



125 years of making a difference

Annual Review 2007

Schools of the University

Full information and contact details of our academic schools can be found at the University website www.cardiff.ac.uk

Welsh School of Architecture
 Cardiff School of Biosciences
 Cardiff Business School
 Cardiff School of Chemistry
 Cardiff School of City & Regional Planning
 Cardiff School of Computer Science
 School of Dentistry
 Cardiff School of Earth, Ocean & Planetary Sciences
 Cardiff School of Engineering
 Cardiff School of English, Communication & Philosophy
 Cardiff School of European Studies
 School of Healthcare Studies
 Cardiff School of History & Archaeology
 Cardiff School of Journalism, Media & Cultural Studies
 Cardiff Law School
 Cardiff Centre for Lifelong Learning
 Manufacturing Engineering Centre
 Cardiff School of Mathematics
 School of Medicine
 Cardiff School of Music
 School of Nursing & Midwifery Studies
 Cardiff School of Optometry & Vision Sciences
 Welsh School of Pharmacy
 Cardiff School of Physics & Astronomy
 School of Postgraduate Medical & Dental Education
 Cardiff School of Psychology
 Cardiff School of Religious & Theological Studies
 Cardiff School of Social Sciences
 Cardiff School of Welsh

Who's Who

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A wide range of information about Cardiff University can also be found on our website at www.cardiff.ac.uk

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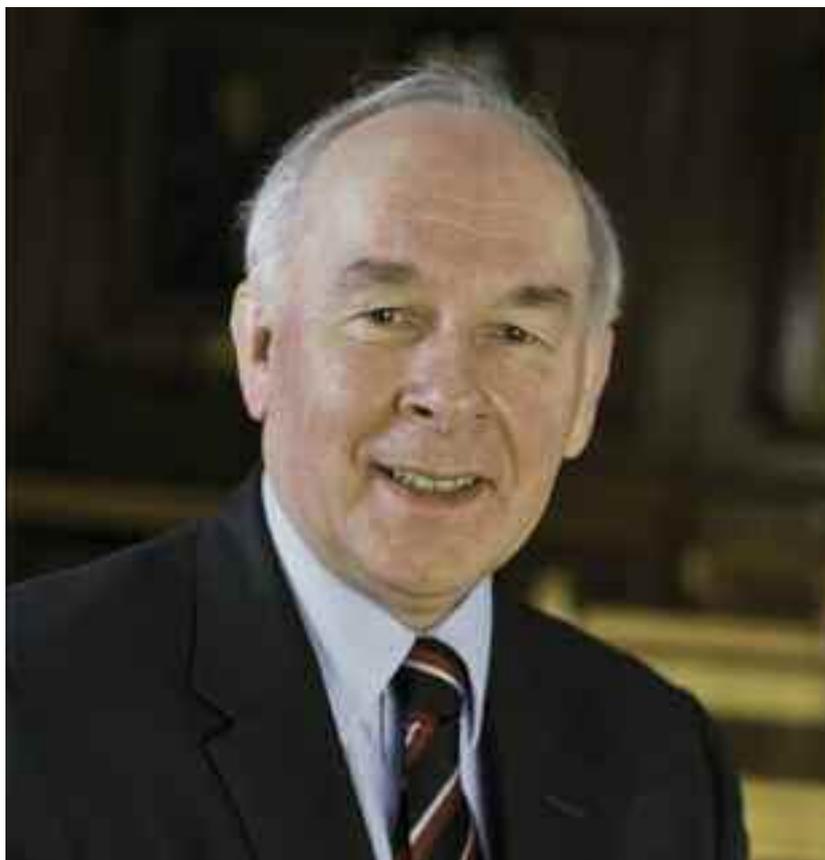
Front cover picture is of the statue of John Viriamu Jones, the first Principal of the University

Vice-Chancellor's Preface

The award of the Nobel Prize for Medicine to Professor Sir Martin Evans has helped make the period since the last Annual Review a very special one for the University. Widely regarded as the greatest honour in science, the Nobel Prize recognises the brilliance of his work and the significance of the benefits to be derived from it. I congratulate Sir Martin for his achievements and thank him for the distinction he has helped bring to the University.

The award of the Nobel Prize is very much the jewel in the crown of our 125th Anniversary celebrations, but there are many additional notable achievements recorded in this review, including:

- ▶ winning a Queen's Anniversary Prize, awarded to the University in recognition of excellence in the Institute of Medical Genetics;
- ▶ achieving another record year for research awards, breaking through the £100M awards milestone for the first time;
- ▶ completion and operation of the new £21M building for Cardiff School of Optometry and Vision Sciences following one of the largest ever single investments in eye care;
- ▶ being ranked for the first time among the top 100 universities in the world;
- ▶ advances in research across the range of disciplines and the establishment of several important new research centres;
- ▶ important developments with several international partners demonstrating growing global awareness of the quality of our teaching and research;
- ▶ continued strong demand for places to study at the University and further achievements in community engagement and widening access programmes.



Cardiff's achievements over the past 125 years are a source of pride and an inspiration to those of us who are working and studying here today, just as I hope they have been to all of the staff and students who have been part of our community over the years. During 2008 a series of events have been planned to allow all who wish to participate in our anniversary celebrations the opportunity to do so. These are detailed on a dedicated website which is easily accessed from the University's home page, www.cardiff.ac.uk.

As we celebrate our heritage through reflection upon our past, I would like to thank everyone who has contributed to our development and reputation from which we aspire to achieve our challenging vision 'To be a world-leading University'.

Dr David Grant CBE
Vice-Chancellor

Nobel Prize

How the Nobel was won

Professor Sir Martin Evans' discovery of embryonic stem cells provided the final "missing piece" in the gene modification puzzle which had frustrated scientists for decades.

In the United States his co-Nobel Prize winners, Professor Mario Capecchi of the University of Utah and Professor Oliver Smithies of the University of North Carolina, had demonstrated that mammalian cells could be genetically modified by a process called homologous recombination. However, the cells they studied could not be used to create lines of animals in which a specific gene had been modified. A new kind of cell was needed which would allow DNA modifications to be inherited by new generations.

Meanwhile Sir Martin had spent years looking for cells capable of passing on genetic alterations to the next generation. An experiment using haploid cells (cells with unpaired sets of chromosomes) and normal embryos grown to twice their usual size, as a control, provided the breakthrough.

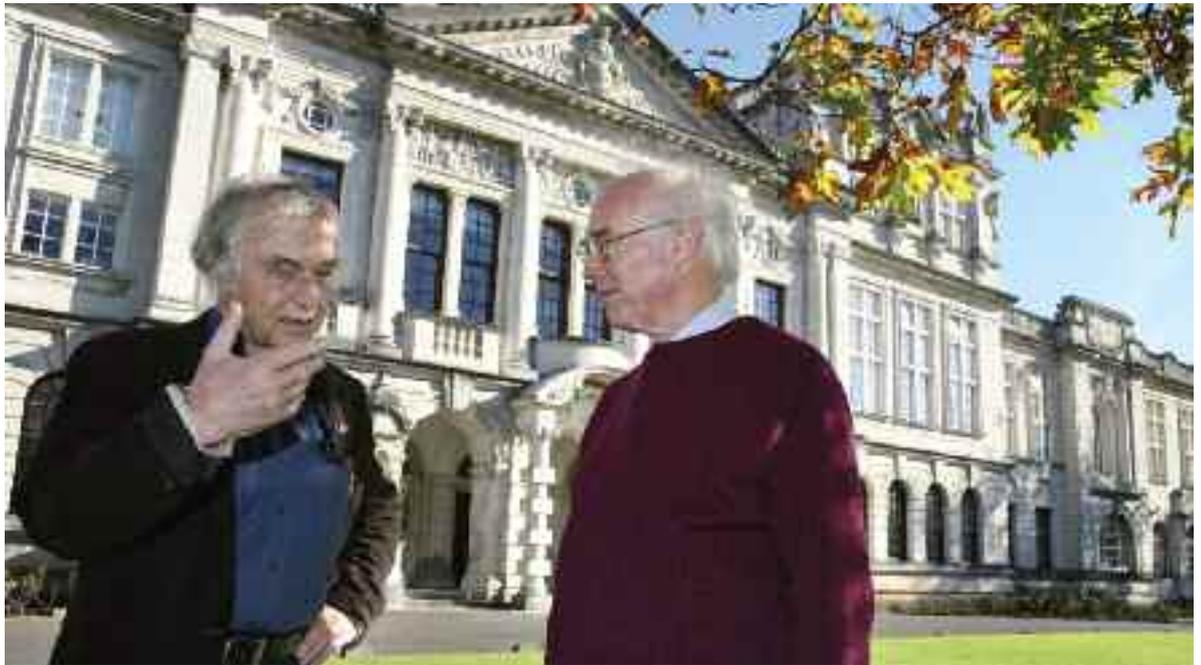
"I grew these control cells out and when I looked down the microscope, I saw stem cells growing. That was the Eureka moment – I knew immediately what I'd got."

Once Sir Martin had discovered the stem cells it was possible to use them with Professors Capecchi and Smithies' homologous recombination technique to create the highly versatile new technology of gene targeting.

"Cardiff University has not one, but two Nobel Prize winners on its staff and that is a fantastic boost to science in Wales."

Welsh Assembly Government
First Minister,
Rhodri Morgan

First laureate leads developments



Sir Martin in conversation with fellow Laureate Professor Robert Huber

Sir Martin became the University's second Nobel Laureate - Professor Robert Huber (awarded the prize for Chemistry in 1988) was the first, joining on a part-time basis to lead the development of Structural Biology. A key development in Professor Huber's first year has been the appointment of Dr Mathias Bochtler from Poznan University, Poland.

They and colleagues have worked together to create a crystallography laboratory to enable researchers to purify

proteins, crystallise them and then use x-ray diffraction to work out their structure. A number of projects are already under way using the new resources at the lab and with Professor Huber acting in an advisory capacity.

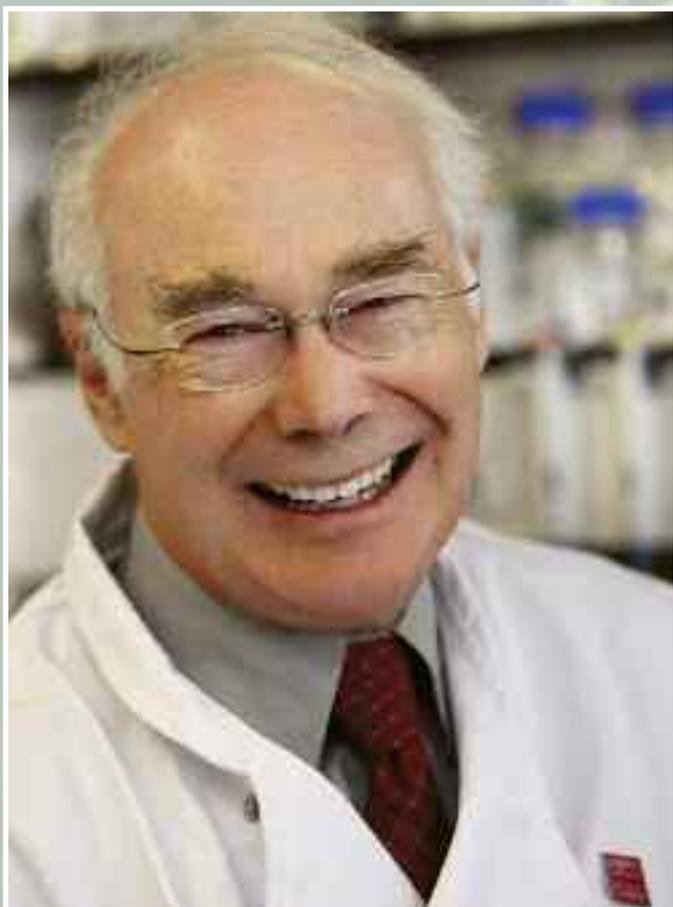
"The Nobel Prize is tribute not just to the academic brilliance of Sir Martin's discoveries but also to the wide-ranging benefits of his research."

