



Annual Review

Annual Review of the Year

This Annual Review covers an eventful year for the University when we have continued to make progress towards many of our strategic goals and maintained a strong financial performance despite major changes in the higher education environment and an uncertain economic climate.

It is a tribute to the hard work and dedication of my colleagues from across the campus that the University was able to end the academic year 2011/12 with a financial surplus, which gives us the scope to invest in our key priorities.

The core driver for all of our activities is, of course, our Strategic Plan. Early in 2012 the Board of Governors enthusiastically endorsed a new plan – *Manchester 2020* – which was developed following widespread consultation across the campus. This ambitious plan builds on the strong foundations of previous documents and our achievements since 2004, but also lays out what we want to achieve by 2020, and sets this in the context of the opportunities and challenges we are likely to face.

Manchester 2020 reaffirms our headline ambition to become one of the top 25 research universities in the world and retains the three core goals of worldclass research, outstanding learning and student experience, and social responsibility. The detail surrounding each of these goals has been enhanced and we have identified eight enabling goals and some more precise key performance indicators (KPIs).

The University received some notable awards and recognition during the

2011/12. We won the Queen's Award for Enterprise for our achievement in more than doubling annual overseas income over the last six years and the Queen's Anniversary Prize for our applied research and skills training for the nuclear industry. We also won University Challenge earlier this year - the 50th anniversary year of the programme! Whilst not in themselves financially significant, these public accolades illustrate the University's growing reputation and global significance.

Following the award of the Nobel Prize for Physics in 2010 to Professor Andre Geim and Professor Kostya Novoselov for groundbreaking experiments using the two-dimensional material graphene, the University has announced it will be building a stateof-the-art National Graphene Institute (NGI) to continue research into the wonder material. Chancellor of the Exchequer George Osborne visited the University in October 2011 and announced that the government would be providing £50m worth of funding for graphene research in the UK. £38m of which has been provided for the NGI. The institute is set to open in early 2015.

The Chancellor was also present in London in August 2012 when it was announced that BP is to establish a £64 million international research centre, known as the BP International Centre for Advanced Materials, or BP-ICAM at this University. The centre will lead research aimed at advancing the fundamental understanding and use of materials across a variety of industrial oil and gas applications. The BP-ICAM will be modelled on a "hub and spoke" structure, with the 'hub' located within the Faculty of Engineering and Physical Sciences, which has core strengths in materials, engineering, characterisation, collaborative working, and a track record of delivering breakthrough research and engineering applications that can be deployed in the real world.

Colleagues from across the University have spent an enormous amount of time during 2011/12 preparing for the forthcoming Research Excellence Framework (REF), which will assess research quality. This is the successor to the Research Assessment Exercise (RAE), which was last run in 2007/8, and in which the University performed very well. The results of the RAE/REF are important because they are used to assess how much block funding for research we receive from government, but the results also have a much wider reputational impact. What is new for REF, compared to earlier RAE exercises, is the requirement to submit cases showing the impact of our research. This is challenging because it is new, but we already have many excellent stories of how the research we do makes a difference locally, nationally and internationally.

We continue to work hard to improve the student experience for all of our students, so I was delighted to learn in August that the results of the annual National Student Survey (NSS), showed that we have moved up four percentage points from 79% overall satisfaction to 83%. This is a major achievement and a real testament to the hard work of many of our staff as it represents the first step towards our goal of achieving at least 90% in the NSS – though of course, no one is complacent and there is much more to do. The improved NSS scores would seem to indicate that the concerted effort we have been making over the past three or four years to improve the student experience are beginning to bear fruit. Many of these improvements have been effected on the front-line of learning in the classroom and the laboratory, and for this I want to thank and applaud all of my many colleagues who have put so much effort into improving the students' experience. Some major University-wide initiatives have also come on stream, including the launch of University College, which aims to improve the educational experience of our students by enabling them to study a range of interesting courses from across the University alongside their main degree subject, and the opening in of the £24 million Alan Gilbert Learning Commons.

2011/12 was another good year for home and international student recruitment, although it was widely acknowledged across the sector that this was a highly unusual year, as record numbers of home students sought places before the introduction of the £9,000 fee. Nevertheless, as we enter a much more turbulent and competitive environment for student recruitment, it is reassuring to see that this University remains an enormously popular destination for undergraduate and postgraduate study.

In terms of Goal Three and the social responsibility agenda, we continue to make an impact with a range of impressive initiatives and activities, particularly in the areas of widening participation and public engagement, with major events taking place at the Manchester Museum, Whitworth Art



"One day it stopped and " "ing brightly in the expected was the expected answer." News Villiams, recalling the first successful operation anchester 'Baby' computer in 1948

> "Use your head, but follow your heart." Nancy Rothwell

men have worked hard; starve son siven of their time and live President and Vice-Chancellor Nancy Rothwell in the new Alan Gilbert Learning Commons

Gallery and the Jodrell Bank Discovery Centre. We have just completed a serious review of how we can embed and promote social responsibility as a key feature of our work of our Schools and Faculties and in the day-to-day operational activities of the University, which will result in changes and investments in this important area.

Reg Revans

earning process

tespoissible action

tself, an effective

I am pleased to report that, despite the harsh external economic climate, we have found resources over the past year to appoint more than 120 new academic staff. In November 2011 we launched a high-profile "World-Leading Minds" campaign to recruit more than 100 new academic staff from across the world. We also found additional resources to invest a significant sum in the development of our existing staff through an innovative "Investing in Success" scheme and a new President's PhD scholarship scheme.

