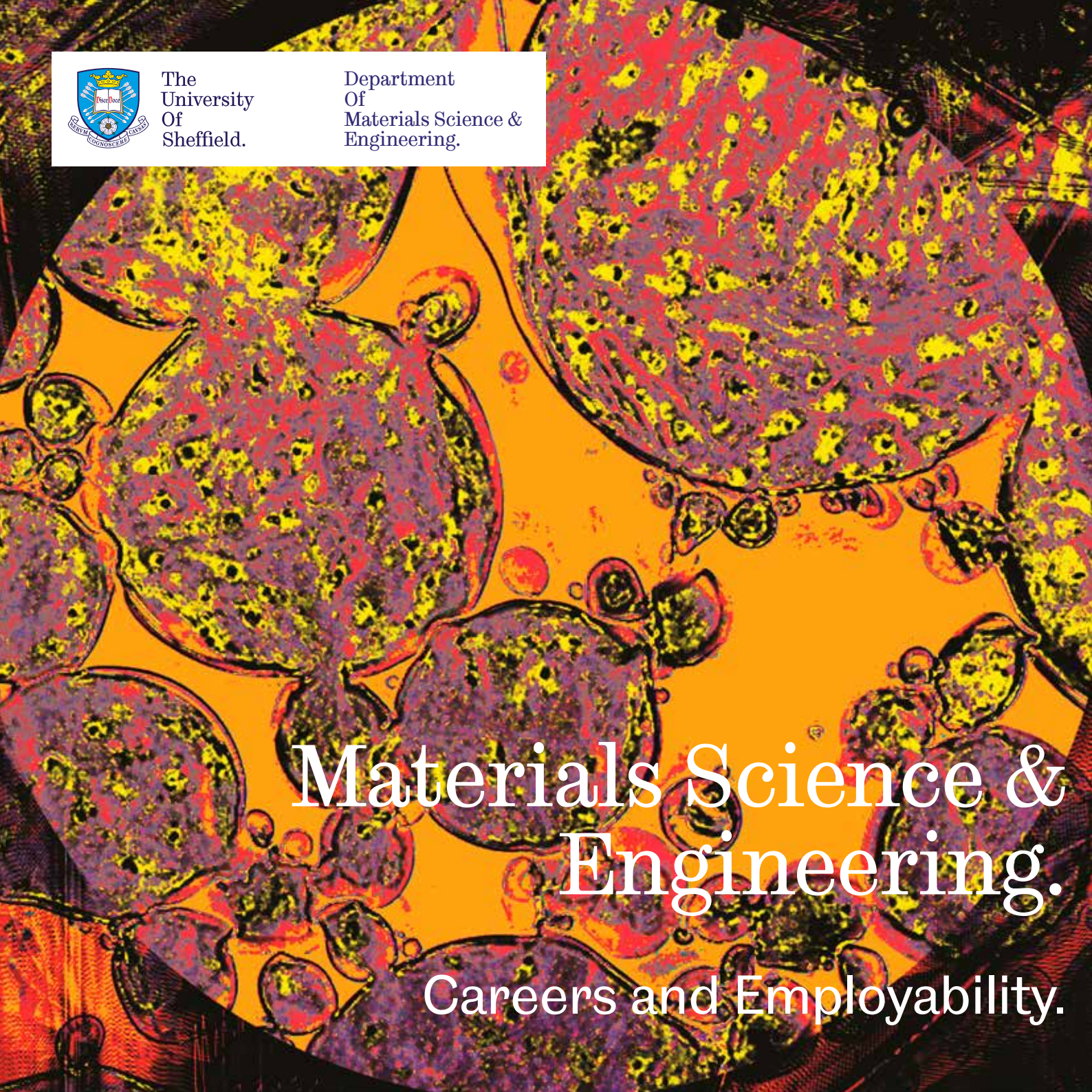


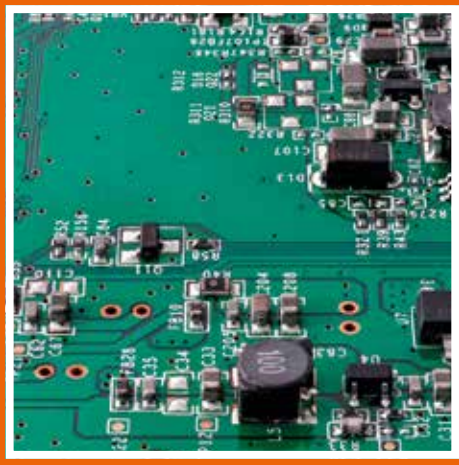
The University Of Sheffield.