Cardiff University Vice-Chancellor, Dr David Grant

"Few discoveries have had greater impact on contemporary biomedical sciences."

Professor Christer Betsholtz, member of Nobel Assembly

Cardiff scientist wins Nobel Prize for Medicine



| Professor Sir Martin Evans



| The Nobel Medal

Professor Sir Martin Evans was awarded the Nobel Prize for Medicine, the most prestigious honour in science, for his part in a series of ground-breaking discoveries concerning embryonic stem cells and DNA recombination in mammals.

It has already produced more than 500 different models of human disorders, including cardio-vascular diseases, diabetes and cancer.

Sir Martin, Professor of Mammalian Genetics in Cardiff School of Biosciences, was the first scientist to identify embryonic stem cells, which can be adapted for a wide variety of medical purposes. His discoveries are now being applied in virtually all areas of biomedicine - from basic research to the development of new therapies.

The gene targeting techniques associated with his breakthrough are now applied worldwide, improving our understanding of diseases and offering the prospect of cures and treatments for all humanity. It has already produced more than 500 different models of human disorders, including cardio-vascular diseases, diabetes and cancer. Sir Martin has himself been at the forefront of putting the new technique to use in tackling individual diseases, including improving our understanding of why some women have a predisposition to breast cancer.

“This is a proud day for Sir Martin, for Cardiff University and for the country.”

Prime Minister,
Gordon Brown

Record research awards

Architecture's huge range of success



The Brihadeshvara Temple in Tanjavur

"We are excited by the chance to collaborate with truly world-leading teams."

Charles Kresge,
Vice President,
Research and
Development,
Dow Chemical
Company

Professor Barry
Carpenter (pictured
right), Director of the
Physical Organic
Chemistry Centre

"The Centre is poised to push back the frontiers of science in a spectacular fashion."

Former Director
General of UK Science
Research Councils, Sir
John Cadogan

A particularly encouraging success of the Welsh School of Architecture, one of the schools to double its research awards, is the huge range of projects it won, including architectural science, history and theory of architecture and architectural design, as well as the range of funding sources which included the Research Councils, the EU, the Welsh Assembly Government and industry.

The School's work with industry included a contract with Atkinsglobal to carry out the building physics for Dubai's first low carbon tower, the Lighthouse Building, which will be around 400m in height.

Researcher Dr Adam Hardy leads a team which secured a major Arts and Humanities Research Council award for work on Indian temples. He published *The Temple Architecture of India*, a lavishly illustrated book explaining the design principles behind the Buddhist, Hindu and Jain temples built between the sixth and thirteenth centuries.

The School also secured the UK Building Research Establishment's Centre for Sustainable Design, with a new professorial appointment jointly funded by the Research Establishment, the Welsh Assembly Government and the University Research Fund.

Chemistry wins worldwide challenge

Cardiff School of Chemistry has been selected from hundreds of international contenders to crack a challenge laid down by the US-based Dow Chemical Company for new approaches to methane conversion.

Methane has resisted the attempts of chemists over the last century to directly react and selectively form other chemicals. Recognising the need for creative approaches, Dow Chemical took the unusual step of undertaking an open solicitation in the quest for innovative concepts. Awards totalling more than £3M were made to multi-institutional, multi-disciplinary teams led by Cardiff and Northwestern University in the USA.

The School saw the number of research awards won almost doubled in the year under review. These included a grant to investigate the possibility of converting the biodiesel product glycerol to high-added value speciality chemicals. At the moment, surplus glycerol is incinerated and the School will be working on economically viable and environmentally beneficial alternatives.



The School has established a new Centre for Physical Organic Chemistry and aims to establish the UK as a world leader in the field. The School won a grant of more than £4M from the Engineering and Physical Sciences Research Council to establish the centre, making Cardiff one of only two universities in the UK to benefit from the research council's investment in this area. The Centre is also supported by substantial on-going investment from the University and funding from the Higher Education Funding Council for Wales.

Record awards reflect research excellence



The value of research awards won by Cardiff University staff has reached a new record high - breaking through the £100M milestone for the first time.

Research Councils, governments, charities and industry support research at Cardiff because they know they can rely on the highest quality outcomes and associated benefits to society.

The past year saw particularly strong growth in the awards from the Research Councils and charities - the most competitive arena for research funding and one which is based heavily on in-depth peer review. There was also a strong performance in winning awards from UK central Government and from commerce and industry.

The record £110M awarded is a 14 per cent increase on the previous year and represents continued sustained growth, following on directly from previous year-on-year increases of 21 per cent and 25 per cent. It is the first time in our history that the University has passed the £100M milestone for research awards.

The Schools of Medicine, Engineering, Biosciences and Physics and Astronomy were among the major research award winners while the Schools of Mathematics, Law, Architecture, Computer Science, Optometry and Vision Sciences, Nursing and Midwifery Studies and Welsh all more than doubled their awards.

| Dr Paola Borri, Cardiff School of Biosciences, who works to establish inter-disciplinary research activity at the interface between laser optics, cell biology and medicine

Record research awards

Director of the Centre
Dr Sophie Gilliat-Ray



Understanding Islam in the UK

The increasing impact of the University's unique Centre for the Study of Islam in the UK, part of the School of Religious and Theological Studies, was demonstrated with two major awards for research studies into aspects of Muslim communities.

Working with colleagues in the School of Social Sciences, researchers are examining the practicalities of bringing-up

Muslim children in a non-Muslim society, children's understanding of their religion, and differences between families by religious tradition, ethnic background and social class. In the other study they will look at the role of Muslim chaplains, who are emerging as a new kind of religious professional in many public institutions such as prisons and hospitals.

Funding for both new studies comes from the Arts and Humanities Research Council and the Economic and Social Research Council.

New approaches to workplace bullying

Workplace bullying and harassment is under scrutiny by researchers at the School of Social Sciences, supported by a £565,030 grant from the Economic and Social Research Council.

Professor Ralph Fevre's team is undertaking a large survey to establish the prevalence of unreasonable, illegitimate or unfair aspects of social relations, including those which are labelled as bullying or harassment, in UK workplaces.

The researchers are particularly interested in finding out which groups of employees are more likely to report such negative experiences and why some employees are more likely to report negative experiences than others.

The research will produce recommendations for policy and practice in the workplace as well as furthering social-scientific understanding of workplace behaviour.

Journey to the Centre of the Earth

A massive hole in the depths of the Atlantic is being investigated by university scientists.

The team discovered thousands of square kilometres in the middle of the Atlantic where the Earth's crust appears to be missing. Instead, the mantle - the deep interior of the Earth, normally covered by crust many kilometres thick - is exposed on the seafloor, 3,000m below the surface.

Marine geologist Dr Chris MacLeod, School of Earth, Ocean and Planetary Sciences said: "This is like an open wound on the surface of the Earth. Was the crust never there? Was it once there but then torn away on huge geological faults? If so, then how and why?"

Dr MacLeod travelled with a team of scientists to the area, lying mid-way between the Cape Verde Islands and the Caribbean. They used sonars to image the seafloor and took rock cores using a robotic seabed drill.

At the heart of Welsh science's "fantastic week"

"A fantastic week for science, technology and engineering in Wales" was how Welsh Assembly First Minister Rhodri Morgan described the second week of October 2007.

Cardiff University had good cause to feel a sense of achievement. The First Minister was referring to major new developments in Welsh science - with Cardiff University playing a lead role in three of them.

The developments were: the award of the Nobel Prize for Medicine to Professor Sir Martin Evans (see page 3); the opening of the School of Engineering's Gas Turbine Research Centre and the School of Medicine's launch of the Biobank project (see page 21).

Cleaner, more efficient aircraft engines and electricity generation is the goal of the multi-million pound Gas

Turbine Centre, using equipment provided by technology company QinetiQ, which selected the School of Engineering as partner ahead of contenders from throughout Europe.

The Centre is testing a wide variety of fuels at high temperatures and pressures for such factors as combustion stability and pollutant formation as well as test work on alternative liquid and gaseous fuels.

The Centre has been heralded as an excellent example of the University and an international technology-based company working together to bring direct and indirect benefits to the Welsh economy and businesses.

The Centre is supported by c£4M from the European Regional Development Fund, and £350,000 from the Welsh Assembly Government, with the Higher Education Funding Council for Wales providing around £600,000 for associated equipment.

"We selected the School of Engineering because of its expertise in combustion and optical measuring techniques. The rigs already have a number of world firsts to their credit and we are pleased to be working with the University to help shape future gas turbine development."

Dr Simon Bennett,
Commercial
Director, QinetiQ

The brain - the final frontier

Described by some researchers as science's "final frontier", cognitive neuroscience is a fast-moving scientific discipline which is beginning to transform the understanding of normal and damaged brain function. Such research can inform the treatment of brain impairments such as head injury, stroke, dementia and schizophrenia.

Cardiff School of Psychology played a key part in creating the new multi-centre Wales Institute of Cognitive Neuroscience, strengthening the nation's international reputation in one of the most significant areas of contemporary science. Building on existing world-leading research in this field, including the Cardiff University Brain Research Imaging Centre, the Welsh Assembly Government invested more than £5M to establish the Wales Institute of Cognitive Neuroscience, a partnership between Cardiff, Bangor and Swansea universities.

Researchers in the Schools of Psychology, Medicine, Biosciences and Optometry are also working together through the new Cardiff Neurosciences Centre, which draws



together neuroscience expertise from across the University and from the Cardiff and Vale NHS Trust. The Centre already has more than a hundred senior researchers involved in many aspects of clinical and non-clinical neuroscience research. Areas of interest include: Molecular and Cellular Neuroscience, Neuronal Development, Neurophysiology, Synaptic Plasticity and Learning and Memory, Neurodegeneration, Neuroimaging, Psychiatric Genetics, Behavioural Neuroscience, Cognitive Neuroscience and Perception.

| The launch of the Wales Institute of Cognitive Neuroscience

"This is a collaborative venture among already strong departments in order that they can compete effectively in their research with the very best in the world."

Head of Cardiff School of Psychology,
Professor Dylan Jones

Royal opening for unique policing collaboration

HRH the Prince of Wales launched a unique new partnership between the University, South Wales Police, and the University of Glamorgan.

The Universities Police Science Institute integrates police research, policy and operations, combining Cardiff's outstanding research capabilities with Glamorgan's expertise in training and providing exceptional education opportunities for police officers.

Cardiff will provide evidence-based research on a range of policing issues, including a methodology for measuring the impact of homicides on communities; work on police intelligence systems and the role of community intelligence; and the 'science' of police patrolling.