During 2011 we also began the process of planning and prioritising

the future capital needs of the University for the next decade. In October 2012 the University approved an Estates Master Plan which will create a single campus and will involve the construction of new teaching and research buildings, student facilities and major improvements to the public realm. The plan runs to 2022 and will require the investment of £1 billion. This is in addition to the £750 million spent since 2004, which has already seen the completion of ten new buildings and many large-scale refurbishments.

The fact that, in a very uncertain economic climate, we have found resources to invest in staff, and time to plan our future strategy and estates needs will, I hope, send a very clear signal that we will remain an ambitious and forwardthinking university.

Professor Dame Nancy Rothwell President and Vice-Chancellor



Culture and community Blue Peter – live from

the John Rylands Library





People Sir Bernard Lovell

Contents

- 2 News
- 6 Features
- 8 Research
- 10 Culture and community
- 12 People
- 14 Facts and figures

Viking burial site unearthed

Manchester archaeologists helped to discover the UK mainland's first fully intact Viking boat burial site while working in the Scottish Highlands last autumn.

The five-metre-long grave contained the remains of a high-status Viking, who was buried with an axe, a sword with a beautifully decorated hilt, a spear, shield boss and bronze ring-pin. The Viking had been buried in a ship, whose 200 or so metal rivets were also found by the team.

The 1,000-year-old find, on the remote Ardnamurchan Peninsula, was made by the Ardnamurchan Transitions Project (ATP) – a team led by experts from the Universities of Manchester and Leicester, CFA Archaeology Ltd and Archaeology Scotland.

Director appointed for new inflammation research centre

The University, GlaxoSmithKline (GSK) and AstraZeneca appointed Professor Tracy Hussell as Director of the new Manchester Collaborative Centre for Inflammation Research (MCCIR) in February.

Launched in 2011, MCCIR is a unique collaboration between scientists from the pharmaceutical industry and academia, to establish a world-leading translational centre for inflammatory diseases.

The ultimate goal is to translate findings into new and improved treatments that could potentially benefit the millions of people worldwide who are affected by diseases associated with chronic inflammation, including asthma, chronic obstructive pulmonary disease, rheumatoid arthritis and inflammatory bowel disease.

Professor Hussell was Professor of Inflammatory Disease at the National Heart and Lung Institute, Imperial College London, where her research identified novel strategies to alleviate inflammatory disorders.

She said: "This new centre provides a unique opportunity, working not only with the academic and medical resources of The University of Manchester, but also with the pharmaceutical industry. I am very proud to have been chosen to lead the centre and, naturally, I am hugely excited by the prospect of guiding it into a world-leading institution for translational research and innovation."



Co-director of the project and archaeology teaching fellow Dr Hannah Cobb, from our School of Arts, Languages and Cultures, said: "This is a very exciting find. Though we have excavated many important artefacts over the years, I think it's fair to say that this year the archaeology has really exceeded our expectations. "A Viking boat burial is an incredible discovery, but in addition to that, the artefacts and preservation make this one of the most important Norse graves ever excavated in Britain."



Queen's Anniversary Prize for nuclear work

The University won the Queen's Anniversary Prize for Further and Higher Education this year, for work in the nuclear industry carried out by our Dalton Nuclear Institute.

The Prize recognises and celebrates the outstanding work the UK higher and further education sector does, and the impact it has on society.

The Dalton Nuclear Institute's 100 academic staff and more than 300 research staff and students provide world-leading applied research to support government, regulators and industry in the delivery of safe and secure nuclear energy, both in the UK and globally.

Professor Colin Bailey, Vice-President and Dean for the Faculty of Engineering and Physical Sciences, said: "We were delighted to be awarded the Diamond Jubilee Queen's Anniversary Prize, which is great recognition of the work carried out by our world-leading staff and the leadership provided by the Nuclear Institute's Director, Professor Andrew Sherry."

Professor Sherry added: "It's an honour to receive the award on behalf of the academic and support staff, researchers and students at the University working and studying in the area of civil nuclear."



Multimillion pound funding boost for cancer research

Cancer research in Manchester has been given a £12.8 million funding boost following a successful bid by The University of Manchester to the UK Research Partnership Investment Fund (UKRPIF).

The money has been awarded to the University to part-fund the construction and equipping of the new Manchester Cancer Research Centre (MCRC) on the Christie site in Withington. The MCRC is a partnership between The University of Manchester, The Christie NHS Foundation Trust and Cancer Research UK, and the new building has been designed to facilitate collaboration between researchers and clinicians, to translate discoveries made in the laboratory into new personalised treatments for cancer patients.

Vice-President and Dean of the Faculty of Medical and Human Sciences, Professor Ian Jacobs, said: "The funding from HEFCE is a result of the successful University bid in collaboration with our MCRC partners and is recognition of the excellent quality of cancer research in Manchester.

"The new MCRC research building will facilitate plans for expansion of our cancer research effort and provide an exciting opportunity in Manchester to accelerate our personalised medicine plans in cancer."

University President and Vice-Chancellor Professor Dame Nancy Rothwell said: "Cancer research is one of our high priorities, so this award is fantastic news for the University and for our partners, The Christie and Cancer Research UK."



University College boosts the Manchester student experience

A new initiative launched in 2012 allows Manchester students to explore innovative, multidisciplinary learning opportunities outside of their degree discipline, as part of their undergraduate course.

Our University College of Interdisciplinary Learning is a Universitywide project pioneering new ways of helping undergraduate students to gain broader access to the wealth of academic knowledge, rich cultural resources, cutting-edge facilities and expertise of world-leading minds found across the University.

Courses such as 'Science and Humanities: Bridging the Two Cultures', 'Becoming Global' and 'Introduction to British Sign Language' offer students fresh perspectives and the chance to develop skills such as critical thinking and global citizenship, which are much valued by employers.