Department Of Materials Science & Engineering.

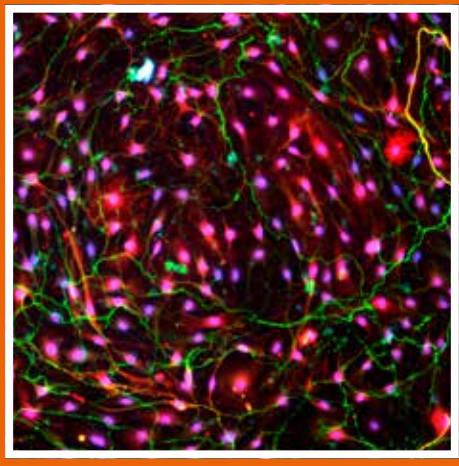
Materials Science & Engineering.

Careers and Employability.








What can you do
with a degree in Materials Science and Engineering?

Everything that you can touch and hold is made from a material, and anything that has been manufactured is made from a material chosen specifically for that application.

At some point, someone has made the decision to select a particular material, based on its chemical composition, its mechanical properties or its physical properties, More often than not, these decisions are made by materials scientists and materials engineers.

This is a discipline which other engineers rely on so that what they make functions as they want it to. This could be a bridge, a mobile phone, a nuclear reactor or an aeroplane. Their performance is controlled by the materials' properties.

Think about:

- a fusion reactor, where the structure needs to resist extreme temperatures and radiation;
- a jet aircraft structure, which needs to be lightweight and reliably strong;
- a permanent magnetic material in a wind turbine system that needs to be sustainable and low cost;
- an artificial heart valve that has to interact with the body just like a real one.

Materials scientists and engineers work in all of these areas and more, and like all engineers, will advise and make decisions on critical aspects of technology, with the potential to rise to senior levels of responsibility in the organisations they work for.

Materials Science & Engineering

£200bn
Materials science's contribution to the UK economy each year †

£26,400
Mean starting salary for a Sheffield materials graduate over the last 4 years*

Recent employers include:
McLaren, Airbus, EDF Energy, Tata Steel, Pirelli

>95%
of our graduates secured employment or further study 6 months after graduation*

† EngineeringUK Report 2018
* Destinations of Leavers from Higher Education 2016/17

How we support your career

Employers are increasingly looking for evidence of practical work experience as it demonstrates a genuine interest and means you will have the practical skills to work in a real industrial environment.

Studying for a degree in materials science gives you a strong set of transferable skills valued by employers across a wide range of industries, including:

- analytical and problem-solving skills
- time management, planning and organisation
- research and report writing
- team working
- numerical skills

To take advantage of the job opportunities available for engineering graduates, you need to make your CV stand out from the crowd. A degree in materials science and engineering will certainly put your CV in the spotlight, since less than 3% of all UK engineering graduates are from materials.

You are in demand!

Over the past four years, more than 95% of Sheffield materials graduates had secured employment or were in further study, six months after graduation. Moreover, in the UK, there is an estimated shortfall of 59,000 engineering graduates and technicians.

The Institute of Materials, Minerals and Mining

Our degree courses are accredited by the Institute of Materials, Minerals and Mining (IoM3) and count towards professional registration as an Incorporated Engineer (IEng) or Chartered Engineer (CEng).

Giving you the skills you need for your career

Our courses are designed to include a significant portion of practical work, allowing students to get hands-on experience of important processes and the latest investigative equipment. There are frequent occasions when we will ask you to work in the same way as professional engineers, with opportunities to work in industry or on projects of direct industrial interest.

We also encourage our students to take the initiative in getting involved in new activities, which they may have devised themselves or with other students, and we are happy to provide whatever help we can to such endeavours.

We believe in having a strong relationship with our students, and this often continues after they graduate. Through initiatives such as our alumni speed networking event, we help students to meet alumni and find out about their career paths, gain advice and make contacts that will stand them in good stead in the future.