Internationally-renowned criminologist Professor Martin Innes is the Institute's first Director. His experience includes researching nationally and internationally on issues connected with Reassurance and Neighbourhood Policing strategies and he is recognised as one of the principal architects of the Government's current national Neighbourhood Policing Programme.

Record research awards



| The Hubble Telescope

Answers from deepest space

Cardiff School of Physics and Astronomy was involved in some spectacular finds in the cosmos, including the first-ever image of one galaxy being ripped apart by a cluster of other galaxies.

Researchers used the Hubble Space Telescope to observe an oddly-shaped galaxy some 3.2bn light years from Earth which is being torn apart by enormous forces from hundreds of surrounding galaxies. The 'Comet Galaxy' is being slowly stripped of its gas and stars, causing it to age prematurely. Scientists had been aware that such evolution must take place, but had not seen it happen "live" until now.

At the very end of 2007, it was announced that the first definitive evidence of cosmic dust, the building blocks of planets like our Earth and ultimately ourselves, has been found in the remains of a massive star explosion 11,000 light years away in our own Galaxy. Cardiff astronomers helped analyse images from NASA's Spitzer Space Telescope of the remains of the supernova Cassiopeia A and found enough cosmic dust in it to make up 10,000 Earths.

... the building blocks of planets like our Earth and ultimately ourselves, has been found in the remains of a massive star explosion ...

However, the hunt for cosmic dust does not end there. The findings from the Spitzer telescope do not explain where all of the dust seen in distant galaxies comes from. Cardiff astronomers are now working on cameras for the European Space Agency's new Herschel Space Telescope, due to be launched this year, which could provide a final answer.

Maths award adds up to record investment

A £13M initiative brings Cardiff University together with the Universities of Lancaster, Nottingham and Southampton to develop world-leading work in the field of Operational Research.

Operational Research uses advanced analytical methods, including mathematical and computer modelling, to arrive at the best solutions to complex problems. Its techniques are used in airport scheduling, road traffic management, freight logistics and many other areas. The award, the largest ever in the UK for Operational Research, is from the Engineering and Physical Sciences Research Council Science and Innovation Awards and will make advances in theoretic understanding which are relevant to real-world applications.

Cardiff's share will be more than £3M, allowing the appointment of several new lecturers, post-doctoral positions, and PhD students, maintaining the University's reputation as a leading centre in this area.

Science and Innovation Awards were introduced by the Engineering and Physical Sciences Research Council in 2005 to support strategically important areas of research. Remarkably, Cardiff University has won three out of the four Science and Innovation Awards made to date.

The world's first trees

When researchers discovered two fossilised trees in upstate New York, they called in Dr Christopher Berry of Cardiff School of Earth, Ocean and Planetary Sciences.

Dr Berry, who has studied tree fossils around the world, was able to identify the trunks as being of the genus *Wattieza*, a tree fern-like plant. Small fragments of these have been found in the past, but there was no direct evidence of how large they could grow. The new specimens show that they reached at least eight metres and formed the first known forests on earth some 385 million years ago.

"This was also a significant moment in the history of the planet," said Dr Berry. "The rise of the forests removed a lot of carbon dioxide from the atmosphere. This caused temperatures to drop and the planet became very similar to its present-day condition."

New Optometry building is an eye-opener



After what is believed to be the largest ever single UK investment in eye-care, a £21M state of the art building for Cardiff School of Optometry and Vision Sciences has been formally opened.

The building brings teaching, clinical practice and research under one roof for the first time. It offers one of the most advanced facilities in the country for work on the causes, treatment and prevention of vision conditions.

The facilities will also help the School continue to attract and train the next generation of optometric professionals.

Increased capacity will enable the School to undertake more pioneering research into such conditions as age-related macular degeneration (the major cause of blindness in the elderly), glaucoma, diabetic complications, cataracts and myopia (short-sightedness), low vision and binocular vision.

The School's public Eye Clinic has doubled in size and specialist clinical services for patients across Wales who have special educational needs, diabetes, glaucoma, epilepsy, partial sight and blindness have been enhanced. The facilities will also help the School continue to attract and train the next generation of optometric professionals.

The past year has also seen the School win a £1.35M award from the Medical Research Council for research into corneal diseases, which affect ten million people worldwide. Researchers are working to increase the understanding of the transparency of corneal tissue and, working with colleagues from other parts of the UK, the United States, Australia and Japan, the Cardiff team will also examine how certain treatments act to restore vision where it has been lost.

| The new £21M Optometry and Vision Sciences building

“This excellent new facility will further the University’s reputation as a centre of excellence for research; not only in Wales and the UK but worldwide.”

Rhodri Morgan,
Welsh Assembly
Government
First Minister

Record research awards

Fresh light on a stained glass window



York Minster's Great East Window is one of the largest expanses of medieval glass in Europe, with 287 panels each containing hundreds of pieces of glass. Professor Ian Freestone of Cardiff School of History and Archaeology is studying its origins, composition and corrosion while it is undergoing repair.

Stained glass is under continual threat from the atmosphere. It can dissolve away over the centuries through the action of rain and condensation. The Cardiff study could yield fresh insights into the composition of stained glass and help with conservation work across the world.

Meanwhile, archaeologists at the School revealed new evidence of the nasty, brutish and short lives of Stone Age Britons. Carbon dating of 14 human remains discovered at a prehistoric burial site at Wayland's Smithy, Oxfordshire, suggests that most could have died in a massacre. The team used ground breaking techniques to date the remains of the bodies to between 3590 BC and 3560 BC.

York Minster's Great East Window

Unravelling scrolls

Over the past decade, Professor Tim Wess, head of Cardiff School of Optometry and Vision Sciences, has worked on the problem of deteriorating collagen in historical parchment made from animal hides.

Working with the School of Conservation in Denmark, and the national archives at Scotland and in Kew, he has developed techniques to tell how degraded a parchment has become and advises on new treatment and conservation techniques. A fresh development came with the opening of the Diamond Light Source synchrotron in Oxfordshire last year. A massive circular structure, the synchrotron fires electrons at close to the speed of light, creating intense beams of X-rays, ultraviolet light and infrared rays. Professor Wess wondered whether it would be possible to use the tomography to read a historical parchment which was too fragile to unroll. A successful test on a 17th century document from the Scottish archives followed and a way of reading fragile documents without unfolding them had been discovered.

The next step was to develop a way of unrolling the image obtained by the synchrotron. Colleagues in the Welsh e-Science Centre, Information Services, and Cardiff School of Computer Science have been working on the full-scale imaging and virtual unravelling of the documents. This "flattens" the rolled-up image to a form which can be read - a new technique which received worldwide media attention and prompted many invitations for Professor Wess to help read parchments which have been too delicate to unravel. He also hopes to gain permission to view the many Dead Sea Scrolls which still remain unread.

Thriving Welsh celebrates publications



Cardiff School of Welsh staff with their publications

Cardiff School of Welsh celebrated with a reception for guests the publication of six books, ranging in topic from Owain Glyndŵr, the last Welsh prince, to the role of language and governance.

In addition to the new publications, the School also began an online project with the aim of transcribing material from the period c.1350-1425. The website provides researchers for the first time with an online searchable collection of Medieval Welsh prose from more than 100 texts. Funded by the Arts and Humanities Research Council the website includes the Mabinogion tales as law texts, historical, religious, medical and grammatical works.

Shakespeare in Liverpool



“... a crucial part of the Shakespeare story ...”

Professor Richard Wilson, Cardiff School of English, Communication and Philosophy

A leading Shakespeare expert's work on the Bard's time in the North is the bedrock of a bid to rebuild the theatre which staged his plays.

The application to rebuild an Elizabethan playhouse at Prescot, Liverpool reached the final stage of a £27M 'Big Lottery' application to fund the reconstruction.

The idea of rebuilding the first indoor theatre in England, and the only purpose-built playhouse outside London in Shakespeare's lifetime, originates from a conference organised by Professor Richard Wilson, Cardiff School of English, Communication and Philosophy in 1999.

The bid would not have been possible without the rediscovery of the 'Lancashire Shakespeare' connections substantiated by Professor Wilson in books such as *Secret Shakespeare*. Through his research it emerges that the playhouse was built in Prescot because Shakespeare's company acted for the Earl of Derby throughout the 1590s. Plays such as *Richard III*, *Love's Labour's Lost* and *A Midsummer Night's Dream* were likely to have been staged there for the Earl.

Professor Wilson, academic adviser to the bid, said: "Our aim is for the theatre to become a focus for the rediscovery of a crucial part of the Shakespeare story: the great touring network that carried Elizabethan actors through Britain and Europe as far as Denmark, Germany and Poland."

Excellence in humanities

The excellence of the University's work in the humanities is acknowledged the world over.

Cardiff-trained journalists are working on some of the best-regarded newspapers, TV and radio stations on the planet. Works from Cardiff School of Music composers are in the international repertoire. University archaeologists have been called in to resolve centuries-old mysteries from Ancient Rome, Egypt and Greece.

Against this backdrop an initiative was launched to support co-operative working across the humanities.

The Cardiff Humanities Research Institute will foster research collaborations, knowledge-sharing, intellectual debate and exchange across all areas of academic research. It will host workshops, public lectures, seminar series and other events; provide funding and support for the early stages of networks or projects; and encourage research dissemination and wider knowledge of humanities activities at the University.

The Institute has the support of seven core member schools: English, Communication & Philosophy; European Studies; History and Archaeology; Journalism, Media and Cultural Studies; Music; Religious and Theological Studies and Welsh. The Welsh School of Architecture and School of Law are associate members.

| Professor Richard Wilson, second from right, with the bid team members

Record research awards

Reducing Wales' energy footprint

Establishing Wales as an international showcase for sustainable energy use is the ultimate goal of a new all-Wales Institute.



The Low Carbon Research Institute, involving the Schools of Architecture and Engineering, will co-ordinate research on clean energy technologies and their implementation in Wales. Bangor, Glamorgan and Swansea Universities are partners in the scheme, which has more than £5M funding from the Welsh Assembly Government.

The Institute will seek to achieve more affordable low carbon energy costs, improve energy efficiency from different sources, reduce energy demand across all sectors, make Wales less dependent on imported fuels and reduce climate change.

The Institute's main themes are:

- ▶ Low carbon energy generation, storage and distribution - including wind and tidal power generation, biomass micro-generation sites, photovoltaic electricity technology, fuel cell and hydrogen technologies, and more sustainable coal and gas-powered energy.
- ▶ Energy demand reduction, including research into low carbon buildings, energy controls for industry and greater use of waste heat.
- ▶ An Energy Graduate School, providing courses on energy to create a highly skilled Welsh workforce familiar with sustainability issues.
- ▶ Partnerships with industry, research organisations and Government to help translate research into practice. The possibility of creating new energy industries for Wales will be explored. The Institute will also advise the Welsh Assembly Government on delivery of its Energy Policy.

Leadership and computing supporting research

Continual development of resources for academic researchers has included c£3M investment in powerful 'supercomputing' tools.

A new division, Advanced Research Computing @ Cardiff (ARCCA) was established as the hub for development of the University's high performance computing infrastructure. It helps researchers apply these tools to solve problems and undertake original work that might otherwise be impossible.

