



UNIVERSITY OF LEEDS

# ANNUAL REVIEW 2015 – 2016



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## INTRODUCTION FROM

# SIR ALAN LANGLANDS, VICE-CHANCELLOR

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At its core the University exists to do two things: provide an outstanding education and experience for students, developing independent, critical thinkers who are ready to take their place in the world and make a difference; and undertake cutting-edge research of high quality, impact and significance.

At Leeds we have an unrelenting focus on delivering research and education in powerful combination, so that each reinforces the other. Our ability to harness our breadth, our commitment to quality and our desire to make a difference is what defines our approach.

We have a strategic plan, Investing in Knowledge and Opportunity, which sets out a clear map for how we will deliver on our ambitions. This Annual Review demonstrates how the ambition contained in that plan has been brought to life in the past year. I believe it provides an account of a University with a clear sense of direction and a determination to succeed.



This is testament to the clarity of purpose, willingness to innovate, and hunger to pursue opportunity that characterises colleagues in every part of the University. This is reflected in accolades ranging from sector-leading National Student Survey scores, to being named The Times and Sunday Times University of the Year.

It is also a story about the unparalleled investments we are making in people, research capability and the campus. We have seen significant progress on all three during the year and, with the arrival of a new senior academic leadership team, I expect the pace of change and scale of ambition to increase further.

This is essential, because like any university we have a clear choice: to invest in growth, innovation and opportunity, or to stand still and stick to what we know best. It is clear from this review that we have chosen the more exciting course and we are already seeing significant returns. It only leaves me more optimistic about what we can go on to achieve in the years to come.

A handwritten signature in black ink, which appears to read "Alan Langlands". The signature is written in a cursive style with a horizontal line underneath.

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# THE UNIVERSITY'S TIMELINE

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**July**  
**2015**

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Stunning new £26m Laidlaw Library opens, offering more than 900 new study spaces.

Research shows that a new laser sensor that monitors blood glucose levels without penetrating the skin could transform the lives of millions of people living with diabetes.

£17m investment announced for the Astbury Centre for Structural Molecular Biology.

Leeds Institute for Data Analytics established to help public and private sector organisations meet the challenges and opportunities of the Big Data revolution.

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**August**  
**2015**

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Researchers discover that a regular dose of aspirin reduces the long-term risk of cancer in people who are overweight.

Leeds University Business School's MSc Accounting and Finance programme is rated the number one such programme in the world.\*

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**September**  
**2015**

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A study reveals the first images of motor proteins in action – until now, the way they move has never been directly observed.

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**October**  
**2015**

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Thousands of video tapes from *The South Bank Show* – which was conceived, edited and presented by the University's Chancellor Melvyn Bragg – are acquired from ITV by the University. The tapes feature cultural icons from Harold Pinter to Dolly Parton.

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**November**  
**2015**

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Leeds and Southwest Jiaotong University establish a joint school to deliver world-class engineering.

Investing in Knowledge, Creating Opportunity event brings a host of stakeholders to campus to hear about the University's £1.8bn contribution to the economy.

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**December**  
**2015**

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Research suggests that televised leaders' debates should become part of the fabric of major political events.

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**January**  
**2016**

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The £1.9m Treasures of the Brotherton Gallery opens, bringing our collection of rare manuscripts, books and artefacts to a wider public audience.

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**February**  
**2016**

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The University announces a £250m bond issue to accelerate its programme of growth.

Research suggests that driverless cars could intensify car use.

Gifts from alumni and other donors take the University's Making a World of Difference Campaign beyond its £60m goal.

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\*2015 Financial Times Masters in Finance Pre-Experience rankings

## March 2016

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Be Curious open day welcomes members of the public to campus to find out more about the University's research.

The University's fourth Women of Achievement awards celebrate notable successes of female colleagues.

The University wins a national Guardian University Award for its enterprising approach to supporting students.

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## April 2016

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Research uncovers that dinosaur families chose to leave Europe.

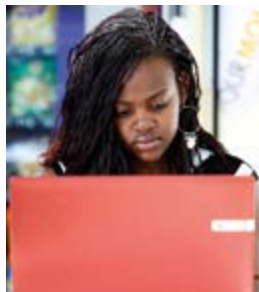
The inaugural Astbury Conversation symposium and exhibition brings world-leading academics and the public to the University to discover and discuss the latest thinking in the field of structural molecular biology.

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## May 2016

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A study of more than 6,000 marine fossils from the Antarctic shows that the mass extinction event that killed the dinosaurs was sudden and just as deadly to life in the polar regions.



Credit-bearing online courses introduced on FutureLearn platform are the first to contribute to degrees.

Research from the Financialisation, Economy, Society and Sustainable Development project examines the dominance of the financial system over other parts of the European economy and suggests reforms to support economic, social and environmental sustainability. The findings are presented at conferences at the Bank of England and in Brussels.

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## June 2016

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Priestley International Centre for Climate launches with a video message from NASA astronaut and alumnus Piers Sellers.

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## July 2016

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A new home for the School of Fine Art, History of Art and Cultural Studies opens after an £8m refurbishment.

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## August 2016

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The National Student Survey puts the University in joint second place for Satisfaction in the Russell Group.

Research study shows women have a 50% higher chance than men of receiving the wrong initial diagnosis following a heart attack.