The College also hosts the Manchester Signature Lecture Series, which will showcase the talent and knowledge of the whole University. Nobel Prize winner Professor Sir Konstantin Novoselov and President and Vice-Chancellor Professor Dame Nancy Rothwell are among the first speakers in the series.

Academic Director Dr Peter Lawler said: "University College represents our ongoing aim to provide ever more enrichment opportunities for our students, ensuring that a Manchester education offers them much more than a standard university degree."

3

Manchester to host £64 million BP research centre

BP is to establish a £64 million international research centre, known as the BP International Centre for Advanced Materials (BP-ICAM), at the University. The centre will lead research aimed at advancing the fundamental understanding and use of materials across a variety of industrial oil and gas applications.

BP-ICAM will be modelled on a 'hub and spoke' structure, with the 'hub' to be located within the University's Faculty of Engineering and Physical Sciences. The 'spokes' and other founder members are the University of Cambridge, Imperial College London and the University of Illinois at Urbana-Champaign.

A ten-year investment programme is expected to support 25 new academic posts, 100 postgrad researchers and 80 postdoctoral fellows.

Chancellor of the Exchequer George Osborne said: "This coalition government is committed to putting innovation and research at the very heart of its growth agenda. That's why top businesses such as BP are investing in the UK and supporting our world-leading universities in delivering cutting-edge research. As an MP for the North West of England, I particularly welcome the fact that BP's International Centre for Advanced Materials will be based at The University of Manchester."

Bob Dudley, BP Group Chief Executive, said: "Advanced materials and coatings will be vital in finding, producing and processing energy safely and efficiently in the years ahead, as energy producers work at unprecedented depths, pressures and temperatures, and as refineries, manufacturing plants and pipeline operators seek ever better ways to combat corrosion and deploy new materials to improve their operations.

"Manchester has world-leading capabilities and facilities in materials, and was chosen after a global search to act as the hub of the centre, working with other world-class university departments. We look forward to deepening further the very productive partnership that already exists between our professionals in BP and the academic team at Manchester."



Manchester wins University Challenge – again

The University of Manchester won the 2012 University Challenge competition: the third time we have lifted the trophy in the last seven years.

This year's winning quartet beat Pembroke College, Cambridge, by 180–135 in a dramatic final and received their trophy from HRH Camilla, Duchess of Cornwall, at a special presentation ceremony held at Clarence House to mark the show's 50th anniversary.

In recognition of their achievement, the four team members and their coach also received the Medal of Honour, the University's most prestigious non-degree award, bestowed on individuals who have made an exceptional contribution to the work of the University or the city-region.

Coached by Stephen Pearson from the Library, our team comprised 24-year-old Luke Kelly, studying for a PhD in History; 21-year-old Michael

McKenna, studying Biochemistry; Paul Joyce, 48, doing an MA in Social Research Methods and Statistics, and their captain, Tristan Burke, studying English Literature.

Tristan, 22, said: "It was a great honour to go to Clarence House, and we were also given a tour of St James's Palace and the Chapel Royal. The Duchess seemed to know quite a lot about the programme, and said she had enjoyed watching the final."





Jodrell stargazing show leads to discovery of new planet

Science history was made by the return of the hugely popular BBC show Stargazing LIVE when it led to the discovery of a new planet.

Amateur star-spotter Chris Holmes made his outof-this-world discovery after watching the BBC's astronomy extravaganza, broadcast live from the University's Jodrell Bank, while looking through time-lapsed images of stars on planethunters.org. The website hosts data gathered by Nasa's Kepler space telescope, and asks volunteers to sift the information for anything unusual that might have been missed in a computer search.

Experts believe the star – dubbed SPH10066540 – is about the size of Neptune.

Hosted by Professor Brian Cox and comedian Dara O'Briain, Stargazing LIVE was watched by

more than 10 million people over three nights. Brian and Dara interacted live with the audience, calling on the country's finest astronomical minds – including Jodrell Bank's Dr Tim O'Brien, the show's scientific consultant – to explore the majestic wonders of the skies above Britain, while showcasing breath-taking images from the world's most powerful telescopes.

Student volunteers form part of Olympics legacy

Although the 2012 Olympic Games were held in London, Manchester students were proud to play their own part in support of this global event.

The University was awarded the Inspire Mark by the London 2012 Inspire Programme, which recognised innovative and exceptional projects directly inspired by the 2012 Olympic and Paralympic Games, for an event that aimed to get local schoolchildren involved with the Games.

More than 100 student volunteers helped to run 'Sport and Culture United', an event that aimed to help Manchester youngsters try physical activity, as well as raising awareness of the different cultures of countries taking part in the 2012 Games. More than 360 children from 12 local schools took part in the event, held at our Armitage site in Fallowfield in March.

Two University students were also among the 8,000 inspirational people who carried the Olympic flame during the torch relay.

Blaire Hannan was the last person to carry the flame on 22 May, for one mile, from Redcliffe to the Millennium Square, in her home town of Bristol. A first-year Speech and Language Therapy student, Blaire suffers from a rare neurological and muscular condition called dystonia, which has left her wheelchair-bound. She was nominated in recognition of her work with Bristol Sailability, a voluntary organisation that enables young disabled people to experience water-based activities.

Leila Hamrang carried the flame in Fleetwood. Leila, a BA student in Learning Disabilities Studies, has been raising money for cancer charities and organisations since recovering from her second bout of leukaemia. Despite being left with side-effects from her treatment, her fundraising efforts have included abseiling down Quay House in Spinningfields and taking part in the 2012 Race for Life to support the Manchester Children's Hospital, CLIC Sargent, The Christie Hospital and Cancer Research.