Professor Martyn Guest, formerly Associate Director of Computing Science and Engineering at the Council for the Central Laboratory of the Research Councils, was appointed to lead the new Division within the Directorate of Information Services.

During the year, the University's Condor pool - a high performance initiative pooling spare capacity in PC work stations into a £500,000 supercomputer - became the

largest in the UK. Condor's growth was helped by donations of capacity from a large number of our academic schools and is proving an invaluable time-saving resource in a wide range of research projects.

Team leadership is an essential element of many research projects and the Human Resources Division established a pioneering new course to develop the leaders of the future. Cardiff became the first university in the UK to incorporate the popular Leadership Foundation for Higher Education's Research Team Leadership module into its own programme, including additional training activities and sustained support for participants.

The first programme completed was for lecturers and senior lecturers recently appointed as principal investigators or currently leading small research teams. The course focuses on practical techniques for leading and managing research teams and will be a regular part of the staff development programme.

Opera academy's first year hits the high notes

The Cardiff International Academy of Voice is winning awards and widespread acclaim.

Developed by Cardiff University and the internationally renowned Welsh tenor, Dennis O'Neill, the Academy has developed a new approach to operatic training with workshops and masterclasses. Highlights of the year included a two week period studying and performing at the Teatro dei Diferenti in Barga, Italy. Korean Baritone, Seungwook Seong won the Stuart Burrows International Voice Award at the Trinity Arts Festival. He also performed at the University's graduation ceremonies along with fellow Academy students Luciano Botelho, from Brazil, and Romanian Gergely Nemeti. A television audience was able to see the students' skills for themselves when they appeared alongside established stars such as Dame Kiri te Kanawa at the Wales Millennium Centre for a gala tribute for Dennis O'Neill. Academy students also gave a special performance for the George Thomas Hospice 'Light up a Life' Christmas 2007 appeal.



"Dennis O'Neill and his colleagues are to be congratulated on the exceptionally high standards of these young singers."

Moira Macfarlane, British Consul, Florence

Students recognise high quality teaching

The University's high quality teaching and learning has been recognised in a number of surveys and studies throughout the year.

Cardiff was the strongest performer in more subjects than any other university in the annual National Student Survey, according to an assessment by the *Times Higher Education Supplement*. The survey, commissioned by the Higher Education Funding Councils, is a comprehensive study of satisfaction levels among final year undergraduates across the UK. In 2007, Cardiff ranked first in six subjects - more than any other university - achieving top scores in Mechanical/Production Engineering, Journalism, Linguistics, Social Studies Subjects, Planning and Zoology. For the second year running, Cardiff was also the eighth most popular university in Britain among university applicants, with more than 34,000 applications - meaning the average member of the 2007 intake had around seven rivals for their place.

In addition to the national survey, the University has also undertaken its own comprehensive student survey which is producing action to further enhance the student experience

at Cardiff. Project Q, a joint enterprise with the Students' Union, completed a three-year study of the views of more than 10,000 undergraduate and postgraduate students. The study operated in three phases, looking at applying and arriving at Cardiff, time at the University, and how students fared on leaving.

The results found that overall there is great satisfaction with the Cardiff experience and identified areas for development which are being acted upon.

The University has invested heavily in ensuring that students are equipped with the latest in Information Technology resources to support their studies. In recent years, this has included the rolling out of wireless IT access across the campus and the ongoing Modern Working Environment project, which will transform on-line working for students and for staff. This commitment continued in 2007 when University President Lord Kinnock opened a new IT Shop developed by the Students' Union in partnership with Cardiff University's Information Services Directorate and RM plc - one of the University's principal IT suppliers.

| Cardiff International Academy of Voice students Laura Parfitt and Jurgita Adamonyte performing at an operatic gala

"Cardiff University is head and shoulders above many other institutions when it comes to researching the experience of its students."

Jonny Cox, President, Cardiff University Students' Union 2007-8

125th anniversary



The President, Lord Kinnock, shares a joke with the Vice-Chancellor Dr David Grant at the anniversary launch

Cardiff for Africa



Global health forms an important theme for the University's 125th anniversary year. A 'Cardiff for Africa' conference focuses on opportunities for knowledge-transfer and suggests ways in which British universities can contribute their expertise for the benefit of African society.

Mothers of Africa is an educational charity set up in the University's School of Medicine and involving NHS Wales colleagues to try to reduce maternal mortality figures in Sub-Saharan Africa. In certain countries up to 1 in 50 women die in child birth, the kind of death that is just very, very rare in the developed world. "We hope to help in some small way by assisting in the education of doctors, nurses and medical support staff to deliver anaesthesia to pregnant mothers," said Dr Judith Hall, Head of the Department of Anaesthetics & Intensive Care Medicine.

Help celebrate our anniversary

The 125 celebrations include a variety of ways for staff, students and friends of the University to get involved. One of the features of the specially-created 125th anniversary website is the "My Cardiff" section. Members of the University past and present, and others with a close connection, talk about what Cardiff University means to them.

A photography competition aims to find the best images capturing University buildings, work, life and other aspects of Cardiff University. To submit your story or photo, visit the 125 web site www.cardiff.ac.uk/125

Cardiff graduate Sophie Bright (front row, centre) features on the 125th Anniversary web site describing her voluntary work helping others in Uganda and Kenya



Celebrating 125 years of making a difference



On 24 October 1883 the citizens of Cardiff paraded through the streets and church bells rang all day to celebrate the opening of what is now Cardiff University. Throughout 2008 we celebrate our 125th anniversary with a packed calendar of events.

The contrast between the University today and our modest beginnings could hardly be greater. Then, under the leadership of 27-year-old Principal John Viriamu Jones, 13 members of staff taught 151 students from a former infirmary and a collection of outbuildings and huts.

Today, the University has almost 6,000 staff and almost 26,000 students drawn from 100 nations and undertaking teaching, learning and research with the benefit of outstanding modern facilities and buildings. The quality and relevance of research and

teaching has earned us a place among the ranks of the world's top 100 universities.

Our year of celebration began with a spectacular illumination of Main Building at which University President, Lord Kinnock said "Generations of strong leaders have built upon Cardiff's founding principles - recruitment of the highest calibre staff, equal opportunities for men and women, and the promotion of academic research and teaching of distinction."

The year will feature exhibitions, concerts, lectures, conferences, special publications and celebratory dinners to reflect the enormous breadth and variety of activities at the University. Music plays an important part in the year, reflecting the University's strong tradition in this field. Students from the unique Cardiff International Academy of Voice are lending their vocal talents to support many of the celebratory events. Full details at www.cardiff.ac.uk/125

"I hope this year provides the University with the platform to showcase its many past achievements, whether they be academic, research based or the valuable contribution that it plays towards creating a vibrant Welsh economy."

Jane Hutt, Welsh Assembly Minister for Children, Education, Lifelong Learning and Skills

Ranked among world's top 100

Ranked among the world's top 100 universities

The University is included for the first time in the ranking of the world's top 100 universities.

It rose 42 places from last year's ranking of 141st to 99th in the world in the annual *Times Higher Education Supplement* ranking. The table is based largely on a survey of thousands of experts, who are asked which universities are most respected in their field. Citations, recruiters' opinions and staff student ratios are also taken into account. The survey indicates the high regard around the world for Cardiff's research, teaching and innovation in the sciences, humanities, and health-related disciplines.

International links

The University's high quality teaching and research is reflected in high international demand for study places from applicants from more than 100 countries.

There were some 2,500 students from outside the European Union, and more than 600 non-UK EU students, the majority at postgraduate and researcher degree level. China remains the largest single provider, but there has been recent growth in demand from a number of countries.

The University's international links have been further broadened and strengthened by several initiatives during the year. One involved strengthening links in the United States. A Study Abroad scheme was launched which will enable Cardiff to welcome US undergraduates to study for a semester or an academic year. An exchange scheme has commenced with the Universities of Miami and Delaware which permits a two way flow of students and this will be extended to other well-regarded American universities in the future. During the year the Vice-Chancellor also led a visit to New York and Washington, including meetings with business leaders, potential collaborators, alumni and other supporters.

Cardiff gets aboard

Cardiff became the first European university to partner The Scholar Ship, a passenger vessel which travels the globe as an ocean-going campus.

The University joined the ship's international Consortium of Academic Stewards, which includes the University of California, Berkeley, Macquarie University in Sydney, and Fudan University (China). As an Academic Steward, Cardiff contributes to the ship's academic programming and provides curriculum guidance. The vessel also provides an opportunity for students to spend a semester's study on the ship as part of their Cardiff degree programme.

Helping the German healthcare system



| The signing of the Pharmoeconomics partnership

In a development which is the first of its kind for the University, the Welsh School of Pharmacy has created a unique new partnership degree to help satisfy a surging demand for health economists in Germany.

The MSc in International Pharmoeconomics and Health Economics is being offered jointly by the School's Centre for Socioeconomic Research and the Europa Fachhochschule Fresenius (EFF), a University of Applied Sciences, based at Idstein, Germany. The programme will be entirely delivered in Germany but jointly taught by the two Universities - the first such international arrangement in Cardiff's history.

Professor Sam Salek, Director of the Centre for Socioeconomic Research, said: "The German healthcare system is undergoing some profound changes and faces some difficult challenges. The new MSc, drawing on our Centre's expertise and track record, will provide a new generation of health professionals who can help meet those challenges."

A television hit in India

The University was one of five British pioneers to take part in a televised search for scholarship students in India.

Demand was such that thousands of young Indians took part in the challenging selection process of 'Scholar Hunt: Destination UK'. These included demanding academic exams, a televised interview, a question-and-answer session and a practical challenge, with the offer of a fully-funded university place at the end of it.

Ayushman Jamwal, an 18-year-old from New Delhi, was the winner of the Cardiff section of the show and has now enrolled at Cardiff School of Journalism, Media and Cultural Studies. He said: "It's the chance of a lifetime and I'm really excited to be studying at Cardiff University."

"A Study Abroad scheme was launched which will enable Cardiff to welcome US undergraduates to study for a semester or an academic year."

Strong Chinese links working for Wales



Cardiff is a university which is known worldwide and our international links continue to grow and develop.

Most recently the University's long established and successful links with China have been further strengthened by the launch of the Cardiff Confucius Institute for the teaching of language and culture.

The Institute provides knowledge and expertise of Chinese language, culture and traditions for business, public sector bodies and individuals and will be a major advantage in the development of business between Wales and China.

The Institute is based in the Centre for Lifelong Learning, which is working on the project with one of China's leading Universities, Xiamen. Professor Siyi Fu from Xiamen, a former member of the China Studies Centre at Cardiff, has returned to Wales as Academic Director of the new Institute.

The Institute derives from a visit to China led by the Vice-Chancellor in the spring of 2007, when agreements were signed with Xiamen and the Chinese Language Council Institution for the

creation of the Institute. A further agreement was made with Xiamen University and Cardiff Council for two postgraduate bursaries for Chinese students wishing to study in Cardiff. The first two students to benefit from the scheme arrived in Cardiff last autumn, to study Journalism and Regeneration.

The University's links with institutions in China continue to develop, with collaborative agreements also being signed with two leading Chinese medical schools, amongst others in the last year. The arrangement with Peking University will provide new opportunities for joint cancer research projects, while the agreement with Capital Medical University covers cancer research, nursing and other specialist areas.