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## September 2016

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Named University of the Year by The Times and Sunday Times Good University Guide.

Nexus – a new £40m innovation and enterprise centre – given the go ahead by planners.

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## October 2016

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Cultural Institute launches, boosting research, partnership and student opportunities, and engagement with the University's cultural treasures.

£96m investment in new Centre for Engineering & Physical Sciences given green light by the University's Council.

Leeds Institute for Teaching Excellence opens, creating a centre for innovation in education and learning.

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## EXCELLENCE IN RESEARCH

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Cutting-edge research is in Leeds's DNA and the University is seeking to build on this rich heritage to cement its reputation as a truly outstanding research university, securely placed in the UK's top 10 higher education institutions.

A key objective is to increase research quality, income and impact. This will require a great deal of hard work, but it is essential if the University is to live up to its motto – "Et augebitur scientia" ("And knowledge shall increase").

World-leading research requires world-leading people, world-leading facilities and first-rate partnerships, and the University invested significantly in all three during the year.





## Leeds at the forefront of data analytics

The University opened a new institute that puts it at the forefront of global efforts to analyse vast amounts of data to help solve social and environmental problems.

The Leeds Institute for Data Analytics (LIDA) brings together applied research groups and data scientists from a range of disciplines, including medicine, biological sciences, environmental sciences, geography and transport, and is primarily focused on understanding consumer and medical data. LIDA connects academic research with business, government and the third sector, matching the world-class capabilities of the University's research with the needs of external partners.

The Institute is built around two main 'pillars'. The first, the Medical Research Council Bioinformatics Centre, links to pioneering NHS work on the Leeds Care Record – an information sharing system providing health and social care professionals with access to information about patients and clients. The second, the Consumer Data Research Centre, creates, supplies and maintains data for a range of users to help create a positive impact on society through better understanding of issues like economic wellbeing, environmental problems, and social interactions in cities.

Professor Mark Birkin, Director of LIDA, said: "With all these challenges, there is a constant need for new techniques and tools, and to ensure organisations have the right data analytics capabilities. LIDA is a trusted partner that has developed world-class facilities under one roof, so we've raised the bar in standards of secure data storage, access and analysis."



Victoria Gate, Leeds – the Consumer Data Research Centre will increase understanding of consumer behaviours



TurveyWorld Dance perform Man-Made Fibres:  
A Dance Response, for the Yorkshire Year of the Textile



Akeela Bertram's Chorus: Legacies of War. Credit:  
Adam Dodson, Light Night Leeds, Parkinson Court

### **Harnessing the potential of culture to tackle global challenges**

The University launched a new institute to establish itself as a pioneer in harnessing the potential of culture to tackle global challenges, while forging stronger links with the cultural community.

The Cultural Institute's launch was supported by Arts Council England Chairman Sir Peter Bazalgette. It aims to do three things. First, increase pioneering new collaborations between world-leading researchers from across the University and professional partners in the cultural and creative industries to seek out solutions to complex, global challenges, most of which have a cultural dimension.

Second, to create more opportunities for, and build the skills of, the University's students through volunteering, placements, internships and participation in research.

Third, to promote and integrate the University's wide array of outstanding creative facilities, treasures, and performance and exhibition spaces. It provides a single 'gateway' through which the public – as individuals, groups and communities – can access and engage with the University's cultural riches.





### **A £17m investment to investigate life in molecular detail**

The University invested £17m in some of the best nuclear magnetic resonance and electron microscopy facilities for structural biology research. These will help better understand and treat diseases such as cancer and diabetes, and neurodegenerative disorders including Alzheimer's and Parkinson's.

The new facilities provide the University's internationally-renowned Astbury Centre for Structural Molecular Biology with instruments for nuclear magnetic resonance (NMR) and electron microscopy that are competitive with the best in the world.

Professor Sheena Radford, Astbury Professor of Biophysics and Director of the Astbury Centre, said: "For us, this is the first step on the way, but it is a very big step. We are investing in the very best equipment because it will allow us to bring the most talented people to Leeds and

allow the people we have to do the best science."

The centre boasts a new, ultra-sensitive 950 megahertz NMR spectrometer, which can reveal how biological structures move and interact in real time. This is essential to understanding healthy cells and how they malfunction in disease, and enables better insights into tackling complex disorders associated with ageing, cancer and drug resistance.

The cutting-edge equipment also includes two powerful 300 kilovolt electron microscopes that are giving researchers new insights into the structure of healthy and diseased cells, and how pathogens like viruses and bacteria attack them.

The equipment facilitates the development of important technology platforms to provide the best training opportunities for PhD students, attract leading scientists, strengthen industrial partnerships and ensure effective working with other universities and research institutes.

### **Priestley Centre addresses climate change challenges**

The University established a new £6m centre which brings together world-leading expertise in all the key strands of climate change research, helping to deliver solutions to one of the most intractable challenges facing the world today.

The Priestley International Centre for Climate, the launch of which was supported by Leeds alumnus, climate scientist and NASA astronaut Piers Sellers, is at the forefront of the University's efforts to strengthen its position as a world leader in climate research.

The Centre's focus is on creating new interdisciplinary research partnerships. Pooling expertise from a range of disciplines is enabling the Centre to link physical, social, technological and economic understanding of climate change with strategies for mitigation and adaptation.

Areas of research include understanding of climate risks in order to tackle issues such as: global food security; flood adaptation and resilient infrastructure; learning from the climate of the past to predict future developments; and supporting the transition to a low carbon future through work on alternative energy sources.



Carlo Perrotta, a UAF in Digital Learning



The first cohort of University Academic Fellows (UAFs)

### Great Minds are flourishing

Some 150 future academic leaders have now joined the University as part of a major recruitment drive that will significantly boost research and teaching expertise.

Through its 250 Great Minds initiative, the University is recruiting 250 early career University Academic Fellows (UAFs) over three years. The £100m scheme is an unparalleled investment in new academic staff, who are given the opportunity to build strong, independent research portfolios and deliver innovative research-led teaching. Participants embark on a five-year structured development programme, leading to an established position as an associate professor.

The initiative has a particularly strong focus on interdisciplinarity and real-world impact, bringing together talented academics from across core subjects to tackle major global challenges, including high impact research in health, energy, food, water, culture, high value engineering, and cities and sustainable societies. Current participants are working in areas as diverse as business, computing, food science and the arts.

The scheme is a key part of the University's ambition to increase research income by 50% to £200m per year by 2020 and boost the profile of both research and student education at Leeds.

*“I believe that our fellowship scheme is unique in its scale and ambition and we will do everything we can to give the University Academic Fellows the knowledge and opportunities they need to build strong, independent research portfolios and, in time, to deliver innovation in research-led teaching.”*

Sir Alan Langlands, Vice-Chancellor

### Robotic innovations to revolutionise lives

The University's world-leading £4.3m National Facility for Innovative Robotic Systems completed its first full year in operation. The government-funded centre boasts the most advanced suite of robot building equipment in the UK, and has put Leeds at the forefront of this discipline.

The multi-disciplinary teams who work within the facility aim to improve people's lives and further human understanding. Whether it's designing systems to help patients recover after a stroke, or helping cities to 'self-repair' by using robots to identify and fix infrastructure problems, the University is recognised as being at the forefront of robot design and construction.

Industrial partners, researchers and students can now access a suite of technologies for robot design and construction that is among the most advanced in the world. The centre also benefits from the latest 3D printing and high-precision assembly technologies.

The National Facility for Innovative Robotic Systems is backed by the Engineering and Physical Sciences Research Council as part of the Government's drive to improve Britain's international competitiveness in robotics.

The Djedi robot, which explored the Great Pyramid of Giza in Egypt, was developed by a team led by Professor Robert Richardson, Director of the national facility. It has been used to demonstrate the University's capability in this area to government ministers and key stakeholders, most recently at the UK-India Tech Summit in New Delhi.



A prototype 'robo-worm' which could be used to explore inaccessible or dangerous places



A pneumatic bellow for use in powering robotic devices fabricated through 3D printing of soft and hard materials simultaneously



Student volunteer Imogen Letts (Biomedical Sciences) engages an eager listener at Be Curious

### Be Curious brings the public to campus

As part of its drive to engage the public in its research, the University held its inaugural Be Curious showcase in March.

The event, which was based on the theme of Health and Wellbeing, attracted more than 1,000 visitors of all ages to the University to find out about some of the world-class research carried out at Leeds.

Participants could take part in more than 80 activities spread over campus, ranging from medieval-style typesetting to discovering more about a project which aims to sequence 100,000 genomes from 70,000 people to create a new genomic medicine service for the NHS.

Some 200 members of staff took part, explaining and demonstrating their research to visitors, and 50 student ambassadors were on hand to guide and help people find their way around campus and the various attractions on display.

The date for Be Curious 2017 is already set and it is hoped that the event will become a regular fixture in the University's calendar. The theme for 2017 is 'About Leeds and Yorkshire' – a topic that will help demonstrate the value of the University to local and regional communities by highlighting research conducted about, with and for Leeds and Yorkshire.

### New network brings specialist researchers together

A new cross-disciplinary group at the University has been set up to engage and unify the many researchers working in a field of biology that examines the roles, relationships and actions of various types of molecules that make up cells of an organism.

LeedsOmics – so-called because the areas studied usually end in 'omics', such as genomics or metabolomics – was initiated by three University Academic Fellows (UAF) recruited under the University's Great Minds scheme.

Dr Mary O'Connell (Biology) established LeedsOmics with Dr Julie Aspden (Molecular and Cellular Biology) and Dr Niamh Forde (Leeds Institute of Cardiovascular and Metabolic Medicine).

Dr O'Connell said: "We met at UAF networking events and although we work on very different research areas, it was clear that we all used omics technologies to answer our diverse biological questions.

"We found that the University has a significant number of active researchers working under the omics umbrella, but spread across different schools, faculties and campuses."

The group's mission is to engage and unify the University's omics researchers into one central virtual institute that facilitates research discussions, exchange of knowledge and joint grant proposals. As a result, the group aims to increase the research income and impact of its members.

LeedsOmics provides training in different aspects of bioinformatics data analysis for PhD students, postdoctoral researchers and principal investigators. It also helps researchers at all levels develop important skills and facilitate the development of novel tools and technologies.