Features

Tribute to visionary President as Learning Commons opens

A 21st century study space, named after the University's inaugural President and Vice-Chancellor, opened on 1 October 2012.

The Alan Gilbert Learning Commons gives Manchester students a unique focal point for learning, with a stimulating and comfortable 24/7 environment for study.

Professor Gilbert, who led the 2007 Review of Undergraduate Education that recommended a learning commons be built, died just after his retirement in 2010.

The Learning Commons is a tribute to his vision that: "a university is a scholarly community. It exists to foster the disciplined pursuit of truth, whether by students seeking to master existing bodies of knowledge, or, in the case of a research university, by researchers driven to extend the frontiers of human understanding."

Our Directorate of Estates and Facilities led the building's conception, design and construction. It boasts more than 1,000 flexible study spaces and an inspiring range of equipment and furnishings for individual and group study. There are 400 PCs, laptop charging lockers, 30 bookable group study rooms, a Skype area and media screens for presentation and group work. WiFi available throughout the building extends to the space outside.





"We are here not because we are law-breakers; we are here in our efforts to become law-makers." Emmeline Pankhurst, on trial in 1908 Louis de Bernières BA Philosophy 1977 Novelist

Distinctly 'Manchester'

The building showcases the rich heritage and achievements of our University within its fabric.

Features include floor tiles engraved with the names of distinguished alumni; laser-etched solid-oak panelled walls bearing quotations from the University's great and good; chairs showing the names and achievements of our 25 Nobel Prize winners; and artwork on the walls and glazing of the group learning rooms, which was selected from a competition open to all students.

Managed by the University Library, the Learning Commons has a dedicated team of staff to provide guidance and support. The cafe just inside the main entrance is open to the public; the rest of the building is restricted to University students and staff only.

Jan Wilkinson, University Librarian, said: "The opening of the Learning Commons is a fantastic example of what can be achieved through collaborative work within the University. The facilities that have been created for our students are undoubtedly amongst the best in the UK and Alan Gilbert would be delighted to see his original vision fulfilled."



Manchester – a global graphene hub

The University has been awarded £38 million to set up a world-class National Graphene Institute (NGI), which aims to establish the UK as a graphene research and technology hub, leading the world in the rapid commercialisation of graphene technologies.

Professor Andre Geim

Chancellor of the Exchequer George Osborne announced the investment following a visit to the University's graphene laboratories last October.

Osborne said: "Tomorrow's world is being shaped here in Manchester. The inventors could have gone anywhere in the world to do their research. But they chose The University of Manchester."

The NGI will provide specialist facilities and equipment to allow Manchester to continue to lead the world in graphene research.

The University has also bid for a further £23 million from the European Regional Development Fund to cover the £61 million total cost of the NGI.

Royal recognition

Professors Andre Geim and Kostya Novoselov were knighted in the 2012 New Year honours list for services to science, a reflection of their stature in the scientific world.

Chancellor of the Exchequer, George Osborne, pictured at the graphene lab

The two Manchester scientists first demonstrated graphene's remarkable properties in 2004 – earning them the 2010 Nobel Prize in Physics.

His Royal Highness The Duke of York also visited the University in February to learn more about graphene and commercialising research. Prince Andrew received a tour of the laboratories by Professor Andre Geim, and experienced making graphene himself under the microscope.

Graphene-paved roadmap of innovation

A landmark University paper has revealed a 'graphene roadmap', setting out in detail what the world's thinnest, strongest and most conductive material can achieve.

Writing in Nature this year, Professor Novoselov claimed that graphene has the potential to revolutionise diverse applications, from smartphones and ultrafast broadband, to anticancer drugs and computer chips.

One key area is touchscreen devices, such as tablets and smartphones, which graphene's outstanding mechanical flexibility and chemical durability could make more long-lasting and flexible. Professor Novoselov estimates that the first graphene touchscreen devices could be on the market within three to five years.

Rollable e-paper should also be available as a prototype by 2015 – with graphene's flexibility proving ideal for fold-up electronic sheets.

Professor Novoselov said: "Graphene has a potential to revolutionise many aspects of our lives. Some applications might appear within a few years, and some still require years of hard work.

"One thing is certain – scientists and engineers will continue looking into prospects offered by graphene and, along the way, many more ideas for new applications are likely to emerge."

Features



New life for Nubian bones

A dispersed collection of thousands of Nubian skeletons has been reunited by University researchers.

The bones – first unearthed nearly a century ago in a race against time, as the water rose behind the newly built Aswan Low Dam, then scattered around the globe to be overlooked, lost or damaged in wartime bombing raids – have found new life in Manchester.

Originally found in Nubia in 1907, they now form the basis of a fascinating virtual database for Egyptologists, having been rescued by a team led by the University's Professor Rosalie David, and Professor Norman MacLeod of the Natural History Museum.

Dr Jenefer Cockitt, who took part in the two-and-a-half-year transatlantic search for the remains, said: "It was hard work following the clues, but so rewarding when we found what we were looking for. We began to feel that we knew the people behind the bodies and that we were giving them their voice again after all these years."

Images, pathology and trauma descriptions, as well as a dental survey of the bodies, have been put on the database. In this way they have been brought together for the first time since they were removed from the ground more than 100 years ago, providing a significant tool for researchers looking at disease.

Lost part of Beethoven masterpiece lives again



A piece of music composed by Beethoven and lost for over 200 years has been painstakingly reconstructed by Professor of Music, Barry Cooper.

