



The
University
Of
Sheffield.

A
Remarkable
Place
To Work.

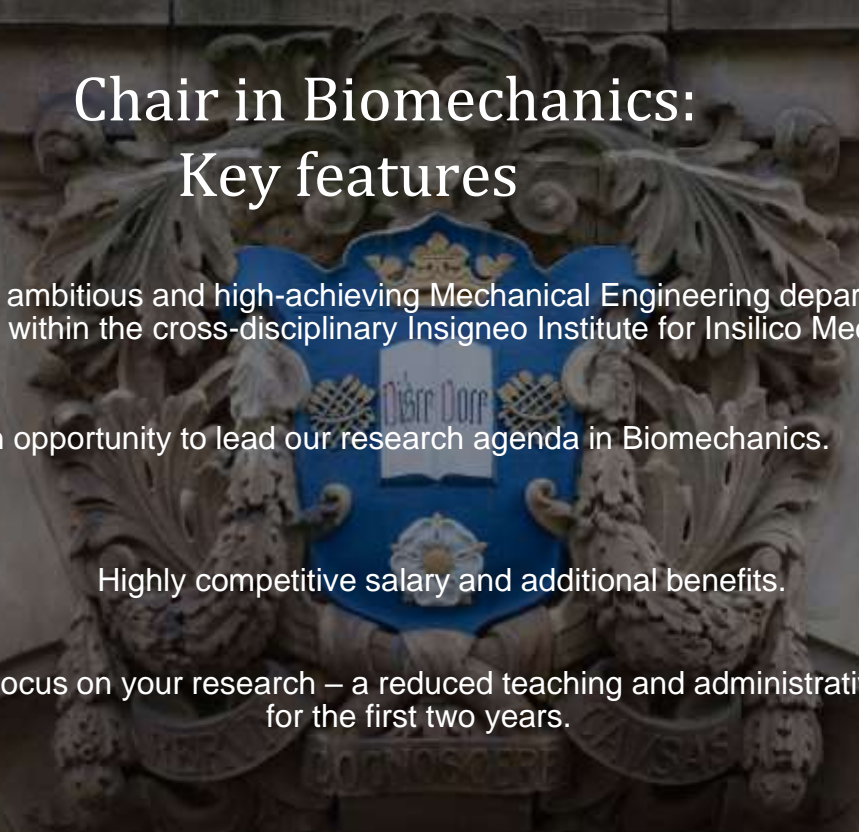
Professor of Biomechanics

Faculty of Engineering
Department of Mechanical
Engineering



Contents

1. Introduction
2. The Department of Mechanical Engineering
3. The Faculty of Engineering
4. The Role
5. The Person
6. Terms of Appointment
7. Further Information
8. The University of Sheffield
9. Our Research and its Impact
10. Our Education and Student Experience
11. A Remarkable Place to Work
12. The City of Sheffield

The background of this section is a photograph of the University of Sheffield's crest, which is a blue shield with a white book and a crown, surrounded by ornate stone carvings.

Chair in Biomechanics: Key features

Join an ambitious and high-achieving Mechanical Engineering department working within the cross-disciplinary Insigneo Institute for Insilico Medicine.

An opportunity to lead our research agenda in Biomechanics.

Highly competitive salary and additional benefits.

Time to focus on your research – a reduced teaching and administrative load for the first two years.

Our Department

Introduction from the Head of Department

The Department of Mechanical Engineering was established in 1917 and over the past century, it has gained a strong international reputation for its research and teaching. We are one of the UK's leading departments of Mechanical Engineering: we are ranked among the UK's top five Mechanical Engineering departments for research excellence and our student satisfaction is consistently high. In 2018, we were proud to be awarded an Athena Swan Silver Award. www.sheffield.ac.uk/mecheng

Our research vision is to apply our core strengths in mechanical engineering science, addressing key societal challenges, to advance fundamental science, and to achieve stakeholder impact.