Founders of Leeds Omics (l-r): Drs Aspden, O'Connell and Forde



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*“Implantable cardioverter defibrillators (ICDs) are expensive and involve an operation. If we can avoid an ICD implant in just a few patients, then that is a boost to patients and the NHS as a whole.”*

Dr Klaus Witte, Consultant Cardiologist

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## Vitamin D3 improves heart function

University researchers have found that a daily dose of vitamin D3 improves heart function in people with chronic heart failure. The discovery could have significant implications for the treatment of heart failure patients.

Vitamin D3 can be boosted by exposure to sunlight. But heart failure patients are often deficient in it because older people make less vitamin D3 in response to sunlight than younger people. Vitamin D3 production in the skin is also reduced by sunscreen.

Consultant Cardiologist Dr Klaus Witte, from the School of Medicine and Leeds Teaching Hospitals NHS Trust, led the study, known as VINDICATE. He said: “It is the first evidence that vitamin D3 can improve heart function of people with heart muscle weakness – known as heart failure. These findings could make a significant difference to the care of heart failure patients.”

The study, which was funded by the Medical Research Council, involved more than 160 patients who were already being treated for heart failure using proven treatments, including beta-blockers, ACE-inhibitors and pacemakers. Participants were asked to take vitamin D3 or a placebo tablet for

one year. Those patients who took vitamin D3 experienced an improvement in heart function which was not seen in those who took a placebo.

Changes in heart function were measured by cardiac ultrasound; this monitors how much blood pumps from the heart with each heartbeat, known as ejection fraction. The ejection fraction of a healthy person is usually between 60% and 70%. In heart failure patients, the ejection fraction is often significantly impaired – in the patients enrolled into VINDICATE, the average ejection fraction was 26%.

In the 80 patients who took vitamin D3, the heart's pumping function improved from 26% to 34%. In those who took the placebo, there was no change in cardiac function. This means that for some heart disease patients, taking vitamin D3 regularly may lessen the need for them to be fitted with an implantable cardioverter defibrillator (ICD), a device which detects dangerous irregular heart rhythms and can shock the heart to restore a normal rhythm.

Heart failure affects about 900,000 people in the UK and more than 23 million worldwide. It is more common in people over the age of 75.

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# EXCELLENCE IN STUDENT EDUCATION

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Leeds has an unrelenting focus on meeting the needs and exceeding the expectations of students, present and future. This involves not only helping them achieve their existing aspirations, but opening them up to opportunities that they never thought possible.

Leeds places a strong emphasis on research-based education so that it helps create independent, critical thinkers and broaden students' horizons. In short, the University wants to transform both students' lives and their life chances, whatever their background.

## **National Student Survey ranks Leeds equal second in Russell Group**

The University secured joint second place among Russell Group universities for Satisfaction in this year's National Student Survey (NSS) – up from joint third last year.

With 90% of final year students saying they were satisfied or very satisfied with the overall quality of their course at Leeds, the result is well above the sector average of 86%.

The University maintained its high scores in the Personal Development, and Organisation and Management categories and, whilst we remained above the average for Teaching, Learning Resources, and Academic Support, our score for Assessment and Feedback showed that improvement is needed in this area. With 76% of eligible students completing the survey, the response rate dipped slightly but it remains one of the highest in the sector and above the national rate of 73%. Leeds University Union continues to receive one of the sector's highest rankings, and its satisfaction rating of 92% is significantly above the average of 69%.

The results mean that Leeds joins the NSS top 20 higher education institutions in the UK for the first time, which includes a number of smaller, specialist institutions which traditionally score more highly.





Sir Alan Langlands and Xu Fei, President of SWJTU, try out a high speed train simulator at SWJTU

## Engineering powerhouses set up China–UK joint school

The University and China's Southwest Jiaotong University (SWJTU) launched a joint school to deliver a unique UK–Chinese engineering curriculum, offering world-class teaching and research.

The SWJTU–Leeds Joint School, based in Chengdu, is the first overseas school to be set up by the University and is part of its drive to increase its international reach and profile. In September 2016 it welcomed its first cohort of students. Over the next four years it expects to register around 1,200 of the brightest high school students in China,

enabling the University to tap into a key market that could develop some of the academics and industry leaders of the future.

Students based in the UK will also have the opportunity to attend the joint school, and the universities plan to extend the partnership to include collaboration on postgraduate education and research.

The then Prime Minister David Cameron welcomed the joint school, saying: "This partnership will cultivate global talent and build strong connections between the UK, China and other parts of the world, addressing future skills requirements and opening up new research opportunities."

Sir Alan Langlands, Vice-Chancellor, said: "Leeds excels in engineering and we want to build our international reach and profile by working in powerful combination with SWJTU, which has particular strengths in transport-related engineering. This school enables us to do just that in a key territory."

Students primarily follow the Leeds syllabus in the English language, but also take additional SWJTU courses to earn dual degree qualifications. Although many students will spend the whole of their four-year courses in Chengdu, some students will come to study in Leeds.

### Union facilities set for transformation

A substantial £16.8m investment in Leeds University Union (LUU) began. The upgraded facilities will create a dynamic and modern environment that will help LUU secure its position as one of the UK's biggest and best students' unions.