Feedback from Alumni Speed Networking

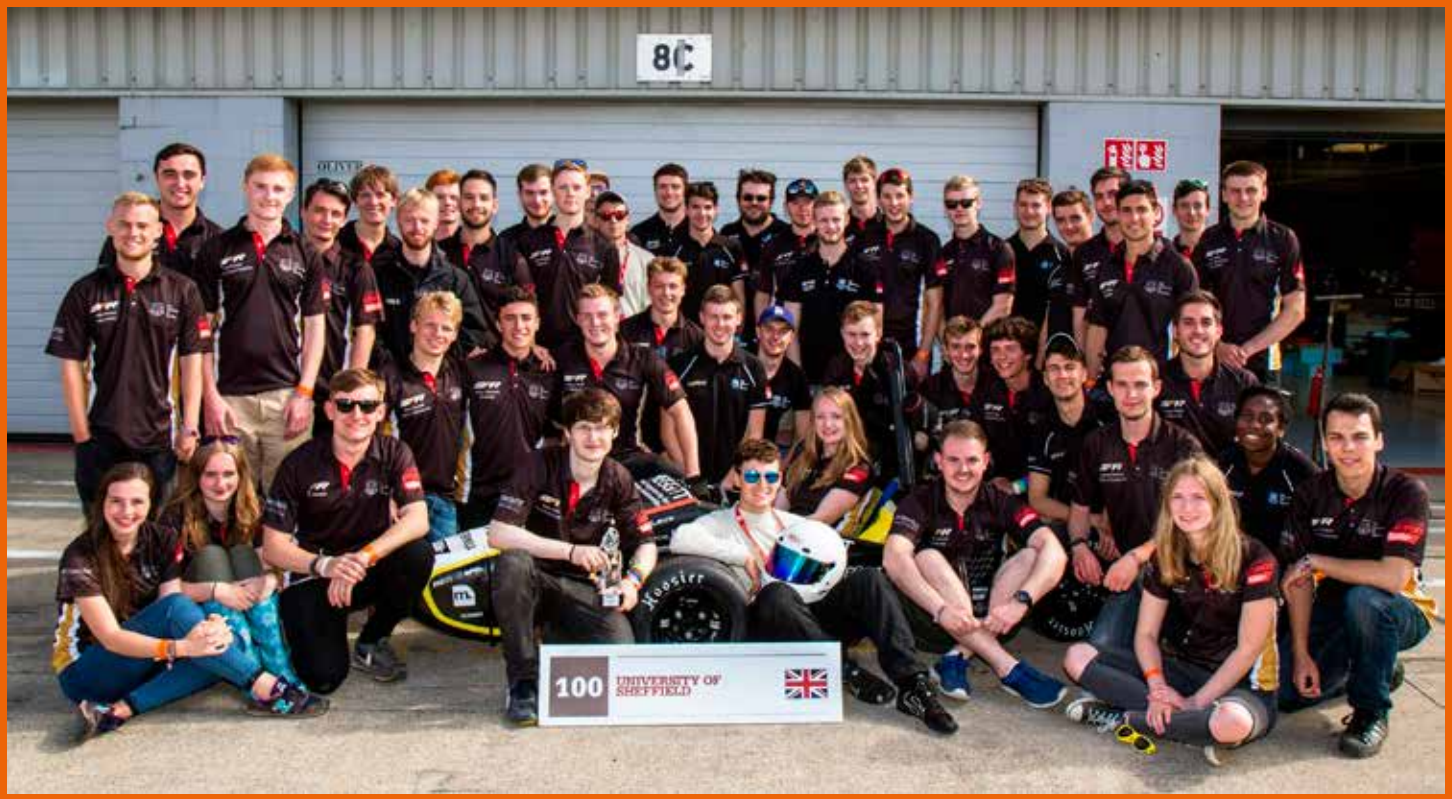
What was the best part of meeting Materials Alumni?

- *"Getting to know and learn about the careers of people who studied your degree at Sheffield"*
- *"Hearing possibilities that an engineering degree provides"*
- *"Discussing career progression with professionals"*
- *"Getting an idea for my future"*

What was the most useful piece of advice or information you received?

- *"Getting prepared for the first role of your career is really important, making decisions can change a lot in life"*
- *"To always do a job that you enjoy"*
- *"That establishing a good technical basis in a field can separate you from other post grads"*
- *"Be friendly and confident"*


TUFCOT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UNIVERSITY OF SHEFFIELD

Megan Wakeling undertook an extended work placement as part of her four-year MEng degree. Her placement was with Sheffield-based composite manufacturer, Tufcot Engineering Ltd. During her time with Tufcot, she worked on developing a new higher-temperature grade of Tufcot composite.

"It's been really interesting to see the research and development process in action. It's great to be part of a team, and see how the trials we run can have an impact on the end product. