



The
University
Of
Sheffield.

Shaping Our Research Future.

Our Shared Vision

Our 2020 goal

Our 2020 research goal is to be one of the top five UK research universities, based on national and international peer assessment including future metrics-based methods.

Our research will set the agenda across a broad range of subjects, our researchers leading the way in pioneering areas.

Our strategy will instil in our researchers the values of leadership and mutual support, characteristic of the Sheffield research experience, from research students and early career researchers to those leading their field. In discovering and understanding we will extend the frontiers of knowledge. Through knowledge transfer and exchange we will play a central role in addressing the profound global challenges that face society, and contribute to the UK's knowledge base and competitiveness.

Research at Sheffield

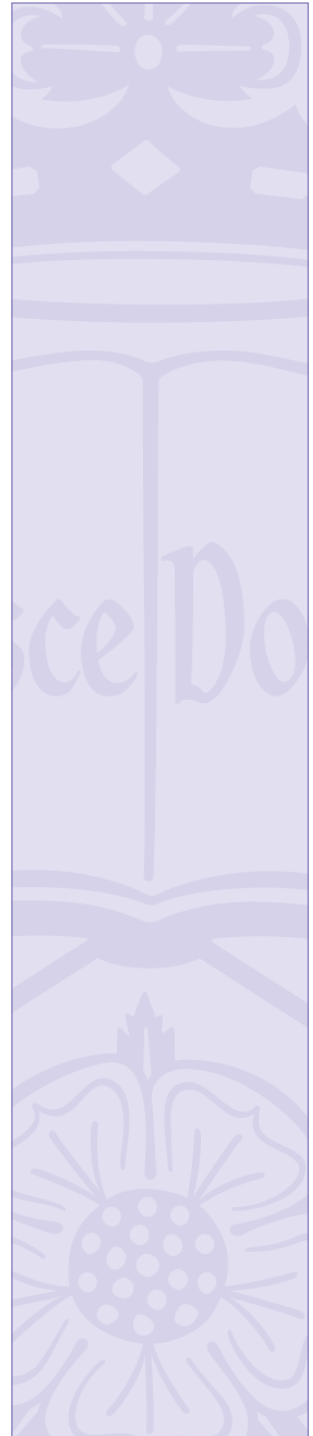
The founding motto of the University of Sheffield was "To discover the causes of things". A hundred years later the knowledge landscape has shifted dramatically. Fundamental beliefs in certain causes, single discipline inquiry, the isolated scholar have all given way to a much more dynamic and fluid environment.

Our research strategy upholds the ideals of discovery and acknowledges the new ways of acquiring, investigating and developing knowledge. It also recognises universities' wider responsibilities in applying knowledge. Our research culture supports academic freedom and independence, encourages radical thinking, and challenges orthodoxies.

It is the nature and scale of our interdisciplinary research that makes us stand out among universities. We bring together people from diverse research backgrounds in virtual centres, physical institutes, or state of the art environments designed to foster world-leading interdisciplinary research excellence.

We are developing new interdisciplinary strengths in globally significant areas including Energy, Environmental Change, Identities (digital, national, political, social), Imaging and Visualisation, Security, and Services Sciences.

For the success and impact of our research knowledge transfer activities we are among the leading Russell Group universities.



Our position

We are a leading international university recognised for learning and teaching, research and knowledge transfer of the highest quality. Based on the latest data at the time of writing:

- The Shanghai Jiao Tong 500 Worldwide ranks us 8th in the UK, 21st in Europe and 72nd in the world.
- In the RAE 2001 73% of our departments were awarded top scores of 5 or above, six departments being awarded double 5* or 'rising 5*' status (Biomedical Science, Electronic and Electrical Engineering, Information Studies, Engineering Materials, Politics, Russian and Slavonic Studies).
- We have the 7th highest number of research postgraduate students in the UK (2006-07), evidence of our standing and the quality of the research student experience.
- We continue to grow our overall research grant and contract income, which is forecast to exceed £100m per annum by 2009. Our ranking among UK HEIs, rose from 13th in the financial year 2001-02 to 8th in 2004-05. The total annual value of our awards currently well exceeds £112m.
- We were the most successful university in securing HEIF 3 funding, receiving a combined total of £6.5 million. The University is first in the region, second in the Russell Group and fifth nationally in terms of Knowledge Transfer Partnership activity (number of projects). Current projects have a collective value of £2.9 million.