Within the Department, our research is organised into six themes: dynamics, fluid mechanics, solid mechanics, manufacturing, biomechanics, and energy. The breadth of our research creates many opportunities for collaboration and inspiration. For example, in dynamics we have recently commissioned the Laboratory for Verification and Validation, providing unique facilities for testing full-scale structures. LVV is part-funded by the European Regional Development Fund (ERDF). In solid mechanics, we have an extensive research agenda focusing on tribology and friction of interfaces, and in fluid mechanics we have exciting fundamental research on turbulence, computational methods, and optimisation. In manufacturing, we are developing new capabilities for additive manufacturing of polymer, metallic, and functional materials, with strong links to the University of Sheffield's Advanced Manufacturing Research Centre.

The Department has instigated, and plays a leading role in two cross-disciplinary institutes, most notably for the present position is the Insigneo Institute for in silico medicine.

The Insigneo Institute is an initiative between the Faculties of Engineering, Medicine, and Science at the University of Sheffield, and the Sheffield Teaching Hospitals Foundation Trust. The Insigneo Institute is driving innovative research at the interface of healthcare. Engineering and science to transform the future of healthcare technology. Established in to build on tools and expertise developed in the Virtual Physiological Human initiative, with the aim of producing a , the institute has built a strong multidisciplinary network of over 260 academics and clinicians who bring together expertise in biomedical imaging, healthcare data, computational modelling and digital healthcare technologies. transformational impact on healthcare.

Multidisciplinary collaboration in strategic areas is a key feature of Insigneo, and these include technology for personalised treatments, and for enabling independent, active and healthy ageing. Since its establishment in 2012,

Insigneo has attracted £60m of funding and this supports a thriving multidisciplinary community of research staff and research students. Our team of academics and clinicians has an international and interdisciplinary profile, with a strong commitment to clinical and industrial translation for impact in future healthcare. (<https://www.sheffield.ac.uk/insigneo>).

The Energy University Research Institute also plays a key role in our Department's research and innovation portfolio. We lead the UK Carbon Capture and Storage Research Centre, a national consortium that brings together elite academics to provide a national focal point for CCUS research and development. We have established the Translational Energy Research Centre, a pilot-scale national specialist research and development facilities for combustion, and CCUS technology research, encompassing advanced fossil fuel energy, bioenergy, carbon capture technology, renewable energy for power generation and industrial applications. The Translational Energy Research Centre is part-funded by the ERDF. Our research has also played a role in the global approval of alternative fuels for use within aviation.

Overall, our vibrant research community includes academics holding EPSRC fellowships, Royal Academy of Engineering Chairs, and EPSRC Programme and Network Grants. We truly believe that this expertise should translate into research-led teaching that is an inspiration for future generations. Our learning and teaching vision is to recruit high calibre students, inspire them and provide a challenging curriculum that will ultimately equip our graduates with the skills to compete globally. With a strong team spirit and collegiate approach, we seek to create such opportunities for our students whilst simultaneously providing a rich and rewarding environment for our academic staff.

The Department's longstanding successes in research and teaching have led to significant infrastructure investments over the past decade. In 2015, the University opened the Diamond, an £81m investment that included extensive teaching laboratories for engineering students. More recently we redeveloped the Department's home, with a £50m investment in the Engineering Heartspace.

Building on our strengths across the spectrum of mechanical engineering, we are now seeking to further extend our capabilities in Biomechanics, as part of our collaborations within the Insigneo institute. This is a tremendously exciting time for the Department. We look forward to welcoming and working with our new colleagues.

Professor Neil Sims,
Head of Department of Mechanical Engineering

The Faculty of Engineering

The Faculty of Engineering is one of the biggest and best engineering faculties in the UK and strives for excellence in its teaching and world-class research. Independent assessments of our research excellence confirm more than two thirds of our research to be either internationally excellent or world leading.

Our expertise is extensive – our seven academic departments and two interdisciplinary programme areas cover all the engineering disciplines.