After months of consultation and careful planning, work on upgrading the much-loved and hugely busy building began in 2016, with completion scheduled for early 2017. The multi-million pound investment will provide state-of-the-art facilities, resulting in a unique suite of venues under one roof, alongside modern, well-equipped theatres with increased capacity.

Upgrading the retail spaces, licensed bars and café areas within the building will complement improved performance venues and facilities for LUU's 300-plus student-led groups and societies. Users will also be able to better navigate the building via new lifts and improved connections between spaces used for community engagement and co-curricular activities.

The programme of works began with the Old Bar – which keeps its traditional, cosy atmosphere – the Riley Smith Hall and Pulse, and expanded to take in the Raven Theatre, Central Atrium, Common Room, Market Square and the foyer. The final phase will see the completion of a new north entrance and studio spaces.

How the new south entrance to LUU will look



## Outstanding students take Leadership Challenge

Seventeen of the University's outstanding students headed to New York in summer 2016 as part of a new initiative which saw them work with city business leaders, alumni, and leading academics to undertake a challenge examining the concept of 'smart cities'.

The participants in the seven-day visit were winners of the Leeds to New York Student Leadership Challenge, which is supported by the alumni Footsteps Fund. Run by the University's Learning Enhancement team and educational charity Common Purpose, it was designed to develop the participants' leadership and employability.

To win their place on the once-in-a-lifetime visit, students were asked to submit a two-minute video outlining how the programme would help them develop their skills, benefit their career planning or future study, and what they hoped to achieve as a result.

Karen Shaw from the Learning Enhancement team said: "The students displayed an amazing range of thoughts and ideas, and the judges had an extremely hard time selecting the winners.

"The participants represented all years and faculties, disciplines as diverse as food science and artificial intelligence, and included Access to Leeds, EU and international students."

The students met academics and business leaders in Leeds, before leaving for New York where they met alumni to compare and contrast the two cities, explore the leadership challenges faced by businesses and communities, and develop their own leadership skills.



Some of the winning students and members of the team behind the Leadership Challenge



The Institute offers a hub for educational innovators and research



New lecture theatres allow group discussion alongside the use of installed technology to allow group work, interaction, communication and recording

### **A new era of teaching innovation and scholarship**

The new Leeds Institute for Teaching Excellence launched in January 2016, offering striking evidence of the University's commitment to enhancing student education and teaching.

The Institute acts as a hub for educational innovators within the University. It gathers together sector-leading National Teaching Fellows and the growing community of University Student Education Fellows, enabling them to work more closely with a broader membership of staff committed to promoting brilliant teaching, exciting curriculum design and sector-changing educational research.

Based in the heart of campus, the Institute is developing a cutting-edge digital presence, designed to showcase internationally the educational projects and teaching ideas that emerge from and shape the University's Leeds Curriculum.

Dr Rafe Hallett, Director of the Institute, said: "The Institute gives time, space and resources to educators who are willing to undertake challenging research, to design exciting programmes and take some risks. We are moving to a culture at Leeds where outstanding teaching and pedagogy are fully recognised and rewarded, and the Institute is a major investment helping us to achieve that promise."

The Institute's main investment is a cohort of Excellence and Innovation fellows, with plans for visiting as well as internal fellowships. The University has committed £3m to the Institute over the first four years.

### **New online courses earn academic credits for degrees**

The University launched a range of high quality online courses that enable students to earn academic credits towards degrees for the first time in the UK.

The Programs, as they are called, provide students with greater choice and flexibility, enabling them to take part in a course early, add to their skills after completing a degree, or engage in off-campus learning that may better suit their personal circumstances than would a traditional campus-based course. They can try out the course experience and check its suitability for them, before deciding whether to pay for a certificate of achievement and final assessment.

The Programs themselves are free and are offered on the FutureLearn platform of massive open online courses (MOOCs).

The first Program – Environmental Challenges – comprised five short online courses that considered the relationships between people and nature, as well as the challenging and difficult decisions people face when managing natural resources.

Professor Neil Morris, Director of Digital Learning, said: “FutureLearn is an important partner in the University’s ambitious digital strategy for student education. We are making extensive use of the online platform to offer higher education to anyone with access to the internet and to extend the learning opportunities for campus-based students.”





### **Celebrating 400 years of literary genius**

The University joined forces with Beijing's University of International Business and Economics (UIBE) to create a new stage production to mark the 400th anniversary of the deaths of both William Shakespeare and the great Ming Dynasty playwright Tang Xianzu.

The University's Staging China International Research Network, together with colleagues at the Business Confucius Institute and stage@leeds, worked with UIBE on the collaboration 'William Shakespeare and Tang Xianzu: Celebrating a 400 Year Legacy'. The projects saw students in Beijing and Leeds work around the common theme of dreams, preparing for back-to-back performances of their contemporary interpretations of *A Midsummer Night's Dream* and *Nanke-ji* (The Story of Nanke, also translated as The Dream Under the Southern Bough).

After months rehearsing their respective adaptations of the plays on opposite sides of the world, the students came together in Leeds in July to premiere their performance of *A Midsummer Night's DREAMING Under the Southern Bough* in front of the Chinese Ambassador to the UK, His Excellence Liu Xiaoming.

After the premiere, the production moved to the Edinburgh Festival Fringe, then major cities in China including Fuzhou – Tang's birthplace.

