

# Faculty of Engineering

“The Faculty of Engineering is known for its world-class research, inspirational teaching, and diverse academic community, with many exciting opportunities for study abroad and industrial placements. Our engineers and architects are passionate about what they do. They are at the forefront of new research, challenging conventional thinking, and producing novel and sustainable technologies that are changing infrastructure, communications and the health of nations around the globe.”

**Professor Andy Long**  
Pro-Vice-Chancellor, Faculty of Engineering

By joining us at Nottingham, you will be part of a:

- UK top three faculty for engineering research power (2014 Research Excellence Framework (REF))
- faculty with more than 100 years' engineering expertise
- faculty ranked 6th for General Engineering in the UK (*Times Good University Guide 2016*) and 116th in the world for Engineering and Technology (QS World Rankings 2015/16)
- group of exceptional and highly cited academic staff and world-leaders in their fields of research
- team committed to inspirational teaching
- university with global reach and two international campuses

The faculty offers an engaging and supportive environment in which you will work alongside creative and inspirational people who are eager to share their experiences. We are committed to supporting talented people and to developing partnerships with industry, funding bodies and government agencies, in order to create an exemplary environment where discovery, scholarship, innovation, commercial exploitation and public engagement thrive.

Our aim is to be a global leader in our areas of expertise and we will achieve this through targeted strategic investment. We have adopted a clear, long-term vision of investment in people, research and teaching. Central to this vision is our on-going investment in faculty posts to help us deliver the next generation of world-leading teaching and research. We are looking for people who share our passion for engineering and are keen to bring their enthusiasm to every task they undertake.

We look forward to you joining our vibrant community and just as we hope that you will leave your mark on the world, your experience in the Faculty of Engineering is sure to leave its mark on you.

## Engineering at Nottingham

The faculty is made up of the following six departments, based in the UK and at the overseas campuses.

Schools	UK campuses	International campuses	
	University Park	UNNC	UNMC
Architecture and Built Environment	▪	▪	▪
Chemical and Environmental Engineering	▪	▪	▪
Civil Engineering	▪	▪	▪
Electrical and Electronic Engineering	▪	▪	▪
Foundation Engineering and Physical Sciences	▪		
Mechanical, Materials and Manufacturing Engineering	▪	▪	▪

### University Park Campus

The engineering departments on our award-winning University Park Campus are set within 120 hectares of extensive parkland. The Engineering and Science Learning Centre (ESLC) houses faculty, student and teaching support services and modern teaching facilities. The laboratories on University Park are central resources for engineering teaching.

### Jubilee Campus

The faculty is privileged to have access to several specialist research and knowledge exchange centres, based in the Innovation Park on Jubilee Campus.

These include the Aerospace Technology Centre (ATC), home to the Institute for Aerospace Technology, The Energy Technologies Building (ETB) and The Nottingham Geospatial Building (NGB).

### The University of Nottingham Malaysia Campus (UNMC)

Mechanical, Materials and Manufacturing Engineering, Civil Engineering, Chemical and Environmental Engineering and Electrical and Electronic Engineering all have a presence on The University of Nottingham Malaysia Campus.

### The University of Nottingham Ningbo China (UNNC)

Architecture and Built Environment, Civil Engineering, Chemical and Environmental Engineering, Electrical and Electronic Engineering and Mechanical, Materials and Manufacturing Engineering also deliver their activities through The University of Nottingham Ningbo China.

## Vision

We want to build on our strengths to ensure that our internationally excellent research not only leads the field, but remains flexible to respond to new and emerging worldwide challenges. Our aim is to be a global leader in our areas of expertise and we will achieve this through targeted strategic investment.

We plan to maximise our impact and visibility and deliver the next generation of world-leading research. We will continue to support talented people and develop partnerships with industry, funding bodies and government agencies, to create an exemplary environment where discovery, scholarship, innovation, commercial exploitation and public engagement thrive.

The pursuit of knowledge and its dissemination for the benefits of society and the economy are fundamental pillars of the University's mission. We collaborate with the business world in ways that benefit everyone involved, helping companies to move forward and helping the University to bring skills and ideas to the market. The faculty is well placed to support organisations to grow, evolve and to become more competitive. We work with a range of businesses, from large international firms to small local companies, on an array of projects.

## Research

The faculty is at the forefront of world-changing research, as reflected in the outcome of the 2014 Research Excellence Framework which has ranked 89% of our activity as world-leading or internationally excellent. This result places the Faculty of Engineering firmly in the UK's top three universities for engineering research power.