The visit by the Vice-Chancellor also saw the official conferring of the title of Cardiff's first Honorary International Vice-President on Professor Zhong Binglin of Beijing Normal University. Professor Zhong is an alumnus of Cardiff School of Engineering, a former Director General of Higher Education in China and has done much to promote Cardiff in the country.

| Chinese traditional dancing at the Confucius Institute launch

“This Institute will help the blossoming relationship between Wales and China continue to grow for the benefit of both countries.”

Paul Murphy MP,
Secretary of State
for Wales

Cardiff in the community



| The winning Beacons team

A Beacon for public engagement

For many people higher education remains something of a mystery.

Cardiff is now leading the way for Wales in one of the UK's biggest ever public engagement programmes to improve understanding of the work of universities and create more interaction between academics and members of the public.

The University is leading the Beacon for Wales, which has secured a share of £9.2M investment to encourage universities to increase the level of consultation with communities, and to open up opportunities for people to better understand, support and challenge research undertaken in universities. The Beacon for Wales is a partnership with the hands-on science centre Techniquist, BBC Wales, the University of Glamorgan and Amgueddfa Cymru - National Museum Wales.

Cardiff University's Community Engagement Team led the bid against 86 other bidders from across the UK to become one of only six Beacons nationwide. The Team completed its first full year of introducing the University's work to the community, for example by organising tours of an archaeological dig taking place near the former Roman fortress at Caerleon. The event brought alive the work of Cardiff School of History and Archaeology to an estimated 500 members of the public.

Broadening horizons by widening access

Staff and students across the University are active in initiatives to remove real and perceived barriers to entering higher education and to support students from disadvantaged areas following their enrolment.

The Widening Access Team worked with more than 1,000 secondary school students from Communities First and other disadvantaged areas in the University's three year Step-Up schemes, delivered in partnership with 20 of its academic schools. The activities provided help in both raising aspirations and in raising attainment of the young people involved. In 2006-7 the scheme dedicated almost 21,000 hours involving more than 300 university students. Events have included Language Experience Days, immersing children in a foreign language environment at Cardiff School of European Studies, and practical workshops for those interested in health related areas.

Cardiff Centre for Lifelong Learning provided a variety of activities aimed at raising the aspirations and attainment of adults from disadvantaged communities. An innovative Mentoring project was piloted by the Centre, matching current mature students to students studying Access to Higher Education in the city's Coleg Glan Hafren.

One particular success was an event held in partnership with Cardiff's Somali Integration Society. At a special open day staff and students answered questions from some 140 members of Cardiff's ethnic minority communities about the hurdles of getting into university.

The results of the strategy speak for themselves. Of 286 pupils who completed the Step-Up scheme in 2007, 106 applied to study at the University and 61 were offered places, with another 34 firmly placed at other universities. Cardiff has exceeded its institutional benchmark for state school intake and is well above the average in the Russell Group of the UK's leading universities. In 2006/7, some 671 students from areas with little higher education tradition enrolled at Cardiff - a 17 per cent increase on previous years.

Setting a benchmark for energy saving

Great strides are being made towards saving some 26,000 tonnes of carbon over the next five years as a result of our new energy, water and waste policy. In the first six months of implementation gas consumption fell 15 per cent and electricity by two per cent.

Much of the success was achieved by the University's team of around 60 "eco-champions" - representatives in every academic school and administrative department who encourage colleagues to remember the environment in everything they do.

The new policy was developed in consultation with Cardiff University Students' Union and with advice and support from the Carbon Trust. The Higher Education Funding Council for Wales has provided a £1M for the University's metering systems such that we aim to read more than 3,000 meters automatically every month rather than 1,100 meters manually.

National award for student volunteers



The University is proud to have one of the largest and most active student volunteering groups in the UK and the first to achieve the national Investing in Volunteers award.

Student Volunteering Cardiff (SVC) enhances the lives of the disadvantaged and vulnerable members of the local community via more than 30 projects involving 900 volunteers and five dedicated staff.

SVC stepped up its involvement in Cardiff Action for Single Homeless. Around 40 volunteers took part in visits six times a week to the Huggard centre for homeless people. They cooked and served meals for homeless people, organised social events including bowling, cinema trips, quizzes and art sessions, as well as Halloween and Christmas parties. The volunteers' enthusiasm and activities have been greatly appreciated by both Cardiff Action for Single Homeless and clients. On its most recent Sleep Out, where volunteers sleep rough to raise awareness of homelessness, Cardiff students took part and helped raise funds for the Cardiff Action group.

To achieve the Investing in Volunteers standard, Student Volunteering Cardiff had to demonstrate



good practice in ten different areas, including fair recruitment, properly resourced programmes, induction and support.

Students also made a difference on the streets of Cardiff. The Students' Union successful "Get it Out for Cardiff" campaign, run with Cardiff Council and local landlords, encouraged students from all local universities to dispose of waste in a socially responsible manner at the end of the academic year. Some 350 tonnes of rubbish was cleared after a concerted campaign to raise awareness.

Students Rebecca Thomas and Rachel Johnson drum up support for the summer clear-up campaign

"These young people make an enormous contribution to the local community while at university and many will go on to be life-long volunteers and make a real difference to the lives of others."

Sue Pickavance,
Director of
Volunteering,
Wales Council for
Voluntary Action

Cardiff in the community



Record-setting poet
T James Jones with the
Eisteddfod Chair

Making Eisteddfod history

T James Jones, Associate Lecturer at Cardiff School of Welsh, made National Eisteddfod history when he won the Chair for poetry.

Mr Jones is believed to be the first bard in the competition's 127 year history to win its leading poetic prizes - the Crown and the Chair - with poems on the same subject.

He won the Crown at the 1988 Eisteddfod in Newport for a free verse poem on the set subject of "ffin", or boundary. He then turned his attention to the Chair competition, in the much tougher discipline of cynghanedd. This is a strict meter, dating back one thousand years, set in an alliterative pattern.

After several attempts, he won the Chair at the event in Flintshire - again with a work about "ffin". This poem deals with the eviction of the community during World War II and Mr Jones' own thoughts on mortality.

Mr Jones has been writing since the 1960s and teaches creative writing in the cynghanedd form at the School of Welsh. Having finally won the specially-carved Chair, which he gets to keep, Mr Jones promptly announced his retirement from Eisteddfod competition.

Wales links up with Ireland

Wales' links with Ireland have been further strengthened by the establishment of an Ireland-Wales Research Network, launched by Cardiff School of English, Communication and Philosophy to promote understanding of the intertwined stories of the two countries. Irish people represent the largest single group of immigrants to play a part in the story of Wales.

Colm McGrady, Consul General of Ireland in Wales, said: "This is a very timely and important initiative. Wales and Ireland share much in terms of our cultural heritage. The Network will undoubtedly contribute to a wider and deeper understanding of the rich tapestry of these links."

The first event in the Network's seminar series saw Pulitzer Prize-winning poet Paul Muldoon enthral a large audience with a selection of readings from and about Wales.

The Network is funded by the Arts and Humanities Research Council and in partnership with Aberystwyth University.

"This is a very timely and important initiative. Wales and Ireland share much in terms of our cultural heritage."

Colm McGrady,
Consul General of
Ireland in Wales

Fighting world hunger

Professor Kevin Morgan, from Cardiff School of City and Regional Planning was asked by the UN to lead a team devising a school feeding initiative for its World Food Programme.

The new programme aims to combat malnutrition, improve educational standards and encourage local production in developing countries by providing free school meals for pupils.

Previous work by Professor Morgan has shown that food procurement can be harnessed to provide benefits for local food producers as well as school-age children. The new study assesses how the provision of school meals can contribute to social and economic progress in developing countries and address the associated effects of hunger such as poverty, illiteracy and ill health.

The project contributes to the delivery of the eight Millennium Development Goals set out by the United Nations, which include halting the spread of HIV/AIDS, providing universal primary education and halving the proportion of hungry people in the world.

Professor Morgan said: "The aim is to deliver a double dividend of more nutritious food for children and more local markets for local producers."

An international centre for biomedicine

The University is an established international centre for biomedical research and teaching and in biomedical related areas has some 1,500 academic staff, 9,000 students and hundreds of research projects.

Among the most exciting major new projects launched during the year is the UK Biobank. This will involve half a million people, take more than 30 years to complete and offer fresh hope to sufferers of countless diseases and conditions.

Volunteers aged 40-69 are providing blood and urine samples and some basic medical information about themselves and their health will be tracked over three decades. The first volunteers, including Welsh Assembly Government First Minister Rhodri Morgan are being recruited within a ten mile radius of Cardiff before the project moves on to other cities and towns throughout Wales.

In this way Biobank will build a huge database of health information to help medical researchers. In Wales, Cardiff University is spearheading this ambitious project which is funded by the Wellcome Trust, the Medical Research Council, the Welsh Assembly Government, the Department of Health, the Scottish Executive and the Northwest Regional Development Agency.

Biobank will offer fresh hope to sufferers of countless diseases and conditions.

Biobank is just one of the ways that major new developments and investments in healthcare are helping to combat disease and suffering around the world. The British Heart Foundation invested more than £2M in the Wales Heart Research Institute to investigate the underlying causes of Sudden Adult Death. Researchers use the latest molecular, biological, structural and biophysical techniques to investigate a large protein, the calcium-release channel which could hold the key to an inherited condition which can result in sudden cardiac death at all ages.



| Health Care Nurse Rizwana Nadeem helps First Minister Rhodri Morgan measure up for Biobank

International centre for biomedicine

New insights into mental disease

Advances in genetic knowledge are providing new perspectives on the underlying causes of diseases of the mind. Cardiff University scientists have been at the forefront of developments in this field, opening the way to possible new treatments by starting to pinpoint the biological mechanisms involved in mental illness.

A team from the University's School of Medicine has revealed the results of a study of bipolar disorder - part of a UK-wide collaboration involving more than 200 scientists studying 11 different diseases and analysing DNA from 17,000 people.

The Cardiff team found that there are many genes which put an individual at greater risk of the disorder, each gene on its own making a relatively small contribution to the risk. The results shed light on the biological systems behind bipolar disorder, which affects around 100 million people worldwide. For example, several of the identified genes play a key role in the way the nerve cells in our brains communicate.

The team's discoveries will help pave the way for better diagnosis of mental disease and new treatments. Some new therapies will involve drugs, but others are likely to include education, lifestyle advice and talk-based treatments.

Professor Nick Craddock of the School of Medicine said: "The powerful molecular genetic approaches that we are using provide a window into the workings of the brain in those suffering from bipolar illness. This should be a time of great optimism for those individuals and families that have experienced illnesses like bipolar disorder, schizophrenia and depression."

The location of genes which can make women vulnerable to severe psychiatric illness and even suicidal just after childbirth has been found by another Cardiff research team. The condition of puerperal (or postpartum) psychosis comes on in some women within a few days of giving birth. The condition is one of the most severe forms of mental illness and can have serious implications, including suicide - now the most common cause of maternal death in the UK. Women with bipolar disorder are at particularly high risk with as many as one in three deliveries followed by an episode of postpartum psychosis.

Dr Ian Jones' team examined the DNA of families in which at least one woman had suffered with an episode of postpartum psychosis. They found the location of the genes involved in the illness and are now homing in on the genes themselves.