The quality of our researchers

Many awards and honours have recognised the excellence of our researchers. The University has five Nobel laureates and our staff also include:

- six Fellows of the Royal Society
- seven Fellows of the Academy of Medical Sciences
- nine Fellows of the Royal Academy of Engineering
- a number of staff awarded knighthoods and other royal accolades and honours.

We are frequently awarded prestigious fellowships in open national competition. Fellows range from early career research staff, who hold a number of fellowships, including 16 EPSRC Advanced Fellowships (the fourth highest number among HEIs), to established staff, who hold 11 independent research fellowships from bodies including the Royal Society, the Natural Environment Research Council and the Leverhulme Trust, as well as an EPSRC Senior Research Fellow, and an EPSRC Senior Media Fellow. We are the first university to hold such a fellowship, and have been awarded three in total. One of our staff has also been appointed as an EPSRC Professorial Fellow and Senior Strategic Advisor for Nanotechnology.

We have won three Queen's Anniversary prizes – see www.sheffield.ac.uk/about

The impact of our research

Our researchers make an outstanding contribution to the research base and knowledge exchange across many disciplines. Several are among the world's most highly cited researchers.

The academic impact of our research includes:

- Contributing to the intellectual and cultural wealth of the nation in fields such as architecture, history and literature
- Addressing global challenges such as ageing, international security, environmental change and healthcare advances in areas such as neuroscience, cancer and stem cells
- Pioneering technologies and techniques in areas such as chemoinformatics and polymer science
- Shaping national and international policy, including research-based policy advisory roles in government and to international bodies on themes such as migration, trade and development and nanotechnology
- Transferring and exchanging knowledge
- Contributing to the region's regeneration and social and economic development
- Supporting public understanding of our research.

Our research contributes to South Yorkshire's economy and international competitiveness. Over our last measured year (05/06) the University delivered projects worth over £45 million with organisations including leading global companies, regional SMEs, Government departments and agencies, charities and the voluntary sector.

Developing our research postgraduates and early career researcher potential

We were one of the first UK universities to introduce a comprehensive Research Training Programme (1995) for postgraduate research students. We have recently expanded support for subject-specific and generic skills to include personal development training and careers workshops. In 2006 we introduced the Sheffield Research Leaders' Programme, a suite of continuing professional development modules and careers advice designed to support researchers throughout their career. The investment in research staff will ensure that the University will continue to attract and retain the very best minds.



Creating world-leading research environments

Bringing together people and facilities

Over the last decade we have invested £170 million in research capital infrastructure, largely thanks to our outstanding success in securing HEFCE JIF and SRIF funding. This investment exploits the strategic value of co-locating researchers from different disciplines in state-of-the-art facilities for real, sustained knowledge exchange. Examples include:

The new Humanities Research Institute facility

This £1.9 million award-winning facility to support interdisciplinary research in the arts and humanities, which opened in 2006, is home to cutting-edge research projects using innovative digital technologies.

www.sheffield.ac.uk/hri

The Informatics Collaboratory of the Social Sciences (ICOSS) A £5.7M centre, which opened in 2005, is the first large scale dedicated facility for social science research in the UK. It accommodates more than a hundred researchers in multidisciplinary teams working on evidence-based research to inform social policy on Health and Social Care, Urban and Regional Planning, Social Exclusion and Spatial Inequality, Computational Data Analysis, and Criminology.

www.sheffield.ac.uk/icoss

The Henry Wellcome Laboratories. The £26 million refurbishment of facilities at the Royal Hallamshire Hospital site of the School of Medicine and Biomedical Science has created The Henry Wellcome Laboratories and has brought together most of the basic and clinical researchers in Sheffield onto one site.

North Campus. A £25 million investment has created what we believe is the UK's largest dedicated multidisciplinary science and engineering research facility. This campus includes the Kroto Research Institute and the Nanoscience and Technology Centre. It brings together over 200 researchers from 20 disciplines in an environment where engineers, medics, physicists and environmental scholars with similar interests work side by side.

www.sheffield.ac.uk/northcampus

The Advanced Manufacturing Research Centre (AMRC) with Boeing. A world-leading centre for advanced manufacturing activities with a £25 million turnover, the AMRC incorporates the Centre for Advanced Materials Technologies (CAMTeC), the Factory of the Future (with Rolls-Royce as the principal partner), the Centre for Excellence in Customised Assembly (CECA), and the Innovation Metal Processes Centre (IMP-C). In the AMRC with Boeing, academia, industry and government bodies work together to rapidly migrate research discoveries into industry, devising groundbreaking responses to economic and environmental challenges. The Factory of the Future will have a zero carbon footprint and will develop next generation methods of combining analysis, design and manufacturing for aerospace components.

www.amrc.co.uk

Wellcome Trust and Wolfson Facility for Molecular Sciences A £30 million investment in Molecular Sciences has created an internationally competitive research environment for the analysis of the molecular and cellular basis of human development and disease. The facility integrates a diversity of approaches ranging from molecular physiology to structural biology in state-of-the-art laboratories in the historic Firth Court, the Alfred Denny Building and the newly constructed Florey Building.

