charity	Age Concern	9	European Union – Other	Scientific Institute of Public Health	43
Charity	Agilent Technologies Foundation	16	Industry – European	ACTA SpA	18
Charity	Alzheimer's Disease Society	95	Industry – European	Anonymous Donor	183
Charity	Alzheimer's Research Trust	179	Industry – European	Crescent Diagnostics (Ireland) Limited	43
Charity	Anatomical Society of Great Britain & Ireland	20	Industry – European	Michelin	199
Charity	Anonymous Donors	49	Industry – Overseas	Anglo Research	33
Charity	Arthritis Research Campaign	649	Industry – Overseas	Encysive Pharmaceuticals	275
Charity	Association for International Cancer Research	184	Industry – Overseas	Fight for Sight, Inc.	80
Charity	Binks Trust	28	Industry – Overseas	Genzyme Corporation	26
Charity	BLISS – Premature Baby Charity	164	Industry – Overseas	Geron Corporation	1,527
Charity	Breakthrough Breast Cancer	4,590	Industry – Overseas	Grace Construction Products Limited	8
Charity	Breast Cancer Research Trust	34	Industry – Overseas	Novartis Foundation	100
Charity	British Accounting Association	2	Industry – Overseas	Proctor & Gamble	109
Charity	British Cardiac Society	48	Industry – UK	Academy of Marketing Science	2
Charity	British Heart Foundation	1,100	Industry – UK	AEA Technology plc	15
Charity	British Journal of Anaesthesia	63	Industry – UK	ARC International (UK) plc	893
Charity	British Orthopaedic Association	200	Industry – UK	Archangel Informal Investments Limited	70
Charity	British Skin Foundation	50	Industry – UK	Archimedes Development Limited	74
Charity	Caledonian Research Foundation	126	Industry – UK	Arrayjet Limited	35
Charity	Cancer Research UK	4,900	Industry – UK	Boston Scientific Limited	10
Charity	Carnegie Trust for the Universities of Scotland	38	Industry – UK	Building Research Establishment	94
Charity	Chartered Institute of Management Accountants Research Foundation	13	Industry – UK	BUPA, Murrayfield Hospital	376
Charity	Chest, Heart & Stroke Scotland	138	Industry – UK	Buro Happold Limited	26
Charity	Child Growth Foundation	96	Industry – UK	Cambridge Crystallographic Data Centre	23
Charity	Children in Scotland	88	Industry – UK	Carbon Trust	213
Charity	Church of Scotland	245	Industry – UK	Corus	20
Charity	Colt Foundation	39	Industry – UK	Cummins Generator Technologies Limited	30
Charity	Crew 2000 (Scotland)	10	Industry – UK	Cytec Industries UK Limited	26
Charity	Cunningham Trust	25	Industry – UK	Dow Pharma	21
Charity	Cystic Fibrosis Trust	5,054	Industry – UK	Edinburgh Centre for Carbon Management	19
Charity	Daphne Jackson Trust	40	Industry – UK	Eli Lilly and Company Limited	30
Charity	Darwin Trust	274	Industry – UK	European Calcified Tissue Society	113
Charity	Diabetes UK	166	Industry – UK	Financial Reporting Council	4
Charity	Donkey Sanctuary	55	Industry – UK	FM Global	28
Charity	Gatsby Foundation	10	Industry – UK	Fuji Imaging Colorants Limited	20
Charity	Health in Mind	146	Industry – UK	GlaxoSmithKline plc	149
Charity	Jules Thorn Charitable Trust	1,099	Industry – UK	IKARE	54
Charity	Leukaemia Research Fund	712	Industry – UK	Ilika Technologies Limited	16
Charity	Leukaemia & Lymphoma Society	79	Industry – UK	Infineum UK Limited	7
Charity	Leukaemia Research Foundation	492	Industry – UK	Ingenza Limited	9
Charity	Leverhulme Trust	1,315	Industry – UK	Lloyds-TSB	4,898
Charity	Lord Dowding Trust	148	Industry – UK	Microsoft Research Limited	176
Charity	Lorna Smith Charitable Trust	111	Industry – UK	Momenta	168