Professor of Chinese Theatre Studies Ruru Li was one of those leading the Anglo-Chinese theatrical project. She said: "Shakespeare and his Chinese contemporary Tang Xianzu are the greatest playwrights of their respective theatres. Their plays make us weep, laugh and imagine; they also touch our hearts and souls.

"This project, with Chinese students working on an English play and British students on a Chinese play, allows the two traditions to talk to each other and the two groups to commune with spirit, voice, body, and breath. It is a genuine intercultural practice, both thought-provoking and a great pleasure for everyone involved.

"The project is making people think about the value and relevance of two classic plays to contemporary society and also enhances cultural exchange between China and the UK."

The Shakespeare–Tang research collaboration also featured a series of lectures, workshops and cultural exchanges.

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# A CAMPUS FOR THE FUTURE

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Investment in facilities is integral to the University's achievement of its academic goals. Its buildings and facilities must support world-leading research, while at the same time responding to changes in education and meeting and surpassing students' expectations. The University's significant £520m investment programme will help strengthen this ambition and ensure that students have the very best experience during their time at Leeds.



The Laidlaw Library opened  
in summer 2015





Worsley Building Roof Garden



Artist's impression of the Nexus building

### Creating an inspirational campus

The ambitious five-year plan to transform the University campus is now well underway, as £520m is invested in the development of 19 new sites and the refurbishment of older buildings.

This significant investment underpins the University's strategic plan by further enhancing students' experience, and supporting growth in research income through the development of new research platforms. As a result, students, staff and key partners will have access to new, world-leading facilities and equipment.

The opening of the striking £25m Laidlaw Library in summer 2015 was a key milestone in the development of the campus. It provides students with a superb environment in which to study, with 900 places connected to superfast broadband, and 150,000 books – with hundreds of thousands more publications available online. The library, which was recognised by the Royal Institute of British Architects (RIBA) as an example of the region's best new architecture, is named after alumnus Irvine Laidlaw, whose £9m gift for the project was the biggest ever received by the University.

Since the opening of the library, other major projects completed include: the £8m refurbishment of the Grade II listed Fine Art, History of Art and Cultural Studies building; a £5.5m refurbishment of the School of

Mathematics; a £1m refurbishment of Botany House for the School of Philosophy, Religion and History of Science; and the £3.9m transformation and extension of the Institute for Transport Studies building.

Projects expected to be completed in the next few months include the £25m refurbishment of the Edward Boyle Library, the £41m upgrade of the School of Medicine and Worsley Building, and the £16.8m reconfiguration and refurbishment of the Leeds University Union building. Work will start shortly on Nexus, the £40m enterprise and innovation centre which will provide a high-profile gateway to research and innovation at the University and a UK-leading environment for collaboration and partnership. A new £96m investment to house a Centre for Engineering and Physical Sciences has been approved by the University's Council.

Substantial investment has also been made in providing upgraded sports facilities for students. A new outdoor 1.6km loop cycling track is being built on the University's Bodington playing fields and the refurbished Pavilion is to be used as a base for British Triathlon's elite training centre. It was funded in partnership with UK Sport and British Cycling, which contributed £1m, with the remaining £3.5m being funded by the University. Other recent projects include the opening of a new boathouse and upgrading of The Edge sports and leisure facilities.

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*Our campus has a breadth of outstanding cultural attractions, resources and spaces open to the public.*

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### A strategy to put public art on the map

A number of significant artworks – newly commissioned, restored or acquired on long-term loan – are at the heart of a new Public Art Strategy that is engaging people with the University's impressive collection of public artworks.

The Curating the Campus art trail, part of an ongoing Public Art programme of free events, highlights the University's artistic treasures to the public, as well as to students and staff.

The trail was launched in summer 2015 to coincide with the unveiling of a new artwork for the Laidlaw Library – A Spire by award-winning artist Simon Fujiwara. Other works visited on the trail include the Sign for Art sculpture by Keith Wilson, which is sited in Beech Grove Plaza, and Lenten Cover (1979) by world-renowned artist Michael Lyons, which is currently on the western campus.

This year also saw the University welcome back one of its largest pieces of art – Untitled Bas-Relief, a 6.4m x 6m sculpture in aluminium by Hubert Dalwood, one of Britain's leading post-war sculptors. Commissioned in 1961, the work adorned the University's Bodington Hall of residence for more than 50 years. It has now been installed in a new home on the stage@leeds building, the University's contemporary performance space.

Nearby is Dual Form by the great British sculptor Barbara Hepworth, on loan for five years from the Leeds Art Gallery.



Barbara Hepworth's Dual Form sculpture



Sign for Art by Keith Wilson



## Treasures of the Brotherton Gallery revealed

Shakespeare's First Folio, original material written by the Brontës, and illuminated medieval manuscripts are amongst the exhibits now on view to the public in the University's new Treasures of the Brotherton Gallery.