Information and library investment

The Information Commons, which opened in April 2007, is a £23 million integrated learning environment. Open 24 hours, it includes 100,000 of the most in-demand books, and access to the Library's huge range of electronic journals and other digital resources. Complementary further investment in Western Bank Library, with its stock of 1.1 million items, will optimise it for research use. This dual approach will offer our researchers rapid integrated access to the global knowledge base in print and electronic form.

Development role in regional, national and world-wide networks and strategic partnerships

Our role in world-wide networks and strategic partnerships extends our global reach and enhances our input into regional and national activities. For example, the University was a founding member of the Worldwide Universities Network (WUN), a partnership of 17 research-led universities in Asia, Australasia, Europe and North America. WUN exists to make significant advances in understanding topics of global concern via international research platforms involving staff/student exchanges and joint research programmes.

The University is a member of the White Rose University Consortium, a strategic partnership between Yorkshire's leading research universities of Sheffield, Leeds and York, with the aim of enhancing their ability to achieve the highest levels of international excellence in the generation and transfer of knowledge. Current initiatives include: the White Rose Health Innovation Partnership, working with industry and the NHS to accelerate innovation in health technologies, and the White Rose East Asia Centre which undertakes world-class research and provides advanced research training in Chinese and Japanese Studies.

We belong to the N8 northern research partnership, formed in 2005, comprising eight UK research-intensive universities, Sheffield, Newcastle, Durham, Lancaster, Leeds, Liverpool, Manchester and York, with a combined research income at the time of writing of more than £620 million per annum. The N8 universities will pool their knowledge to attract the funding needed to bring together world-leading research excellence with regional, national and global businesses in multi-disciplinary research programmes. The Chief Executive of N8 is based at the University of Sheffield.



Building the future

We will achieve our 2020 research goal by building our reputation for world-leading and world-class research with national and international relevance and impact.

Attracting and supporting the best people is crucial to achieving outstanding research leadership. We will develop the environment and mechanisms to foster such leadership. Synergies between the quality of our research staff and the quality of the research environment will enable us to extend our high quality fundamental research, translational research, knowledge exchange and enterprise activities.

This strategy focuses on four themes: **People, Interdisciplinary Research, Research Environment, Impact and Relevance.**

People

Excellent appointments

We will

- implement clearer policies designed to recruit, retain and develop the very best individual researchers
- ensure that senior appointments are of world-leading or world-class standing, and that junior appointments have the potential to be so
- actively explore and promote interdisciplinary appointments across our entire research base.

Research development and leadership

We will

- build on our strong track record in developing researchers' careers within the University, ensuring that all departments have defined local strategies for:
 - setting high standards and supporting their achievement
 - succession planning for research leaders in key areas
 - instilling research leadership qualities in all staff
 - setting minimum standards for appointing junior staff and nurturing their research leadership potential
- establish equality, diversity and inclusivity at the heart of our research success
- be creative and innovative in support of our early career researchers, building on our Research Training Programme for research students, and our continuing professional development programme for all research staff in the newly developed Sheffield Research Leaders' Programme.

Sheffield postgraduate research student experience

We will

- provide structured and supported research degree programmes, offering postgraduate research students the highest standard of supervisory team support and overall 'Sheffield experience'
- support our postgraduate research students to enable them to publish research in leading international peer-reviewed journals, and ensure their work influences the research agenda through attending meetings and presenting findings

- support our postgraduate research students to enable them to participate in academic networks and appropriate collaborations
- equip research students to demonstrate the transferable skills that employers value
- enable them to identify the wider social, cultural and economic context of their knowledge and relate it to individual and community needs.

Interdisciplinary research

Building critical mass and world-leading areas

We will

- build on our interdisciplinary research strengths to develop new areas of critical mass and to assure the enduring impact of innovation and achievement of excellence throughout our research base
- focus resources on highly productive, exceptional researchers (individuals, groups, interdisciplinary research themes and/or University Research Centres) whose research is world class or world-agenda setting, and has a demonstrable or potential international and world-wide impact
- enhance our interdisciplinary research capacity through appropriate incentives and financial support.