They are leaders in their fields and outstanding contributors to the development of new knowledge, linking their research to the teaching of the engineers of the future and developing the skills of existing engineers. Our vision is to compete to be the best engineering faculty in the UK, and to be amongst the best in the world. Indeed, we were ranked 110th globally by the recent Times Higher Education (THE) World University Rankings.

We aim to work across the full spectrum of engineering activity, from fundamental science to professional practice, and we will contribute fully to ensuring a sustainable future both locally and globally.

The Faculty has close links with the Advanced Manufacturing Group (AMG), a self-standing centre for research, knowledge exchange, teaching and learning within the academic structure of the University. AMG was created in 2011 in response to the continued success and growth of the University of the Sheffield Advanced Manufacturing Research Centre (AMRC). It includes: AMRC with Boeing, Nuclear AMRC, Knowledge Transfer Centre and the AMRC Training Centre.

**For further details about the Faculty of Engineering,
please see our website**

www.sheffield.ac.uk/faculty/engineering

The Role

We are seeking to appoint one Chair of international renown to provide academic leadership in biomechanics. We are particularly interested in extending our capabilities in the areas of musculoskeletal modelling, experimental tissue biomechanics, multiscale and data-driven computational modelling.

Your role

As a Professor in the Department of Mechanical Engineering, you will contribute to the leadership and strategic direction of your Research Group, sharing in our ambitious vision and our commitment to a culture of collegiality and mutual support. You will be an outstanding scholar who can contribute to our research portfolio. You will conduct innovative research and scholarship that is recognised internationally in terms of originality, significance, impact and rigour. This will include developing funding strategies, securing research funding, leading external research grants, publishing in high quality journals/conferences, and supervision of research students. You will also contribute to departmental activities aimed at improving equality, diversity, inclusion and accessibility.

Teaching

As a teacher, you will play a key role in maintaining our reputation for high-quality teaching by designing, delivering and assessing undergraduate and postgraduate level programmes, contributing to the development of teaching policy and strategy as well as curriculum design.

Professional Standing and Wider Engagement

You will have a demonstrable wider standing, whether this be through active membership of a major professional body, consultancy for external clients, reviewing high profile books / journals etc.

Leadership

You will provide strong academic leadership, including line management and staff development as appropriate (for example of research teams). More broadly, you will make a significant contribution to the leadership of the Department's strategies for research, teaching and knowledge exchange undertaking administrative roles as required.

You will perform any other duties commensurate with the grade of the post.

Biomechanics

The Insigneo Institute for in silico Medicine is known for its cutting-edge research in the development of biomechanics methods for neuro-musculo-skeletal, cardiovascular, respiratory, and urinary pathologies. Insigneo is the largest European research institute dedicated to Computational Medicine, with the aims to realise the scientific ambition

behind the Virtual Physiological Human, producing a transformational impact on healthcare. Insigneo performs innovative research in areas of fundamental and applied biomedical modelling, imaging, and informatics.

Our group has an international and interdisciplinary profile and a strong commitment to clinical and industrial translation with impact in future healthcare. We are active in biomechanics and mechanobiology of the neuromusculoskeletal and cardiovascular systems. We have access to a fully equipped human movement analysis laboratory, a tissue testing/mechanobiology laboratory, and, through the Department of Oncology and Metabolism, to in vitro and in vivo microCT imaging.

For more information on our research please refer to our flagship research project, the EPSRC Frontier Engineering Award MultiSim project (www.sheffield.ac.uk/multisim-insigneo), to the H2020 funded CompBiomed (www.compbiomed.eu), SANO (<https://sano.science/>) and Mobilise-D (www.mobilise-d.eu/), and to our European Industrial Doctorate (EID) SPINNER (<https://spinner-eid.eu>) funded as part of the Marie Skłodowska-Curie Innovative Training Networks. We are also part of the NIHR funded Sheffield Biomedical Research Centre, the UK's only Biomedical Research Centre dedicated to Neurology (<http://sheffieldbrc.nihr.ac.uk>).