The research could pave the way towards improved identification of the women at risk and better treatments for mothers suffering episodes following childbirth.

Medical students quick to respond



School of Medicine students have been responding to 999 life-threatening calls as representatives of the Welsh Ambulance Service, in a scheme which is the first of its kind in the UK.

The scheme, Cardiff Medical Students' First Responders, involves more than 300 students. It is coordinated by 5th year medical students Rhian Davies and Huw Williams, who said: "Working in partnership with the Welsh Ambulance Service, medical students from Cardiff University respond to life threatening emergency medical calls within our area, providing vital assistance to patients prior to the arrival of the ambulance."

Medical Students' First Responders scheme coordinators Huw Williams and Rhian Davies

"This gives students experience and also makes a difference to a lot of people's lives in the area."

Tony Rossetti, Welsh Ambulance Service First Responder Officer for South East Wales

School of Dentistry pioneers alternatives

The School of Dentistry has won funding for studies of alternative ways to replace or reduce procedures with animals.

One involves a new process which allows normal and diseased human tissue to grow indefinitely in the laboratory. The team hopes to create a rapid, low-cost, high-throughput system for automated testing of wound healing drugs which will replace animal involvement. The other study uses a novel method to grow slices of living tooth, gum and socket bone tissue in the laboratory. The aim is to recreate the inflammation linked to gum disease and understand how the disease causes tooth and bone loss. The studies are funded by the National Centre for Replacement, Refinement and Reduction of Animals in Research and the Dr Hadwen Trust.

Queen's Prize for excellence

The outstanding quality of work undertaken in the School of Medicine is illustrated by the award of the prestigious Queen's Anniversary Prize for excellence in higher education to the Institute of Medical Genetics. The award recognises its success in identifying genetic causes of diseases and developing new diagnostic tests and treatments for them.

The Institute has identified genetic causes for bowel cancer, Huntington's Disease, muscular dystrophy, and polycystic kidney disease. Other achievements include enhanced screening for families at risk of disease, training counsellors to support people in coming to terms with the results of genetic tests and development of the Wales Gene Park. It is now expanding with a c£5M investment in new laboratories for more work on cancer genetics, where the focus will be on developing new methods of earlier diagnosis and treatment.

Elsewhere, the Dental School has been provided with more research space as a result of a c£2M investment. Together with the new Clinical Trials Unit on the second floor of the School, this will be dedicated entirely to bringing new research breakthroughs to patients.



The Vice-Chancellor accepts the Queen's Anniversary Prize medal from Her Majesty the Queen whilst the Director of the Institute of Medical Genetics, Professor Julian Sampson (above centre and right) receives the Prize certificate from the Duke of Edinburgh

Picture: Paul Mellor Photography

Giant strides in understanding cancer

Pioneering techniques helping School of Medicine scientists understand the mechanism of cell division and tumour creation are welcomed as "giant strides" by Cancer Research UK.

A team led by Dr Duncan Baird of the School's Department of Pathology published a study on telomeres - small structures at the end of human chromosomes which can play a crucial part in the onset of cancer.

Telomeres control cell division in the body - by gradually becoming shorter they can tell cells when it is time to stop dividing. However when telomeres stop working properly, they can cause the cells to mutate and start dividing uncontrollably, which can lead to the formation of tumours.

The Cardiff study used ground-breaking techniques to study telomeres in human cells. The researchers found the critical length at which telomeres stop working and also that some telomeres can be shortened or deleted at random, without any external cause. The study opens up the possibility of an "early-warning" test for cancer being developed in time.

This is the third Queen's Anniversary Prize to be won by members of the University. Professor Tony Campbell won the Prize in 1998 for his application of bioluminescence to clinical diagnosis. The Manufacturing Engineering Centre won the prize in 2001 in recognition of its contribution to the economy.



Cannabis and psychosis

A Cardiff-led study on cannabis showed the danger to users and received worldwide media attention.

Dr Stanley Zammit in the School of Medicine's Department of Psychological Medicine and colleagues at the Universities of Bristol, Cambridge and Imperial College, London analysed 35 studies of cannabis use.

They found that individuals who used cannabis were 41 per cent more likely than those who had never used the drug to have any psychosis such as delusions or hallucinations. The risk increased relative to dose, with the most frequent cannabis users more than twice as likely to have a psychotic outcome.

Appointments and Distinctions

Queen's Birthday Honours 2007

Professor Mervyn Arthur Murch, Cardiff Law School, appointed a CBE (Commander, Order of the British Empire) for services to the Family Justice System.

Sir Emyr Jones Parry, Honorary Fellow of the University and the British Permanent Representative to the United Nations, appointed to the Order of Saint Michael and Saint George.

Mary Perkins, Honorary Fellow of the University, appointed a DBE (Dame Commander of the Order of the British Empire).

New Year's Honours

Professor Philip Routledge, Professor of Clinical Pharmacology in the School of Medicine and Honorary Consultant Physician at Cardiff and Vale NHS Trust, appointed an OBE (Officer of the British Empire) for his services to medicine.



Professor Jonathan Shepherd, Professor of Oral and Maxillofacial Surgery at the School of Dentistry and also Director of the University's Violence and Society Research Group, appointed a CBE for his services to healthcare and the criminal justice system.

Emeritus Professor Ann Tucker, former Dean of the School of Nursing and Midwifery Studies, appointed an OBE for her services to healthcare.

Honorary Fellows

Honorary Fellowships were bestowed on the following in recognition of their international distinction in their field.

Mr John Belle FAIA RIBA, founding partner of Beyer Blinder Belle Architects & Planners, former President of the New York Landmarks Conservancy, and the recipient of three Presidential Design Awards, the highest awards for public architecture in the United States.

Henri Dutilleux, one of the world's major living composers.

Dr Fong Yun-wah, a leading member of the business community in China who has contributed significantly towards promoting academic exchange between mainland China, Hong Kong, and Western universities.

Mr Huw Llywelyn Davies, Chairman of the Cardiff National Eisteddfod Executive Committee for 2008, and also BBC and S4C's chief rugby commentator.

Mr Evan Davis, Economics Editor of the BBC, responsible for analysing economic developments on a range of radio and television programmes.

Sir Peter Gershon CBE FREng Hon FIET, Chairman of Premier Farnell plc, General Healthcare Group and Symbian Ltd, non-executive director of HM Treasury, and a member of the Council of Imperial College.

Professor Henryk Mikolaj Górecki, an internationally acclaimed Polish composer whose career spans more than 40 years and embraces a catalogue of more than 70 acknowledged works.

Dr Sue Greening, Associate Clinical Director of the Community Dental Service in Gwent, Chair of the British Society of Disability and Oral Health and most recently the elected President of the British Dental Association.

Mr Patrick Hannan, who currently presents two weekly programmes on BBC Radio Wales and contributes to a wide variety of UK publications.

Professor Bryan Jones is University Professor Emeritus in the Department of Chemistry at the University of Toronto.



Mr Saleem Ashgar Kidwai OBE, founder of the Association of Muslim Professionals, Chief Executive of the Ethnic Business Support Programme, Secretary General of the Muslim Council of Wales, and a non-executive Director of Cardiff and Vale NHS Trust.

Mr Roger Lewis, Group Chief Executive of the Welsh Rugby Union and the Millennium Stadium plc.

Sir Robert Margetts CBE FREng FICHEME, Chairman of Legal & General Group plc. and Ensus plc, Chairman - Europe of Huntsman Corporation (USA) and Senior Independent Non-Executive Director of Anglo American plc.

Professor Peter McGuffin, Dean of the Institute of Psychiatry, King's College London and former Chair of Psychological Medicine at the former University of Wales College of Medicine in Cardiff.

Mr John Metcalf, Artistic Director of the award-winning Vale of Glamorgan Festival, Cardiff University alumnus and one of the foremost composers working in Wales.

Mr George Monbiot, a journalist, author and environmental campaigner named by the UK government's Environmental Agency as one of the world's top green campaigners of all time.

Ms Elaine Morgan, former award-winning television scriptwriter and author of *The Descent of Woman*.

Professor Ian Nussey OBE MA PhD FREng HonFIET FIMechE FBCS, Honorary Professor at Cardiff University and, though nominally retired, works for IBM on university relations.

Ms Sara Parkin OBE, Founder Director and Trustee of Forum for the Future, the leading UK sustainable development charity.

Ms Menna Richards, Cardiff University's current Vice-President and the first woman to be appointed as Controller of BBC Wales.

Professor Madeleine Rohlin, Pro-Vice Chancellor at Malmö University, Sweden, and former General Secretary of the Association for Dental Education in Europe.

Professor Nigel Stott CBE FMedSci, Emeritus Professor of General Practice, presently contributes to research at three universities and serves on the Higher Education Funding Council for Wales.



Miss Barbara Wilding CBE QPM CCMI FRSA, Chief Constable of South Wales Police and Co-Director for the Police National Assessment Centre.

Mr William Wilkins CBE DL Hon FRIBA, Chairman of the Artes Mundi Prize which he developed as a new international art prize based in Cardiff.

Other Appointments and Distinctions

Dr Kelly BéruBé, School of Biosciences, won the Replacement Prize for best communicating research to politicians at an event to recognise researchers working to replace, refine and reduce the use of animals in scientific research.

Professor Wolfgang Drexler, School of Optometry and Vision Sciences, received the Cogan Award from the American Association for Research in Vision and Ophthalmology for his role in the development of the Optical Coherence Tomography technique.

Professor Sir Martin Evans, Professor of Mammalian Genetics in the School of Biosciences, was awarded the 2007 Nobel Prize for Medicine.

Dr Alan Fraser, Reader in Cardiology in the School of Medicine, has been elected to the Board of the European Society of Cardiology.

Professor Kenneth Harris, School of Chemistry, has been awarded the Tilden Medal and Lectureship of the Royal Society of Chemistry.

Professor Karen Holford, School of Engineering, received the WISE (Women Into Science, Engineering and Construction) Excellence Award for her personal contribution to engineering.

Mr T James Jones, Associate Lecturer at the School of Welsh, was awarded the Chair at the 2007 National Eisteddfod.

Professor Mike Levi, School of Social Sciences, has been awarded an Economic and Social Research Council (ESRC) Professorial Fellowship.

Professor Robert Mansel and colleagues, School of Medicine, won the Best National Health Innovation Award at the 2007 Medical Futures Innovation Awards for pioneering GeneSearch Breast Cancer Intra-operative Diagnosis.

John Newton, Vice-Dean in the School of Healthcare Studies, has been awarded the Fellowship of the College of Radiographers for his contribution to the profession.

Professor Michael O'Hara, retired from the School of Earth, Ocean and Planetary Sciences, was the first British citizen to be awarded the Harry Hess Medal by the American Geophysical Union. The Medal recognises outstanding achievements in the research of the constitution and evolution of Earth and other planets.

Professor Eldryd Parry, Honorary Fellow of the University, has received the Lifetime Achievement Award of the Royal Society of Tropical Medicine and Hygiene for his work in education and research in Africa.

Professor Carole Pateman, School of European Studies, has been elected a Fellow of the British Academy, the national Academy for the humanities and social sciences.

Professor Gareth Rees and **Professor Theo Nichols**, both in the School of Social Sciences, have been appointed to the ESRC's Resources Board and International Board respectively.