Charity	Medical Research Scotland (SHERT)	80	Industry – UK	National Semiconductor UK Limited	513
Charity	Melville Trust	256	Industry – UK	Novartis Pharma	84
Charity	Motor Neurone Disease Association	419	Industry – UK	Npower	51
Charity	Multiple Sclerosis Society	40	Industry – UK	Organisation for Economic Co-operation and Development	14
Charity	National Association for the Relief of Paget's Disease	60	Industry – UK	Ove Arup	5
Charity	National Cancer Research Institute	161	Industry – UK	Pfizer Limited	480
Charity	National Kidney Research Fund	88	Industry – UK	QinetiQ	36
Charity	National Society for the Prevention of Cruelty to Children	550	Industry – UK	Richard Lees Steel Decking & Environment	8
Charity	Norman Salvesen Emphysema Research Trust	113	Industry – UK	Sanofi-Aventis	60
Charity	Nuffield Foundation	8	Industry – UK	Schlumberger	11
Charity	Parkinson's Disease Society	154	Industry – UK	Selex Limited	188
Charity	Paths to Health	7	Industry – UK	Spiral Gateway	11
Charity	Petplan Charitable Trust	187	Industry – UK	Stem Cell Sciences Limited	18
Charity	Research into Ageing	491	Industry – UK	TMRI Limited	2,146
Charity	Rett Syndrome Research Foundation	44	Industry – UK	Total E&P UK plc	195
Charity	Ross Foundation for the Prevention of Blindness	20	Industry – UK	Western Geco	309
Charity	Royal Academy of Engineering	114	Learned Society	British Academy	577
Charity	Royal College of Pathologists	6	Learned Society	British Institute of Persian Studies	4
Charity	Royal College of Surgeons Edinburgh	151	Learned Society	Royal Society	3,522
Charity	Royal College of Surgeons of England	3	Learned Society	Royal Society of Chemistry	1
Charity	Salvesen Research Trust	86	Learned Society	Royal Society of Edinburgh	313
Charity	Scotland Inheritance Fund	5	Overseas Charities	Batten Disease Support & Research Association	11
Charity	Scottish Biomedical Research Trust	56	Overseas Charities	Bial Foundation	27
Charity	Scottish Institute of Missionary Studies	3	Overseas Charities	Canine Health Foundation	7
Charity	Scottish Motor Neurone Disease Association	114	Overseas Charities	FRAXA Research Foundation	31
Charity	Scottish Women's Aid	25	Overseas Charities	ResMed Foundation	58
Charity	Society for General Microbiology	2	Overseas Charities	WWTF – Vienna Science and Technology Fund	50
Charity	Stroke Association	112	Overseas Government	Embassy of Switzerland	76
Charity	Sustrans	12	Overseas Government	National Institutes of Health	366
Charity	Tenovus – Scotland	6	Overseas Government	National Oceanic & Atmospheric Administration	38
Charity	Waverley Care	10	Overseas Government	National Science Foundation	5
Charity	Wellcome Trust	14,695	Overseas Government	Office of Naval Research	80
Charity	Wise Group	80	Overseas Government	RIKEN	11
Charity	World Association for Christian Communication	3	Overseas Government	Teagasc	41
European Union – Other	Danish National Space Centre	31	Overseas – Other	Academy of Korean Studies	6
European Union – Other	ETH Zurich	6	Overseas – Other	Colorado School of Mines	5
European Union – Other	European Organisation for Research and Treatment of Cancer	98	Overseas – Other	Columbia University	11
European Union – Other	European Science Foundation	327	Overseas – Other	International Human Frontiers Science Programme	33
European Union – Other	Human Frontier Science Program Organization	42	Overseas – Other	Johns Hopkins University	26
European Union – Other	Meteo France	11			
<b>Total from charities, industry and other institutions £000</b>					<b>£61,266</b>