Academic members of the Insigneo institute are all members of individual departments, where the majority of teaching and administrative responsibilities are undertaken. For more information on Insigneo, please see our web pages: <https://www.sheffield.ac.uk/insigneo>

The University of Sheffield has an established Academic Career Pathway (more details further on in this document) which is built upon our shared understanding of what it means to be an academic in an ambitious, research intensive Institution like the University of Sheffield. As a Chair you will contribute to the areas of research, teaching, leadership and professional standing and wider engagement.

Key Responsibilities

Research & Impact

Conduct world-leading research, independently and collaboratively. Research should be recognised in terms of its originality, significance, rigour and impact and evidenced by high quality international journal publications, including identified 3* and 4* publications.

Lead research group activity within the department and establish productive research links and collaborations within the wider University and beyond.

Secure significant external funding to support future research activity.

Disseminate research outcomes through publications in high-impact journals and other high impact channels, including industry, academic and professional conferences.

Maintain a strong academic and professional profile through national and international partnerships, engagement, conference presentations and high-quality publications.

Foster and demonstrate research impact. Undertake knowledge transfer activities and lead collaborative research and consultancy projects within the Department, wider University and Industry.

Manage, supervise and support research students and colleagues and foster a culture of mutual support through teamwork.

Leadership

In a senior leadership role consistently take responsibility, provide support to others and make accountable, creative and considered decisions in response to a range of emerging issues and opportunities.

Lead and implement new pedagogical/innovative approaches to teaching and pro-actively support the implementation of teaching policy.

Deal with daily reactive requests such as those concerning teaching, supervising students and administrative tasks.

Develop and maintain a network of contacts in line with areas of specialism.

Continue to develop international external recognition based on academic achievement, expertise and professional standing.

Any leadership duties, commensurate with the seniority of the post.

Teaching

Lead and supervise delivery and assessment to ensure consistently high-quality teaching, learning and student support.

Develop and utilise innovative modes of learning including technology-enhanced, blended and distance learning.

Deliver teaching courses as required, which will include preparing teaching material, communication subject matter and encouraging critical discourse to develop rational thinking.

Devise and conduct assessment of undergraduate and postgraduate student work.

Carry out a pastoral role for students and collaborate with colleagues to identify and respond to students' needs.

The Person

Candidates will be able to evidence the following.

Education

A good honours degree and PhD in a relevant subject area (or equivalent experience).

Knowledge and Experience

Experience of securing significant research income.
Evidence of high-quality research in the relevant field.

Track record of successful collaborative research work with industry and external bodies.

Internationally competitive peer reviewed publications showing evidence of research vision and innovation.

Experience of developing and delivering high-quality teaching at a variety of levels.

Substantial external recognition and high professional standing demonstrated by seminar and conference invitations, refereeing of journal publications, research grant applications, fellowship of professional bodies.

Leadership

Ability to provide effective academic leadership.

Experience of successfully leading and running a research team and / or co-ordinating the research activity of a laboratory.

Experience of supporting staff performance including the development of early career researchers and reviewing of staff performance against objectives.

Ability to mentor and motivate colleagues in developing both their research agendas as well as teaching portfolios and contribute to their pastoral care.

Personal attributes:

Excellent interpersonal and communications skills to conduct effective working relationships.

Evidence of a high level of professional esteem and standing.

Capacity to contribute effectively to the student admissions processes.

Ability to influence, both internally and externally.

Ability to initiate and lead strategic initiatives within a University setting.

Other

The ability and flexibility to travel in the UK, EU and beyond would be an advantage.

We build teams of people whose skills, contributions and identities complement each other to the greatest effect.

We believe diversity in all its forms has a positive impact on the University and the world. We are keen to hear from candidates with an empathy for the benefits of equality and diversity and widening participation.

You will be a role model and champion for the values and behaviours of the ACP (Academic Career Pathway) and promoting its integration into the life of the University.

As a Chair you will contribute fully as a teacher, researcher and leader. Further information on the core and additional criteria for Professors for the ACP is detailed below.