His reconstruction of the original slow movement of Beethoven's String Quartet in G, Opus 18 Number 2, was heard for the first time since Beethoven's day, when it was performed this month by the University's resident string quartet, Quatuor Danel, and broadcast live on BBC Radio 4.

The movement was composed in 1799 but was discarded a year later, and lost when it was replaced by a new movement now known to music lovers across the world.

Professor Cooper managed to put the 74 bars together so

that they fit perfectly, adding harmony and other details that enabled the work to be performed again.

He said: "This movement is of particular importance as it stands out as the last substantial work that Beethoven composed in full and apparently had performed in 1799 before it was discarded and lost.

"With other works that he revised, like his opera Fidelio, discarded movements still survive more or less intact.

"So the prospect of hearing a Beethoven work that has been absent for over 200 years should be of much interest to anyone who loves music, even if my reconstruction may differ slightly from what the composer wrote."



Haiti quake unearths medical issues

Some foreign medical teams need to improve the way they respond to future disasters, according to a University analysis of the devastating January 2010 Haiti earthquake.

The need for better medical record-keeping was highlighted by research carried out by our Humanitarian Conflict Response Institute (HCRI).

An estimated 220,000 people died, 300,000 were injured and 105,000 houses destroyed in the disaster that struck the capital Port-au-Prince.

HCRI Deputy Director, Professor Tony Redmond, who led the research, said:

"Patients sometimes had no way of finding out the name of their doctor.

"Health care workers who turn up uninvited in another country are obviously not registered to practise there and, if they do treat patients, we have to find ways of making them accountable to those patients and the local authorities. Because record-keeping by some was minimal or non-existent, there was no way of knowing if proper standards of care were followed.

"In the UK we have the International Emergency Trauma Register to ensure that those wishing to volunteer in the future are accountable and trained."

Waste not, want not

Manchester scientists are working on a prototype device for harvesting energy and clean drinking water from human waste.

Researchers believe the technology could provide an inexpensive device for people in the developing world to generate clean water and energy.

Dr Sarah Haigh from our School of Materials said: "This technology will be particularly important for remote locations in developing countries and will have the added benefits of reduced pollution and lower waste disposal costs."

The project is being funded by \$100,000 from the Bill and Melinda Gates Foundation. The team beat off competition from more than 2,000 other projects to win the funding.

The research is being carried out by a team from the Universities of Manchester and Durham, and Imperial College London. A prototype should be ready by 2013.

New stroke treatments becoming a reality

Scientists led by the President of The University of Manchester have demonstrated a drug which can dramatically limit the amount of brain damage in stroke patients.

Professor Dame Nancy Rothwell, Professor Stuart Allan and their team have spent the last 20 years investigating how to reduce damage to the brain following a stroke.

They have been testing the effectiveness of the drug Anakinra (IL-1Ra), which is already used for rheumatoid arthritis, in experimental studies of stroke.

This new study builds on previous research, although the big difference is that rats with stroke risk factors such as obesity, insulin resistance and atherosclerosis were used alongside healthy rats and older ones. It means the findings have a far greater chance of being replicated in human stroke patients.

Researchers induced a stroke in the rats and the drug IL-1Ra, or a placebo for comparison, was injected under the skin. The researchers did not know which animals had been given which drug. This is a similar process to that used in clinical trials of medicines.

The results were startling. MRI scans revealed that the rats that were given IL-1Ra up to three hours after the stroke had only about half the brain damage of the placebo group.

Professor Rothwell said "This is the first time that we are aware of a potential new treatment for stroke being tested in animals with the same sort of diseases and risk factors that most patients have. The results are very promising and we hope to undertake further clinical studies in stroke patients soon."

Clues found to the genetic causes of osteoarthritis

Manchester scientists have helped to discover new genetic regions associated with the cause of osteoarthritis, an as yet incurable condition causing pain and disability in millions of people around the world.

Researchers from nine institutions across the UK, including The University of Manchester, formed part of the arcOGEN consortium that this year highlighted eight genetic regions linked to the development of osteoarthritis – five more than had been previously identified.

Funded by Arthritis Research UK, the £2.2 million project is the world's biggest ever genome-wide study into osteoarthritis. The findings represent a significant breakthrough in understanding the genetic risk factors that can cause the disease.

Professor Bill Ollier, from our Centre for Integrated Medical Research, said "Osteoarthritis is one of the most common conditions affecting adults and is responsible for causing much pain and suffering for a large proportion of the population.

"We are only now just beginning to identify the genetic and lifestyle factors involved in osteoarthritis, and work out how they interact to allow the disease to develop. Only by doing this will we be able to develop treatments to tackle the disease at an early stage and avoid surgical replacements of joints."



Manchester – how we make a difference

The University's contribution to society on a local, national and international level is being showcased by six flagship projects, chosen from a shortlist of 23, that highlight the work we do and how it affects people right across the globe.

Professor Aneez Esmail, Associate Vice-President for Social Responsibility, Equality and Diversity, said: "What we do through our social responsibility agenda makes a huge difference to the lives of thousands of people. These projects are just some of many that illustrate our commitment to this key University goal."

- Our Equity and Merit Scholarships assist talented, economically disadvantaged international students in Uganda, Rwanda and Bangladesh. More than 300 students have benefited since the project launched in 2007.
- Jodrell Bank Outreach brings science to life for everyone, from our students to local schoolchildren. Examples include the new Discovery Centre, regular 'Meet the Scientist' events and the Jodrell Bank Live music festival.