World-class research infrastructure

We will

- ensure that our dedicated multidisciplinary facilities are financially sustainable, operate at the forefront of scholarly enquiry and address major research questions of real benefit to society

We will

- continue to invest in our research infrastructure to increase the number and scope of advanced facilities and to enhance their capacity to establish critical mass in key research areas
- bring together business and knowledge exchange opportunities through regional engagement, inward investment, supply chain opportunities and contact with world-leading companies.

We will

- continue to work closely with end users of our research on projects with major potential benefits.

Measuring our success

We will achieve year-on-year improvement in:

- The number of nationally and internationally high-quality individual esteem indicators, including high prestige research fellowships and other awards
- Demonstrable added-value in developing the next generation of research leaders from postgraduate research and early career researcher training
- The income and international reach of interdisciplinary research centres and research themes

Research environment

Fostering healthy competition and repetitive success

We will

- support initiatives and schemes to encourage healthy internal competition that stimulates continuous performance improvements.

Maximising the impact of strong research environments on the next generation

We will

- build ever-higher quality research environments with strong leadership, good management of research resources and innovative programmes of CPD and postgraduate research programmes and post doctoral training
- continue to attract and recruit numbers of high quality postgraduate research students and postdoctoral staff
- further develop the content and flexible delivery systems for our Research Training Programme for postgraduate research, to promote postgraduates' research and help prepare them for their future careers
- provide high quality spaces for researcher training.

Developing library and information resources

We will

- harness and optimise the benefits of new technologies to enable our researchers to achieve maximum access to, and impact from, their research outputs.
- enhance our research library facilities, and ensure that our information infrastructure enables us to play a full part in developing the UK's e-research capacity, and exploiting grid technologies in collaborative research.

Relevance and impact

World-class and world-leading individuals and groups

We will

- use national and international external measures of quality to identify and sustain individuals and groups already making a major research impact, and identify and support those others with the potential to do so
- strategically deploy our resources in areas of research excellence, to ensure the continued relevance and impact of our world-leading and world-class researchers
- encourage our researchers to maximise their global status through high quality outputs, and engage in high impact research activity and collaborations
- build on our previous success in public engagement
- regularly evaluate the constituents of our research reputation, relevance and standing, and communicate them to ensure that they are understood both internally and in the outside world.

Research income

We will

- expand our external research grant and knowledge transfer income, in a strategically balanced portfolio across a range of funders, ensuring that we operate in a scientifically and financially sustainable way and remain relevant, locally, regionally, nationally and internationally
- improve the quality, profitability and success of our research funding applications to increase our market share per full time equivalent, by working closely with the UK research councils and other funders and providing in-house bespoke training for award winning at all levels.

Research-led teaching

We will

- provide learning experiences for our taught students that reflect the process of creating and deepening knowledge in learning activities that mirror research procedures and activities.
- maintain the relationship between research and teaching to the mutual benefit of both activities, so that teaching is influenced by current research questions and research is exposed to the challenge of dissemination to a wider audience and further questions that may follow
- develop and sustain taught programme curricula informed by the work of high quality researchers and delivered by staff working at the frontiers of academic enquiry
- increase opportunities for taught students to experience research training and research activities as part of their programmes of study.

Collaboration with international partners, business, industry, and policy-making bodies

We will

- cooperate with relevant funders, policy makers and other stakeholders to improve access to, and understanding of, our research activities, opening up new opportunities for knowledge exchange, increasing the benefits of our research base and encouraging public engagement with our research
- build on our knowledge exchange activities, working in partnership with our city and regional stakeholders to stimulate the regional economy, in ways that include attracting and retaining a high quality skills base, regeneration and inward investment

Measuring our success

We will achieve year-on-year improvement in:

- Numbers of postgraduate and post doctoral researchers and the quality of their training experience and leadership skills
- National and international researcher mobility
- Bibliometric performance compared with our competitors
- Total research grant and contract income, across a balanced portfolio, in order to capture increased market share
- The number and scope of our branded partnerships with collaborating organisations

- analyse and exploit the distinctive characteristics of our branded partnerships, to expand our research and knowledge exchange collaborations with new partners across a broader spectrum of disciplines
- develop our world-leading research centres and groups to maximise their world-wide impact and to ensure that they remain globally competitive
- support and promote prestigious associations with internationally leading universities worldwide
- play a leading role in UK-based collaborations such as the White Rose University Consortium and the Northern Research Partnership (N8)
- build on our collaborative work, both individually and in groups, with world-leading centres of excellence in the HE sector and beyond, focusing both on established economies such as the US and Europe and on emerging economies such as China and India.