Academic Career Pathway (ACP)

The Academic Career Pathway framework is built upon our shared understanding of what it means to be an academic in an ambitious, research-intensive institution like the University of Sheffield. The framework is made up of ten criteria, which together articulate the range of activity undertaken by academic staff.

The criteria cover research, teaching, leadership and professional standing and wider engagement, widely recognised as the components of an academic role.

The ten criteria are split into two groups - core and additional. Core criteria are those which all academic staff are expected to fulfil as part of their role. Additional criteria set out are the other areas of responsibility for academic staff.

Academic Career Pathway Framework

	Research Criteria			Teaching Criteria			Leadership Criteria			Professional Standing & Wider Engagement Criteria
	High Quality Outputs (Core)	Research Income (including PGR Studentships)	Research Impact	High Quality Teaching Practice (Core)	Curriculum Enhancement	Improving Teaching Practice	Academic Citizenship (Core)	High Quality Management	Change and Innovation	Professional Standing & Wider Engagement (Core)
Teaching and Research Contract	Core			Core			Core			Core
Teaching Specialist Contract				Core			Core			Core
Research Specialist Contract	Core						Core			Core

Terms of Appointment

This is a significant and strategic appointment with high expectations, and so the successful candidate will be offered an enhanced package to enable them to become established quickly..

Salary for this Role

An excellent salary will be offered commensurate with the seniority of this post and the experience of the successful candidate.

Holidays

30 days, plus 3 closure days, plus 8 bank holidays per year. There is also the opportunity to purchase up to an additional 10 days of annual leave.

Pension

The post holder is eligible to join the Universities Superannuation Scheme (USS).

Role Specific Benefits

- A generous removal / relocation expenses package subject to terms of the scheme.
- Appropriate resources to support the establishment of your research here at the University of Sheffield (subject to Individual discussions).
- The provision of appropriate equipment (for example mobile phone, tablet device, laptop, PC etc) to enable flexible hybrid working across and beyond the campus.
- Recognition of professorial contribution can be considered each year through the Professorial Salary Scheme.

We offer an excellent reward and benefits package including

- Highly competitive pay, pension, reward and recognition opportunities linked to performance.
- An extraordinary health and wellbeing offer that promotes happiness and wellbeing amongst our staff through a broad range of inclusive activities.
- A comprehensive selection of benefits and offers to suit your lifestyle needs under the umbrella of The Deal.
- Access to our extensive development and training opportunities.
- Award winning equality and diversity action which enhances working life for all within the Institution.

long as we are able to meet business needs.

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As a Chair you will contribute fully as a teacher, researcher and leader. Further information on the core and additional criteria for Professors for the ACP is detailed below.

This post is open ended and the terms and conditions will be those of professional staff.

We are happy to explore flexible delivery of the post so

Further Information

Closing date

Monday 7th February 2022

How to apply

Applications should be made online via www.sheffield.ac.uk/jobs quoting the job reference number. If you need any support with your online application, visit: www.sheffield.ac.uk/jobs/applying

Informal enquiries

If you would like to talk to someone informally about this job and the recruiting Department, please contact our Head of Department, Professor Neil Sims n.sims@sheffield.ac.uk

If you have any administration queries and details regarding the application process, please contact our lead recruiter: Julie Fryer j.e.fryer@sheffield.ac.uk

If you would like an informal tour of our facilities prior to the formal interview process, please contact our Department Technical Manager: Phillip Pickstock p.pickstock@sheffield.ac.uk

For more information or queries regarding the Biomechanics area, please contact Professor Damien Lacroix d.lacroix@sheffield.ac.uk

Health assessment

All new employees will undertake a Health Assessment Questionnaire. The questionnaire is to assess the individual's fitness for the job role that they have been offered and ensures appropriate health advice and guidance can be provided.

Next steps

Following the closing date, we will contact you by email to let you know whether or not you have been shortlisted to participate in the next stage of the selection process. We will try our best to get back to applicants within 2-3 weeks.