- Local lawyers and barristers volunteer their time to supervise our law students as they apply their newly acquired legal knowledge and experience the practice of law in our public Legal Advice Centres.
- Run by the Manchester Museum and Whitworth Art Gallery, the Valuing Older People initiative encourages older people to take part in cultural and learning activities, such as the Reminiscence Programme, which takes museum objects into residential homes, day units and community centres across the region.
- Students and staff carry out a vast amount of volunteer work, ranging from our Sports Volunteer Scheme, supporting community engagement with sporting activities, to acting as school governors and raising funds for many charities.
- Finally, our Manchester Access Programme (MAP) targets local sixth formers from less privileged backgrounds, and supports them to progress into higher education. Since its launch in 2005, 380 MAP students have successfully gained a place at Manchester, with others going to universities including Cambridge, Imperial and UCL.

Blue Peter – live from the John Rylands Library



The BBC's long-running children's TV show Blue Peter celebrated World Book Day this year by broadcasting live from the John Ryland's Library on Deansgate.

CBBC stars Barney Harwood and Helen Skelton presented the programme, waxing lyrical about the Historic Reading Room's amazing interior.

It featured some of the treasures of the Rylands collection, including a first folio of Shakespeare's Comedies, Histories and Tragedies. Helen leafed through a 500-year-old edition of Chaucer's Canterbury Tales, while Barney showed off the miniscule 6mm by 6mm Lord's Prayer edition.

They also revealed the winner of the Blue Peter Book Award, 'The Considine Curse' by Gareth P Jones, and announced the best children's book of the last ten years, 'Diary of a Wimpy Kid' by Jeff Kinney.

Jan Wilkinson, Director of the John Rylands Library, said: "We were delighted to welcome Blue Peter to film here for World Book Day. It gave us the chance to experience a live broadcast, which was new to us – and very exciting – and to think about our appeal to our younger audience.

"We were pleased to reveal that we are more than just a beautiful library, and to show some of our treasures off."

Celebrating contemporary West African art

The University helped Manchester celebrate a season of contemporary art and music from West Africa this summer, along with galleries, museums, music venues and public spaces across the city.

Taking place between 2 June and 16 September, 'We Face Forward: Art from West Africa' was the first major collaboration between our Whitworth Art Gallery, the Manchester Art Gallery and the Gallery of Costume at Platt Hall. The project formed part of the London 2012 Festival – the finale to the Cultural Olympiad.

Events featured paintings, photography, textiles, sculpture, video and sound work, from 33 internationally acclaimed artists.

The Whitworth featured an entrance display of fine handwoven textiles from its own collection, as well as various exuberant exhibitions and installations from a range of other artists.



The University's Manchester Museum curated a music programme with Band on the Wall, while an Art Bus toured creative workshops – inspired by the music and contemporary art of West Africa – to schools, cafes, libraries and other local community venues around Greater Manchester. Various other exhibitions and events also took place at the Manchester Museum and the city's National Football Museum.

Horrible Histories author helps unearth Ancient Egypt



Manchester Museum encouraged children of all ages to become archaeologists via an interactive exhibition featuring the well known author of Horrible Histories and Egyptian Tales.

Children's author Terry Deary played Egyptologist Dr Digby, who was introduced to the budding Egyptologists and archaeologists via a film at the start of our Museum's 'Unearthed: Ancient Egypt' exhibition.

Dr Digby and his team claimed to have discovered lots of objects during their



years of exploration and discovery in Egypt, including toys, farming tools, stone carvings and burial goods.

The young participants were tasked with helping Dr Digby to successfully complete his project by travelling back in time to the Museum's 1920s Egyptologist's storeroom for training, claiming an archaeologist's certificate and investigating and recording various objects throughout the exhibition.

People

Jeanette Winterson becomes Manchester professor

One of the country's best-known literary figures, Jeanette Winterson OBE, has become a professor of creative writing at Manchester.

The international bestselling author began a two-year stint at our Centre for New Writing in October, succeeding Colm Tóibín and Martin Amis.

Winterson has a busy teaching schedule, including a postgraduate MA workshop, MA seminar, undergraduate lectures and four public events a year.

She said: "The Centre for New Writing at Manchester is a serious and exciting place where students are carefully selected and where there is a deep interest in what writing can do an at individual level and for the wider culture.

"I am from Manchester and the north is part of me: how I write, as well as who I am. Let's see what happens next."

Winterson was adopted by Pentecostal parents, who brought her up in the mill town of Accrington.

Her first novel, the semi-autobiographical 'Oranges Are Not The Only Fruit', was published in 1985 when she was just 25. It went on to become an international bestseller and inspire a popular BBC television adaptation.



Contraction Contraction

Goodbye, Sir Bernard

The founder of our Jodrell Bank Observatory and creator of the iconic Lovell Telescope, Sir Bernard Lovell, passed away in August at the age of 98.

After studying physics at Bristol University, Sir Bernard came to work here in 1936, but was called away to lead wartime work on airborne radar.

On his return to Manchester in 1945 he began to study cosmic rays using ex-military radar equipment, which he set up in the University's botany grounds at Jodrell Bank. Here he helped to create a whole new branch of science: the study of the invisible universe using radio waves.

The 76-metre radio telescope that bears his name is now a world-famous icon of science and engineering, but it was initially a controversial project that cost several times the original estimate due to various concerns, including its structural stability. Nothing like this had ever been built before.

All of this was forgotten when in 1957 the first act of the Mark I telescope, as it was then known, was to track the rocket that launched Sputnik I marking the dawn of the space age. It was the only instrument in the world able to detect the early Soviet and American spacecraft and transmit instructions to them. Renamed the Lovell Telescope on its 30th anniversary, today it remains at the forefront of research, central to the e-MERLIN array of seven radio telescopes across the UK. Later this year the international headquarters of the Square Kilometre Array (SKA) – the world's largest telescope – will move to lodrell Bank

Sir Bernard lived near to Jodrell Bank and continued to visit it until relatively recently, despite officially retiring in 1981. Outside of science, he had a great love of music and cricket, and had been president of Lancashire Cricket Club.