Professor Wyn Roberts, School of Chemistry, has been conferred as a Freeman of the Worshipful Company of Haberdashers and will, in due course, be granted the Freedom of the City of London.

Professor Julian Sampson and colleagues at the Institute of Medical Genetics were awarded the Queen's Anniversary Prize for Higher and Further Education 2007 for success in identifying genetic causes of diseases.

Professor Jonathan Shepherd, Professor of Oral and Maxillofacial Surgery in the School of Dentistry, was awarded the Stockholm Prize in Criminology for research into reducing late-night city centre violence.

Dr Arlene Sierra, Lecturer in the School of Music, received a \$15,000 Charles Ives Fellowship from the American Academy of Arts and Letters, awarded annually to exceptionally gifted composers.

Professor Sir John Meurig Thomas, University Honorary Fellow and Honorary Distinguished Research Professor in the School of Chemistry, was given the International Precious Metal Institute 2007 Distinguished Achievement Award.

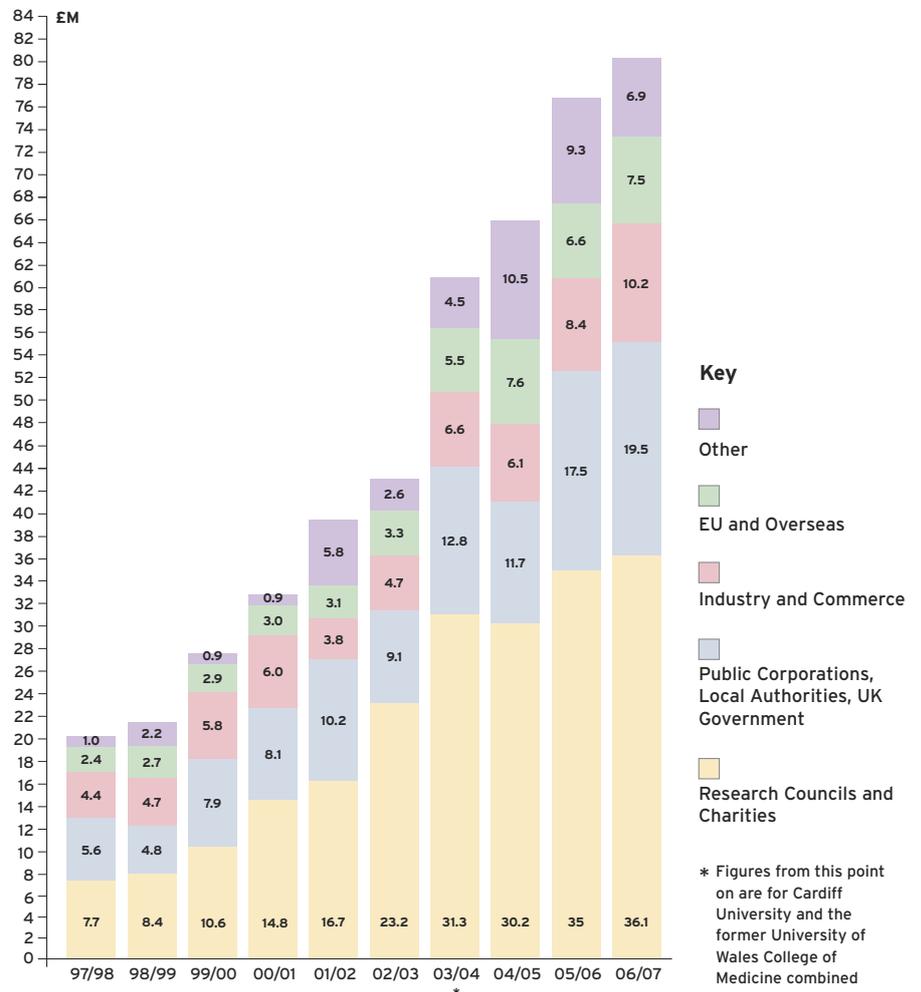
Professor Murray Walker, formerly of the School of Dentistry, has been awarded the Medal of the Order of Australia.

Professor Judith Weir, School of Music, was awarded the Queen's Medal for Music.

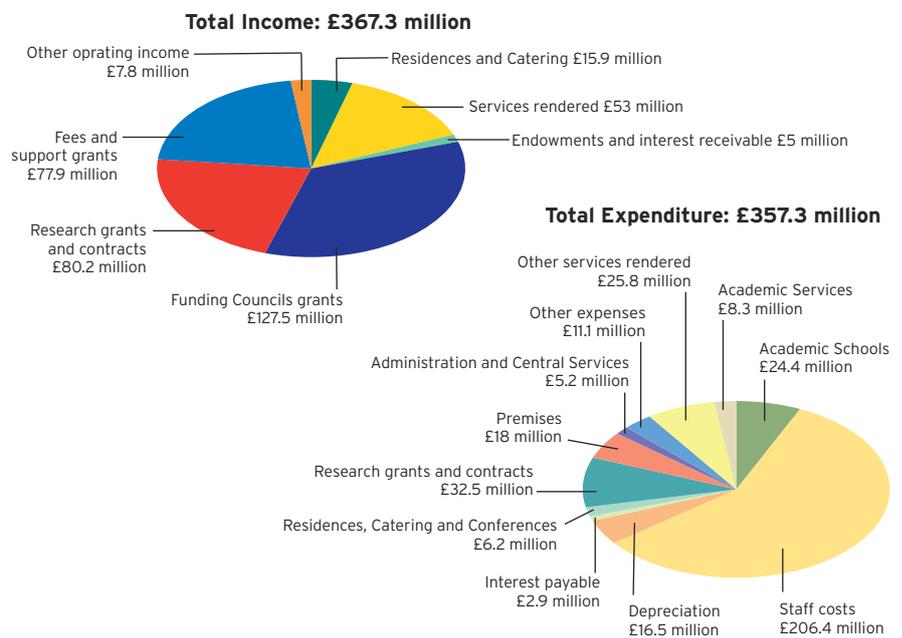
Dr Ming Yang, on behalf of the Manufacturing Engineering Centre, was awarded first prize for best exhibit at the European Community Information Society Technology Exhibition for a display on Tangible Acoustic Interface for Computer-Human Interaction (Tai-Chi).

Research Grants and Contracts

Note: Actual income not value of awards announced in year, which amounted to £110M in 2006-07.



Income and Expenditure 2006/07



University Profile



Profile of a world-ranked university with strong ambitions for all those it serves

Cardiff University is a dynamic and successful centre for higher education and has an international reputation for the quality of its research and teaching. It is a member of the Russell Group of the UK's leading research universities and is ranked among the world's top 100 universities. The University celebrates its 125th anniversary in 2008.

The University's breadth of expertise encompasses: the humanities; the natural, physical, health, life and social sciences; engineering and technology; preparation for a wide range of professions; and a longstanding commitment to lifelong learning. Cardiff University has 29 academic schools, numerous research centres and an annual income of £370M.

Research is central to the work of the University and at any time there are more than 1,000 research contracts in operation. Among the academic staff are many who are recognised internationally as being among the leaders in their fields, including two Nobel Laureates. Research awards amounting to more than £110M per annum reflect the quality and relevance of work. Organisations responsible for research investment - including the UK Research Councils, industry, charities, Government and the European Union - demonstrate by this investment their confidence in the University's ability to undertake research of the highest standards which delivers a wide range of benefits to the individual, society and to the economy.

Cardiff University also provides a stimulating and innovative environment for teaching and learning. Hundreds of degree schemes are offered and a wide range of continuing professional development programmes include those for

doctors, dentists, pharmacists, lawyers, engineers and others.

The quality of the student experience at Cardiff University is reflected in the strong demand for study places from applicants from throughout the UK and worldwide. The University has around 26,000 students, including more than 3,000 students from more than 100 countries outside the UK, helping to create a vibrant international community.

Cardiff University was founded by Royal Charter in 1883 and today combines impressive modern facilities with a dynamic approach to research and teaching. It benefits from an outstanding location amidst the parks, Portland-stone buildings and tree-lined avenues that form the city's elegant civic centre, and also shares the nearby Heath Park campus with the University Hospital of Wales.

Promoting health and welfare with special reference to the needs of Wales is an important role of the University and one which is fulfilled via a strongly inter-disciplinary and multi-partnership approach. Central among our partners in this all-Wales role is the National Health Service in Wales, with which the University is linked at all levels. The University's academic expertise and research facilities are also applied to good advantage by industry and commercial partners, government bodies and other organisations. The University also helps to generate new business ideas and spin-out companies all of which have a direct benefit to the economy.

Having gained national and international standing, Cardiff University's Vision is to be a world-leading university and to achieve the associated benefits for its students, staff and all other stakeholders.

For news and information on all aspects of work at Cardiff University, visit the University website at: www.cardiff.ac.uk

Grants, Gifts and Donations

Cardiff University gratefully acknowledges the following grants, gifts and donations received during the year under review. These were received and recorded centrally by the University from the individuals and organisations listed. The University also wishes to acknowledge the many additional gifts and donations it receives anonymously and for those donated generously directly to its academic schools.