The process will consist of selection events to be held on Wednesday 9th March including presentation to departmental staff, meetings with key stakeholders, campus tour, and introduction to Sheffield; and will conclude with formal panel interviews on Monday 28th March. An appointment will be made subject to satisfactory references and in line with the usual terms and conditions of employment at the University.



For more information on any of the above visit:
www.sheffield.ac.uk/jobs/staffbenefits

The University Of Sheffield.


University of Sheffield
Students' Union

The University has roots going back to 1828. Today we are one of the UK's leading universities with an international reputation for excellence. Official teaching quality assessments rate us very highly across a wide range of subjects, and Research Excellence Framework results confirm our reputation as a centre for a wide variety of world-class research. Our graduates and former staff include five Nobel Prize winners, an Olympic Gold medallist and Britain's first female astronaut.

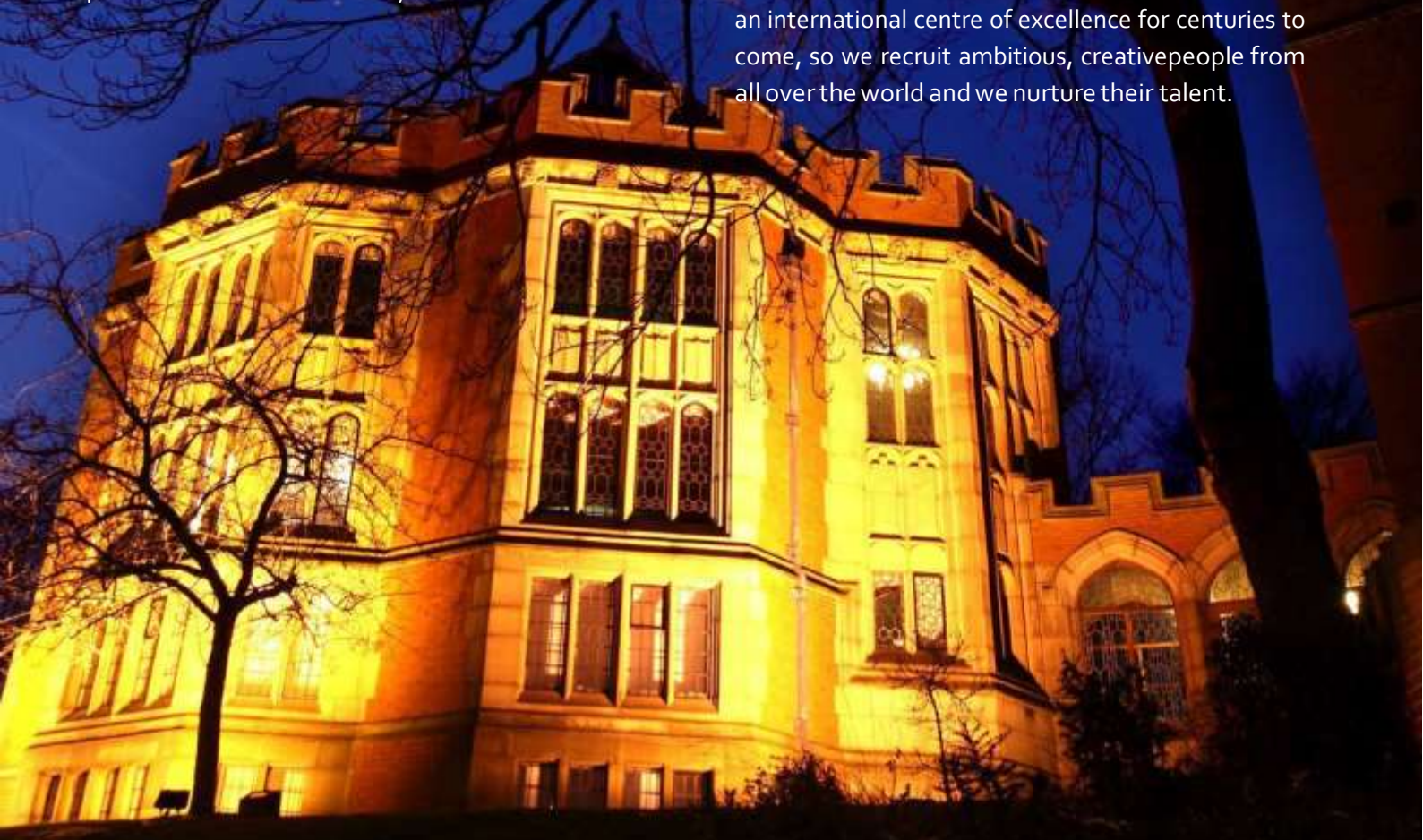
Our staff work across 49 academic departments in five Faculties: **Arts and Humanities, Engineering, Medicine, Dentistry and Health, Science and Social Science.** Each Faculty is led by a Vice-President and Head of Faculty, and supported by a senior team including a Faculty Director of Operations. The University is an independent corporation whose governing body is University's Council. The Council are responsible for the strategic development and overall performance of the University's business.