He is survived by four of his five children, 14 grandchildren and 14 great-grandchildren. His wife Joyce died in 1993.

Dr Tim O Brien, Associate Director of Jodrell Bank, worked with Sir Bernard and knew him well. He said: "Sir Bernard's legacy is immense, extending from his wartime work, to his pioneering contributions to the new science of radio astronomy.

"He was dedicated to sharing his love of science with everyone, young or old; he inspired thousands of people, whether they worked here or visited as schoolchildren. We owe him so much and will miss him greatly."

People

Manchester welcomes first Alan Gilbert Memorial Scholar

The first Alan Gilbert Memorial Scholar, Joseph Murenzi, arrived in Manchester this year to study for a masters degree in Engineering Project Management.

The Alan Gilbert Memorial Scholarship honours the memory of our former President and Vice-Chancellor, Professor Alan Gilbert, who personally led the development of the Equity and Merit Scholarship programme. This programme offers talented students from developing countries the chance to study for life-changing masters training courses that are not available in their home nation. The new Memorial Scholarship is awarded to the most outstanding student from Africa in each academic year.

Before coming to Manchester Joseph Murenzi worked as a civil engineer in charge of public investment in infrastructure, in the Rwandan Ministry of Finance and Economic Planning.

After completing his degree Joseph plans to return to Rwanda, where he will rejoin his team and work on a substantial project to build a new international airport.

Joseph said: "Being the very first scholarship holder is a great honour. Alan Gilbert was a great man who believed in the important role that education can play in transforming lives.

"The knowledge I will get from here will contribute to the development of my country and all of Africa. This scholarship will develop my skills significantly, and hopefully thereby help to fulfil Alan's dream."

Disabled student defies odds to graduate

A disabled student who was told she would never walk or talk again took her first unaided steps, to the cheers of her fellow students, when she collected her 2:1 degree in Criminology.

President and Vice-Chancellor Nancy Rothwell with Joseph Murenzi

Lauren Thompson, from near Lytham in Lancashire, was forced to abandon her degree in 2006 after she was almost killed as a passenger in a serious car crash at the beginning of her third year.

Despite enduring brain injuries, a month in a coma, a year in a wheelchair and mobility problems with her arms and legs, the determined student restarted her studies in 2010.

Still experiencing serious disabilities, she picked up her degree in a moving ceremony at the Whitworth Hall in December 2011.

Lauren said: "I was very emotional when I received the degree, as not very long ago I thought it was something which was beyond me. "But I wouldn't have done it without the help of everyone at the School of Law, Sam Ward from the Disability Support Office and my family.

"It was amazing to be able to walk for my degree ceremony at one of the best universities in the country."

So determined was Lauren to complete her degree, she studied law books as part of her rehabilitation programme.

She added: "It was hard work, and because everything takes so much longer for me to do, I didn't really have that much time for a social life.

"But it was worth it. I really love the subject and one day I'd like to take a masters degree in crime, law and society."

Lauren's tutor, Senior Lecturer Dr Jon Spencer, said: "Lauren is an absolute inspiration to any disabled – or for that matter, non-disabled – person. She just doesn't know when to give up.

"Her degree is an amazing achievement and reflects her immense gifts."





Manchester celebrates 100 years of Alan Turing



2012 marked the centenary of the birth of Alan Turing, renowned code-breaker, mathematician and computer scientist – and Manchester was one of the focal points of an international programme of events commemorating his life and work.

Alan Turing joined our University in 1948, the same year that Tom Kilburn and Freddie Williams built 'the Baby' here – the world's first computer with memorystored programs.

Although his genius was most recognised in the UK for his work breaking German codes during World War II, Turing was very much the father of the modern computer. He envisaged a machine that could effortlessly be transformed from word processor to desk calculator to chess opponent.

A key centenary event honouring Turing was the world's biggest ever computer conference, held at the University in

June. Attendees from across the globe included Google's Senior Vice-President Dr Vint Cerf, chess grandmaster Garry Kasparov, physicists Sir Roger Penrose and George Ellis, and Dr David Ferrucci from IBM.

Manchester Museum also ran 'Alan Turing and Life's Enigma', an exhibition about Turing's least-known and final work exploring morphogenesis – how living things develop their shape and structure from simple balls of cells. Visitors included Turing's nephew, lawyer and ex-geneticist Sir Dermot Turing.

Other events included a mass planting of sunflowers across the city, as part of a research project led by University mathematicians that aimed to continue Turing's study of mathematical patterns in nature. The University also led a hunt for the next Turing, with a fiendish codebreaking competition open to Year 7–11 pupils all over the country.

Honouring Linda

Development worker Linda Norgrove has been posthumously awarded an outstanding alumna award, a year after she was kidnapped and killed in Afghanistan.

Her award was collected by her parents at a University ceremony attended by some of her former classmates and lecturers.

Linda, who took her PhD at the University's Institute for Development Policy and Management between 1999 and 2003, under the supervision of Professor David Hulme, would have been 38 this year.

Following her death, Linda's parents, John and Lorna, set up the Linda Norgrove Foundation in her memory with the aim of carrying on her work in the country she was passionate about. So far they have raised more than £300,000.

John Norgrove said "From the outset we were determined to avoid the road of blame culture and compensation, and to try to ensure that something positive might come out of the tragedy.