The faculty's research strength lies in its interdisciplinary approach, crossing academic boundaries to share expertise. We focus our research efforts on multidisciplinary priority areas to tackle global challenges, including:

- advancing healthcare, transport and manufacturing technologies
- safeguarding water, energy, food and cyberspace
- developing sustainable and resilient cities

Projects can span across a number of divisions as research staff work together on multi-disciplinary global challenges. As well as working across the full spectrum of engineering disciplines, we have established a number of pioneering research centres at the interface between engineering and science. This enables us to accelerate world-changing technological innovation efficiently. It also provides Nottingham's researchers and students with access to specialists who are international leaders in their fields of expertise.

## Teaching

The Faculty of Engineering at The University of Nottingham is recognised as being among the best in higher education. We are committed to giving our students the 'Nottingham Edge' – an unrivalled combination of quality and excellence, strength and pragmatism, enabled learning, boldness and innovation, respect and tolerance.

A degree from The University of Nottingham is a statement of skill, innovation and quality. A key part of this is the value we place on research-led teaching that enables students to engage creatively with new and exciting ideas. Our students are taught by academics who are leaders in their fields of research and are respected and valued by employers. With excellent local and international links, Nottingham graduates are among the most sought-after in the world (High Fliers Research 2013, 2014 and 2015).

At undergraduate level, the aim of our teaching strategy is to develop graduates who have a thorough grounding in their subject of study, are aware of research, have a critical approach to knowledge, can study independently, and have the skills and attributes to be successful in employment. We are particularly keen to ensure our students have a well-balanced programme of lectures, tutorials and seminars. Laboratory/studio work is an intrinsic part of our undergraduate degrees and is highly valued and enjoyed by our students. They are encouraged to explore the creative, applied side of architecture/engineering and often work on live projects set by industry or on projects which benefit society, particularly for developing countries. Many of our courses include an industrial placement hence giving students a unique mix of academic experience and skills much sought after by high-profile employers.

## Knowledge exchange

Knowledge transfer – the process of turning academic research and expertise into a product, service or technique that has commercial value – is becoming increasingly important in helping UK plc to compete on the global stage. The leading European programme of Knowledge Transfer Partnerships (KTP) help businesses improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside with researchers. Each KTP employs researchers to work on specific projects, which are core to the strategic development of the business. The University has worked with large multinational organisations such as Airbus and GlaxoSmithKline to small, local engineering companies like Caunton Engineering. KTPs are proving very popular and effective, especially with engineering companies; out of 30 KTPs active across the University, 18 are engineering, bringing in around £1.8m worth of government funding and £1m industrial income.

The faculty has a number of centres through which it actively engages with businesses in order to support economic growth both regionally and in the UK. The centres can provide the people and facilities to undertake short or long-term research projects, technical expertise for new product or process development, testing facilities and equipment or the development of solutions to comply with changing legislation.

## New investment

The £9m Energy Technologies Building, opened in 2012, is one of the UK's most advanced research facility for energy innovations and offers novel features, including the Wolfson Prototyping Hall, a facility for testing the energy efficiency of full-scale building exteriors and features. The building also boasts a climate chamber as well as a hydrogen production and refuelling station.

The building itself has been designed to achieve a BREEAM 'outstanding' rating, the highest level available, for its sustainable cooling and heating systems. The building was designed to produce more heat than it requires – the surplus is directed to a neighbouring building.

In 2012, John Rishton, Chief Executive of Rolls-Royce and Nottingham alumnus, opened the £5.1m Aerospace Technology Centre. The Centre is at the heart of the Institute for Aerospace Technology, which brings together a number of internationally leading research groups. The University's aerospace portfolio amounts to £75m, including over £22m in funding from the Engineering and Physical Sciences Research Council (EPSRC). Many of the world's biggest aerospace businesses work with the faculty, including Rolls-Royce, GE, Airbus Group, Boeing, BAE Systems, GKN and Goodrich. In addition, staff are working with many SMEs which play a key role in the aerospace supply chain.

## New/future developments

Work is nearing completion on the extension and refurbishment of George Green Library. The extension, completed in early 2015, has increased the number of study spaces and workrooms, and has added a new cafe and computer work stations.

The University has been awarded £5m towards a new centre for manufacturing at The University of Nottingham Innovation Park to attract future generations of world-class engineers. The Advanced Manufacturing Building is part of a £100m investment in manufacturing research and training at the University over the next 10 years, funded by the University, research councils, industry, government and the EU. This also includes the Technology Entrepreneurship Centre which will house local businesses and national enterprises, supporting collaborative working and learning.

Key to all future developments are our academic colleagues, and we are committed to nurturing ambition and talent in our drive to be the best national and international engineering faculty. Our Future Leaders programme recognises our talented staff early on and supports them towards senior leadership roles.