The University Executive Board is the President and Vice-Chancellor's executive group and comprises: the President and Vice-Chancellor; the Provost and Deputy Vice-Chancellor; five Faculty Vice-Presidents; the Vice-Presidents for Research and Innovation, Learning and Teaching, and International; the University Secretary and Director of Strategy and Governance; the Director of Finance; the Chief Operating Officer.

We have also confirmed our place as a world-leading university with an international reputation for research excellence across a wide range of disciplines following the results of the 2014 Research Excellence Framework (REF) which place us in the top 10 per cent of all UK universities. The University is in the Sunday Times 100 Best Not-For-Profit Organisation's To Work For 2018, a ranking of Britain's happiest and most motivated workforces.

When the University was founded over a century ago, the people of the city had a clear vision. They wanted a world-class university that would bring the highest standard of teaching and research to Sheffield, powering the economy, addressing social problems and transforming lives.

The vision is clearer than ever. We want Sheffield to be an international centre of excellence for centuries to come, so we recruit ambitious, creative people from all over the world and we nurture their talent.





The City of Sheffield

This extraordinary city is the perfect setting for groundbreaking collaborations. It's world-famous for precision engineering. Creative and digital industries account for almost two fifths of the region's jobs. Healthcare technology is another growth sector. Sheffield Teaching Hospitals is the UK's largest NHS foundation trust. Our close links with the city make innovation possible.

This is a vibrant, friendly, safe city surrounded by some of the most breathtaking countryside in the UK. It offers an excellent quality of life and proudly has the highest retention of students of any UK city – many students and staff come here and never leave.

Sheffield has been called the UK's greenest city; there are 50 public parks and 170 woodlands within the city boundary. England's fourth-largest city, it has the wealth of facilities you'd expect to find in a major city, yet more than a third of the city lies inside the Peak District National Park. It is the UK's only city with a National Park within its boundary, but it offers much more than beautiful countryside.

Sheffield is geographically diverse, nestled in a natural amphitheatre created by seven hills, and fed by five rivers. This diversity has given rise to an exceptional range of activities available, from walking or climbing in the Peak District to taking a boat ride along one of Sheffield's canals.

The city of Sheffield contains an abundance of entertainment and cultural activities including award-winning theatres, museums and galleries, a variety of clubs and live music venues, and a range of spectator and participation sports. With a thriving cultural industries quarter and a range of city-wide events throughout the year, there is something on offer to suit everyone's taste and interests.

Located in the center of the UK, at the heart of an excellent transport network, the M1 and M62 are within easy reach, there are six international airports within 65 miles and a bustling railway station offers access to every corner of the UK, and beyond. The main University campus lies on the western edge of the city center and is easy to get to by car, bus and tram.

To find out more about how we work with partners and friends in Sheffield to help shape a culturally and economically vibrant city visit:

www.sheffield.ac.uk/about/city