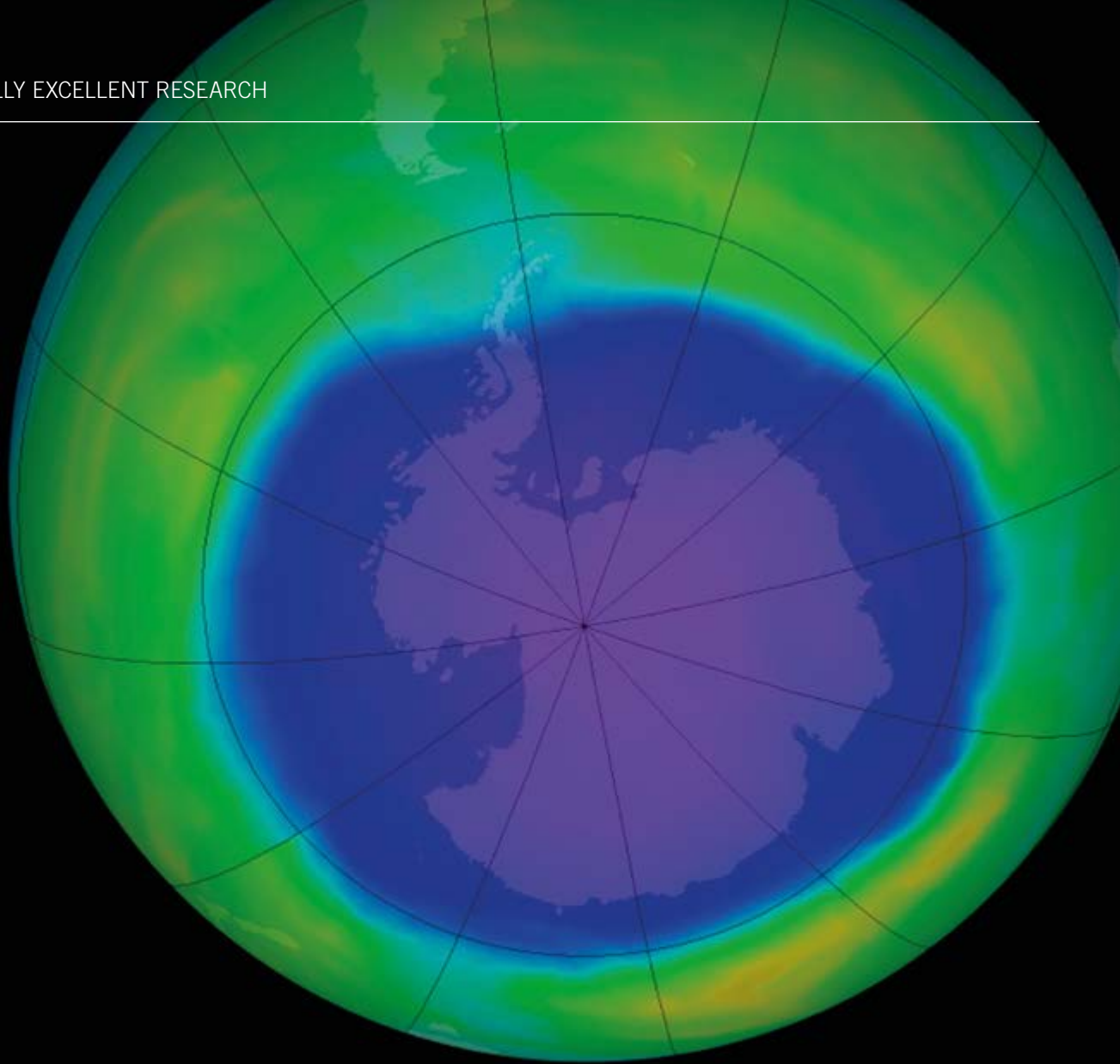
The Heritage Lottery-funded project opened its doors in February, making it the public face of the historically important Special Collections held at the University.

Special Collections is home to the University's rarest books, objects and manuscripts and includes an unprecedented five collections which have been identified

as nationally significant through the Arts Council England Designation Scheme. These are the: English Literature Collection, Leeds Russian Archive, Liddle Collection, Cookery Collection and Romany Collection.

The project involved the refurbishment of a suite of rooms to create a climatically controlled gallery space and adjoining public engagement room. This is enabling the University to share its fascinating objects and their stories with a range of visitors, including community groups and schools.

The Treasures of the Brotherton Gallery project received a grant of £1.3m from the Heritage Lottery Fund, together with a generous private donation from Brotherton-Ratcliffe family.



### Total Ozone



A 'false-colour' image showing the amount of ozone over the Antarctic pole; purple and blue are where there is the least ozone (the hole in the ozone layer), and the yellow and green are where there is more ozone

## First signs of healing in the Antarctic ozone layer

Scientists from the University were part of an international team that discovered clear signs that the hole in the Antarctic ozone layer is beginning to close – the first time such evidence has been recorded.

The ozone layer shields life on Earth from the sun's harmful ultraviolet rays. Recovery of the hole has varied from year to year, due in part to the effects of particles from volcanic eruptions, but accounting for the effects of these eruptions allowed the team to show that the ozone hole is healing. They also believe that there is no reason why the ozone hole should not close permanently by the middle of this century.

The encouraging new findings reveal that the average size of the ozone hole has shrunk by more than 1.7 million square miles since 2000 – about 18 times the area of the United Kingdom. The research attributes this improvement to the 1987 Montreal Protocol, which heralded a ban on the use of chlorofluorocarbons (CFCs) – then widely used in cooling appliances and aerosol cans.