## 2. From research councils and other government agencies

Sponsor type	Sponsor name	Project total £000
Research Council	Arts and Humanities Research Council	4,385
Research Council	Biotechnology and Biological Sciences Research Council	21,336
Research Council	Economic and Social Research Council	7,410
Research Council	Engineering and Physical Sciences Research Council	31,829
Research Council	Medical Research Council	25,268
Research Council	Natural Environment Research Council	8,802
Research Council	Research Councils United Kingdom	625
Research Council	Science and Technology Facilities Council	4,662
European Union – Government	European Commission	13,377
Government	Bòrd na Gàidhlig	20
Government	British Council	179
Government	British Geological Survey	90
Government	Centre for Ecology and Hydrology	67
Government	Communities Scotland	40
Government	CSO	6,078
Government	Department for Education and Skills	67
Government	Department for Environment, Food and Rural Affairs	645
Government	Department for International Development	794
Government	Department of Health	404
Government	Department of Trade and Industry	524
Government	Disability Rights Commission	10
Government	ED Technology Support Centre	3
Government	Forest Research	33
Government	Historic Scotland	31
Government	Horse Race Betting Levy Board	54
Government	Joint Information Systems Committee	5,381
Government	Knowledge Transfer Partnerships	175
Government	Macaulay Institute	10
Government	Meteorological Office	48
Government	National Library of Scotland	3
Government	Scotland's Commissioner for Children and Young People	5
Government	Scottish Enterprise	1,018
Government	Scottish Executive	1,986
Government	Scottish Executive – SCORE	22
Government	Scottish Executive Education Department	818
Government	Scottish Executive Environmental & Rural Affairs Department	33
Government	Scottish Funding Council	5,005
Government	Scottish Natural Heritage	101
Government	Scottish Qualifications Authority	18
Government	United Kingdom Atomic Energy Authority	23
Health Authorities	Lothian Health Board	14
Health Authorities	National Blood Service	71
Health Authorities	NHS Cancer Screening Programmes	56
Health Authorities	NHS Health Scotland	142
Health Authorities	NHS Lothian Hospital Trust	858
Health Authorities	NHS R&D	238
Health Authorities	NHS Scotland	49
Health Authorities	NHS Scotland – Clinical Resource and Audit Group	216
Universities etc.	Cardiff University	99
Universities etc.	Higher Education Academy	35
Universities etc.	Imperial College	261
Universities etc.	London School of Hygiene and Tropical Medicine	8
Universities etc.	Tyndall Centre	30
Universities etc.	University of Aberdeen	375
Universities etc.	University College London	690
Universities etc.	University of Bristol	35
Universities etc.	University of Dundee	1,719
Universities etc.	University of Glasgow	1,168
Universities etc.	University of Kent	31
Universities etc.	University of Leeds	24
Universities etc.	University of Oxford	282
Universities etc.	University of Plymouth	54
Universities etc.	University of Sheffield	90
Universities etc.	University of Southampton	202
Universities etc.	University of York	355
<b>Total from research councils and other government agencies £000</b>		<b>£148,481</b>

Grand total £000

£209,747

### Note:

The above list sets out the total project value of research grants funded from these sponsors. The sponsor will have contributed this whole amount, with the exception of some governmental sources (including research councils), and charitable sources, who fund the majority, with the balance being received indirectly via the Scottish Funding Council.



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Edited and published by  
Communications and Marketing,  
The University of Edinburgh

*Original design:* Elmwood

*Layout:* Susan Halcro

*Printing:* J Thomson Colour Printers

*Photography:* Laurence Winram

*Review of the Year photography:*

Laurence Winram, Paul Dodds, Douglas Robertson

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Thank you to the staff and students who helped in the production of this publication.

The University of Edinburgh is a charitable body registered in Scotland, with registration number SC005336.