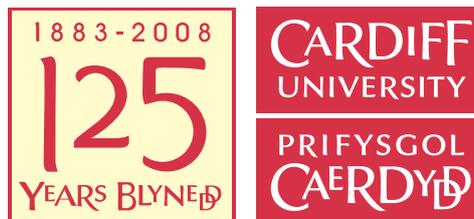
3M Deutschland GmbH	Birth Defects Foundation	Caroline J Coulter	John Evans	Howell's School, Llandaff
Abbott Laboratories Limited	James E Borkoles	Council for the Central Laboratory of the Research Councils	John H Evans	Peter I Hughes
Abcellute Limited	BP Chemicals Ltd	Countryside Council for Wales	Experimental Psychology Society	Albert C Hung
Action Medical Research	BP International Ltd	Covidien	William Farr	Ian Hunter
Adas UK Ltd	Breast Cancer Campaign	J E Crane	Fermavir Research Incorporated	Huntleigh Healthcare Ltd
Julia H Addams-Williams	Ivor Brecker	Cultech Ltd	Mansel C Finniear	IMRA Europe S.A.
Adewale S Adedayo	Bridgend County Council	Cystic Fibrosis Foundation	Fong Shu Fook Tong Foundation	Informa Healthcare
Advanced Protein System	Bristol City Council	Cystic Fibrosis Trust	Food Standards Agency	Inhibex Ltd
Advisory, Conciliation and Arbitration Services	Britannia Pharmaceuticals Ltd	Alan B Davies	Alun T Ford	Institute for Science and Health
Albany Road Baptist Church Ladies Circle	British Academy	Barbara Davies	Forest of Dean District Council	Institute of Chartered Accountants of Scotland
Alcohol Education and Research Council	British Broadcasting Corporation	C J Davies	Fresenius Kabi Ltd	Institute of Education
Algipharma Biopolymer Therapies	British Council	Maxine F Davies	Freshfields Bruckhaus Deringer	Institute of Historical Research
Alzheimer's Research Trust	British Heart Foundation	Paul R Dawson	Frontier Therapeutics Ltd	Institution of Occupational Safety and Health
Alzheimer's Society	British Lung Foundation	Deafness Research UK	Fujifilm	Intercytex Ltd
American Psychiatric Institute for Research and Education	British Medical Association	Defence Science and Technology Laboratory	Fusion Cardiff	IOSH
Anonymous Benefactor	British Mycological Society	Department of Trade & Industry	G P Wild International Ltd	Ipsen Limited UK
ApoPharma Inc	British Skin Foundation	Department for Constitutional Affairs	Michael H Gatward	Ivor Holdings Limited
Apoxis SA	British Society for Paediatric Dentistry	Department for Work and Pensions	Genetics Society	Kathryn James
Arch UK Biocide Ltd	British Transport Police	Department of Communities and Local Government	George Thomas Educational Trust	Wladyslaw J Janik
ARIUS Research Inc	Building Research Establishment Ltd	Department of Health	GlaxoSmithKline	Japan Foundation London Office
Harold W Arnold	Elizabeth B Butler	Department of Health & Human Services	GlaxoSmithKline Consumer Healthcare	M A Jenkins
Arthritis Research Campaign	CADW Welsh Historical Monuments	Department of Trade & Industry	GlaxoSmithKline Research & Development Ltd	Russell J Jenkins
Arts and Humanities Research Council	Cancer Research Campaign	Design Commission for Wales	Global Biodiversity Information Facility	Sue E Jenkins
ARUP	Cancer Research UK	Diabetes UK	Gloucestershire County Council	Joanna Briggs Institute
Arvin Meritor	Cancer Research Wales	DNV Ltd	Government Office for the South West	Robert John
Assa Abloy Ltd	CAPITA Percy Thomas	Sarah M Dobbs	Gillian Green	John Allinson
Association of Chief Police Officers	Cardiff & Vale NHS Trust	Dow Chemical Company USA	Greiner Bio-One Ltd	John Innes Centre
Astra Zeneca UK Ltd	Cardiff County Council	DTZ Consulting and Research	E M Griffith	John Wyeth & Brothers Ltd
Ataxia UK	Cardiff Foundation of Environmental Research	Jason Dunlop	Gwalia	Johnson & Johnson Medical Ltd
Atkins Ltd	Cardiff Partnership Fund Ltd	Frederick W Dunning	Gwent Health Authority	John L Jones
Paul Atkinson	Care Council for Wales	eBECS	Haag Streit UK Ltd	Margrette R Jones
Audit Commission	Amadu T Carew	Economic and Social Research Council	Halcrow Group Ltd	Marian J Jones
Aventis Pharma Deutschland GmbH	Louise Casella	Edon Study Partnership	Barbara A Harris	Pauline Jones
AWE Hunting-BRAE Ltd	Castle Cement	Barrington Edwards	Helen M Hart	Stuart W Juniper
Michael Bagshaw	Cephalon (UK) Ltd	Egyptian Exploration Society	Rowena E Harvey	KCI Europe Holding BV
Baily Thomas Charitable Fund	CERAM Research Ltd	Embassy of Japan	Healthcare Brands International Ltd	Gerard M Kennedy
Balfour Beatty	Chevron Energy Technology Company	Embassy of the Arab Republic of Egypt	Heart Research UK	Kidney Research UK
Christopher Ball	CIEMAT	ENFIS	Help the Aged	Kidney Wales Foundation
Deborah Barnes	CILT, The National Centre for Languages	Engineering and Physical Sciences Research Council	Hereditary Disease Foundation	Roger L King
Paul Bartley	Citrox Biosciences Ltd	English Heritage	Elaine Hibbert-Jones	King Faisal Foundation
BBC News	Cogent Power Ltd	Environment Agency	Raymond Hicks	Kingdom of Bahrain
BBC Wales	College of Occupational Therapists	Environmental Pollution Abatement Plc	High Q Foundation Inc	Neil G Kinnock of Bedwellty
BBI marketing Inc	Coloplast	Essilor UK Ltd	Higher Education Funding Council for Wales	Laing O'Rourke
Beaufort Research Ltd	Commission of European Communities	European Cosmetic Toiletry & Perfumery Association	Home Office	LAS Recycling Ltd
Allan Berezny	Antur Teifi Ltd	European Maritime Safety Agency	Alan A Horn	LAS Waste Ltd
Bial Foundation	Comtec (Europe) Ltd	European Science Foundation	Horticultural Development Council	LATCH
Biobank UK	Consulate of the People's Democratic Republic of Algeria	Anne M Evans	Geoffrey Howe of Aberavon	Legal and General Assurance Society
Biochemical Society	Michael J Cook			John Leighton Williams
Bioenvision Ltd	Cotene Whaledent UK			Leukaemia Research Appeal for Wales
Biofusion				Leukaemia Research Fund
Bioiberica				Valerie E Le Vaillant
Biotechnology and Biological Sciences Research Council				Leverhulme Trust
				Christine Lewis

Grants, Gifts and Donations

Gethin Lewis	North Wales Research Committee	SABIC	The Progressive Supranuclear Palsy Association	US Fish and Wildlife Service
Llysdinam Trust	Novartis Consumer Health S.A.	SASOL Technology (PTY) Ltd	The Regents of the University of California	Vale of Glamorgan Council
Neil G MacGregor	Novartis Pharmaceuticals Ltd UK	Schering-Plough Limited	The Rufford Maurice Lang Foundation	Marylea Van Daalen
Malaysian Government	NSPCC	Wolfgang Schmidt	The Safer Sutton Partnership	Ken Vaughan
Richard J Manchee	Nuairé	Teresa C Schrezenmaier	The UK Resource Centre for Women in SET	Velindre NHS Trust
John D Marshall	Nuffield Foundation	Schulke & Mayr GmbH	The Wellcome Trust	PetXX
Matrix Initiatives Inc	Office for National Statistics	Science and Technology Facilities Council	Thermomax	Visteon
Mark McArthur-Christie	Ghee S Ong	Scottish Environment Protection Agency	Thomas Pocklington Trust	Wales Centre for Health
MDS Pharma Services UK	Open Middleware	Angus M Scott	Roger G Thomas	Wales Medico Legal Society
Medical Research Council	Infrastructure Institute	Laurence Seeff	Stanley Thomas	Wales Millennium Centre
Med-I-Pant	Oracle Italia SRL	Selex Sensors and Airborne Systems Ltd	Sue Thomas	Wales Office of Research & Development for Health & Social Care
Megger Ltd	Oral and Dental Research Trust	John R Sekhar	Antoinette Thornalley	Peter Walker
Menicon Co Ltd	Osteology Foundation	Harold H Selwood	Thyssen-Krupp Stahl	Donald Walters
Mental Health Research Network Cymru	Nigel Owen	Sheffield Teaching Hospital NHS Foundation Trust	Martin Tinney	Waltham Centre for Pet Nutrition
Mimex Europe Ltd	Parkinson's Disease Society UK	Shell International Exploration and Production B.V.	Rudolf Tjandranimpuno	Roger V Webb
Annie Mitchell	Particle Physics and Astronomy Research Council	Sir Halley Stewart Trust	Stephen Tomlinson	Weinstock Fund
Masahiko Miwa	The Paul Morgan Charitable Trust	Smile-On Ltd	TOPCON (Great Britain) Limited	Wellbeing of Women
David J Moist	Fiona N Peel	Smith & Nephew Medical Ltd	Torfaen County Borough Council	Welsh Assembly Government
Molecular Products Ltd	Pembrokeshire Business Initiative	Society for Applied Microbiology	Torfaen Local Health Board	Welsh Development Agency
Molnlycke Health Care	PENTAN Partnership	Society for General Microbiology	Total S.A.	Welsh Health Authorities Council
Monmouthshire County Council	Peplin Ltd	The Solti Foundation	Aubrey Trotman-Dickenson	Welsh Local Government Association
Margaret Morgan	Douglas J Perkins	Somerset County Council	Tuberous Sclerosis Association	Wessex Water
Morgan Cole	Persimmon Homes (West Midlands) Ltd	South Gloucestershire Council	UCB Pharma Ltd	Anne Whipp
Nigel J Morris	Pfizer Ltd	South Wales Criminal Justice Board	UKELA	James Wiegold
Dafni Moschidou	Physiotherapy Research Society	Pasquale Spaducci	Unison	Amy G Williams
Jennie Moule	Helen C Pickett	SRK Consulting UK Ltd	United Nations Industrial Development Organization	John P Williams
John W Mullin	PKD Foundation, Tuberous Sclerosis Association	SRK Ltd	United Nations World Food Programme	Keith C Williams
Mundipharma Research Ltd	Plus Orthopaedics (UK) Ltd	Stanley Foundation	University of Iowa	Marjorie Williams
Kimmo K Muttonen	PMH UK Limited	Joel T Strange	University of Kent	Williams Motor Co. (Holdings) Ltd
National Alliance for Research on Schizophrenia and Depression	Stephen D Poswillo	Stroud County Council	University of KwaZulu-Natal	Tom Winter
National Assembly for Wales	Prehistoric Society	Ingrid Surgenor	University of Manchester	Geoffrey R Woodman
National Assembly for Wales (HEFCW)	Sarah J Price	Sustainable Energy Ltd	University of Pennsylvania	World Gold Council
National Assembly for Wales (Knowledge Exploitation Fund - KEF)	Victoria M Provis	Svenska Kulturfonden	University of Rhode Island	R A Wrapson
National Assembly for Wales (WAG)	Bryan Pugh	Sydney Freed (Holdings)	University of Wales, Bangor	Brian C Yarwood
National Assembly for Wales (WORDHSC)	John Pulsinelli	Michael K Tang	University of Wales, Swansea	Hilary Yewlett
National Audit Office	QinetiQ Ltd	Andrew Targell	University of York	York Health Economics Consortium Ltd
National e-Science Centre	Arlene Ramasut	Tenovus Cancer Research Centre	University of Zurich	Samanta Zanatta
National Grid Company Plc	Rare Breeds Survival Trust, Dexter Cattle Society	Tenovus the Cancer Charity		
National Grid Company Plc, Scottish Power	Reardon Smith Nautical Trust	The Accounts Commission		
National Museums and Galleries of Wales	Eleri Rees	The Archdiocese of Cardiff		
National Physics Laboratory	Remploy Ltd	The British Coal Utilisation Research Association		
National Waterfront Museum	Research Capacity Building Collaboration Wales	The College of Optometrists		
Natural Environment Research Council	Rett Syndrome Association UK	The College of Radiographers		
Natural Environment Research Council (The Daphne Jackson Trust)	Rizla	The Daiwa Anglo-Japanese Foundation		
NC3Rs	Alice M Roberts	The Fong Family Foundation		
Nancy Nethercott	John Robertson	The Healing Foundation		
Hilary A Nettleton	Roke Manor Research Ltd	The Higher Education Academy		
Mike Newman	Roman Research Trust	The Home Farm Trust		
Newport City Council	Royal Academy of Engineering	The Hung Foundation		
Peter Y Ng	Royal College of Surgeons of England	The Leverhulme Trust		
Nick Miller Research Ltd	Royal Institute of International Affairs	The Nippon Foundation		
Masayoshi Noguchi	Royal Mint	The Oral and Dental Research Trust		
North of England Zoological Society	Royal Society			
	RWEnpower			

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Research & Commercial Division RACD_Help@cardiff.ac.uk www.cardiff.ac.uk/racd	2087 5834 / 2087 9626



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The logo of the multi-organisational partnership promoting the City of Cardiff nationally and internationally.