"The charity that we set up in Linda's name to help women and children affected by the war in Afghanistan has gone from strength to strength. It has kept us busy in a positive way."

At the event the Dean of Humanities, Professor Keith Brown gave an address. There was also a citation by Professor Hulme, and Dr Admos Chimhowu, her classmate on the PhD programme, gave a lecture.

Professor Hulme said: "Linda's death is such a sad loss for all of us and our thoughts are with her parents who have suffered so much and whose lives have been reshaped by the terrible event last year. "Linda was highly regarded by her Afghani and expatriate colleagues, and had the analytical and practical skills to get things done in the most difficult of environments.

"She was one of the few people in the world to have the values and skills, to help improve living standards in such difficult contexts and fully understood how dangerous this work was."



Children's hero is pride of Manchester

A member of staff who remortgaged his house to set up a children's centre in Hulme has been honoured by the University.

For the past eight years Lenox Green and his wife Heather have spent six evenings a week helping young people have fun in a safe environment, get helpful advice on a range of issues and achieve their potential.

A postgraduate office administrator in our School of Mathematics, Lenox was recognised at the 2012 Social Responsibility and Volunteer of the Year Awards, an event which celebrates the amazing University staff, students and alumni who go the extra mile for those less fortunate.

Described by one of the children he has helped as "a father figure", Lenox is so well loved that a local burglar who broke into the centre was made to take the loot back by his mates.

"They're good kids," Lenox said. "And I get a lot out of it, too. Every month I get one of those magic moments."

Lenox started community work in his teens, helping with youth projects, summer camps and soup runs in Chinatown, before progressing to inviting homeless people round for meals. When he met and married Heather 19 years ago, they started running a drugs rehab centre from their home, as well as supporting recovering addicts in rehab centres and youth hostels.

They opened the Rainbow Christian Centre in 2003, initially to help addicts. However, after speaking with locals, they refocused their attention on preventing addiction and the associated behaviour that leads to it.

Projects include a gym for adults, youth groups, food hand-outs, court appearances, family liaison and advice on housing, benefits, education and debt. Lenox also takes a week off work every August to run a play scheme. He has only taken one five-day holiday for himself in 19 years.

Also recognised in the Volunteer of the Year Awards were student Jack Burke, who both ran and fought for the survival of the Student Action soup kitchen for the homeless this year, and alumna Estelle Goodwin, who founded the charity KIN (Kibera in Need), which supports projects in the vast Kibera slum in Kenya, home to up to one million people suffering poor housing and sanitation, high unemployment, HIV/Aids and low school attendance.

Student entrepreneurs win national prize

A group of budding entrepreneurs scooped a national prize for their clothing company – just six months after it was formed.

Manchester students Justin Colver, David Zammit, Jack Boland and Marcus Rodert formed Uni&Co in September 2011, and the business is already flourishing.

The team entered Business Champions, a competition run jointly by accountants PwC and graduate recruitment consultancy Bright Futures. The quartet's company triumphed after their business plan, presentation and T-shirts impressed the judges. Their prize includes business support for one year.

Justin Colver, a third-year Maths and Management student, said: "The whole experience was fantastic and definitely something I would recommend other students to get involved in. It is the perfect opportunity to develop many of the skills that employers are looking for, such as building professional relations and negotiating contracts.

"Winning the competition was a great reward for the work we had put in throughout the year, especially as there were so many other very strong businesses that reached the final stage."

All proceeds from the business go to the School for Social Entrepreneurs charity.

The team also successfully negotiated a contract to supply Manchester Business School with all of their branded T-shirts from October 2012.



Facts and figures



Students

We have the largest student community of any campus-based university in the UK. Of the 39,953 students registered at the University, 27,996 are undergraduates and 11,957 are postgraduates.

| | HOME/EU | OVERSEAS | вотн |
|-----------------------|---------|----------|--------|
| Undergraduate | 23,512 | 4,484 | 27,996 |
| Postgraduate taught | 4,880 | 3,466 | 8,346 |
| Postgraduate research | 2,433 | 1,178 | 3,611 |
| TOTAL | 30,825 | 9,128 | 39,953 |

Staff

We are one of the largest employers in Greater Manchester, with more than 5,600 academic and research staff.

| BREAKDOWN OF STAFF | |
|---------------------------|--------|
| Academic | 3,849 |
| Research | 1,846 |
| Administrative/management | 1,145 |
| Clerical/secretarial | 1,536 |
| Academic support | 1,547 |
| Manual/craft | 740 |
| TOTAL | 10,663 |



Income

We have an annual income of £807 million.

The University at a glance

Mission and vision

"By 2020 The University of Manchester will be one of the top 25 research universities in the world, where all students enjoy a rewarding educational and wider experience; known worldwide as a place where the highest academic values and educational innovation are cherished, where research prospers and makes a real difference, and where the fruits of scholarship resonate throughout society."

| SENIOR OFFICERS | |
|---|-------------------------------|
| Chancellor | Tom Bloxham |
| Pro-Chancellor and Chairman of the Board of Governors | Anil Ruia |
| Pro-Chancellor | Gillian Easson |
| President and Vice-Chancellor | Professor Dame Nancy Rothwell |
| Deputy President and Deputy Vice-Chancellor | Professor Rod Coombs |

| INCOME | |
|--|-------|
| Funding council grants | £196m |
| Tuition fees and educational contracts | £262m |
| Research grants and contracts | £188m |
| Other operating income | £145m |
| Endowments and investments | £15m |
| TOTAL | £807m |

The University of Manchester Oxford Road Manchester M13 9PL

tel +44 (0)161 306 6000 www.manchester.ac.uk

Royal Charter Number RC000797 M361 12.12