Professor Susan Solomon, of the Massachusetts Institute of Technology, led the team. She said: “We can now be confident that the things we've done have put the planet on a path to heal.

We decided collectively, as a world, ‘Let's get rid of these molecules’. We got rid of them, and now we're seeing the planet respond.”

Co-author Dr Ryan R Neely III, a lecturer at the Leeds-based National Centre for Atmospheric Science and the School of Earth and Environment, said: “Observations and computer models agree; healing of the Antarctic ozone has begun. We were also able to quantify the separate impacts of man-made pollutants, changes in temperature and winds, and volcanoes, on the size and magnitude of the Antarctic ozone hole.”

Leeds colleague and co-author Dr Anja Schmidt added that the team's research had shed new light on the part played by recent volcanic eruptions in Antarctic ozone depletion: “Despite the ozone layer recovering, there was a very large ozone hole in 2015. We were able to show that some recent, rather small volcanic eruptions slightly delayed the recovery of the ozone layer.

“That is because such eruptions are a sporadic source of tiny airborne particles that provide the necessary chemical conditions for the chlorine from CFCs introduced to the atmosphere to react efficiently with ozone in the atmosphere above Antarctica. Thus, volcanic injections of particles cause greater than usual ozone depletion.”



### University of the Year

The University was named University of the Year 2017 by The Times and The Sunday Times' Good University Guide.

Chosen by a distinguished panel, the award recognises the excellent student experience provided by Leeds. Alastair McCall, editor of the Good University Guide, said: "The University of Leeds thoroughly deserves our University of the Year for prioritising students' needs first to last.

"Outstanding student satisfaction levels do not happen by accident and reflect the emphasis placed here on getting the student learning experience spot on.

"Heavy investment in campus facilities has gone hand in hand with a strong pastoral system of student support, the introduction of a final year research-based project as the centrepiece of students' academic activities, and the Leeds for Life scheme that helps prepare students for life after university.

"It is no wonder that Leeds's graduates are so sought after by employers."

Sir Alan Langlands, Vice-Chancellor, said: "This award is recognition of the unparalleled investments we have been making in our staff, research capability and campus, which make Leeds a truly remarkable place when it comes to inspiring knowledge and creating opportunity."



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# HONOURS AND AWARDS

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- The University held its fourth Women of Achievement event to recognise the significant contribution and impact that women – both staff and students – have made across the University and beyond. A special honour was given to Professor Vivien Jones, for her outstanding work as Pro-Vice-Chancellor for Student Education to enhance the academic and co-curricular experience of taught students.
- Professors Giles Davies, Andrew Bell, Mojtaba Ghadiri and Anthony Cohn (all Engineering) were all elected as Fellows of the Royal Academy of Engineering.
- Professor Anne Neville (Mechanical Engineering) was awarded the 2016 Leverhulme Medal by the Royal Society. She also received the James Clayton Prize from the Institution of Mechanical Engineers.
- Professors Julia Barrow (Medieval Studies) and Fiona Williams OBE (Social Policy) were made Fellows of the British Academy.
- Professor Eileen Ingham (Biomedical Sciences) was elected to the Fellowship of the Academy of Medical Sciences.
- Three female researchers from the School of Earth and Environment won 2016 Geological Society Awards – Dr Tracy Aze, Dr Anja Schmidt and Professor Liane Benning.

- Professors Anna Madill and Timothy Devinnay were honoured with Fellowship of the Academy of Social Sciences.
- Professor Nicola Stonehouse (School of Molecular and Cellular Biology and the Astbury Centre for Structural Molecular Biology) was elected a Fellow of the Royal Society of Biology.
- The University's academics also received international recognition. These included: Professor Jaafar Elmighani, (Electronic and Electrical Engineering) awarded the GreenTouch 1000x award for his work in reducing Internet online energy

consumption, and also an Outstanding Service Award by the US-based Institute of Electrical and Electronics Engineers Communications Society; Professor Griselda Pollock (Fine Art, History of Art and Cultural Studies) elected as an international member of the Royal Flemish Academy of Belgium for Science and the Arts; Dr Philip Helliwell (Leeds Institute of Rheumatic and Musculoskeletal Medicine) made a Master of the American College of Rheumatology (ACR), one of the highest honours the ACR can bestow.

Winners of the University's fourth Women of Achievement awards



### Entrepreneurial spirit sweeps the board

The strength and breadth of the University's entrepreneurial expertise was recognised through a host of awards, including 'Entrepreneurial University of the Year' at the Times Higher Education Awards.

The award commended the University's role in offering opportunities for student entrepreneurship, the support provided for small businesses in the region and its significant innovation and 'intellectual property' and commercialisation work.

The University also won The Duke of York Award for University Entrepreneurship at the 2015 Lloyds Bank National Business Awards, in recognition of how it encourages and enables student entrepreneurship and supports high-growth small businesses in the region.

In September, Kairen Skelley, head of the University's student start-up service SPARK, was named as the Higher Education Enterprise Champion at the National Enterprise Educator Awards.

The University also won a national Guardian University Award for its enterprising approach to supporting students. It scooped up the award for "encouraging a spirit of creativity and self-belief that helps students to launch their own enterprises."



Enterprising graduate Shaun Gaisie worked with the SPARK team to set up a micro coffee roasting business





**UNIVERSITY OF LEEDS**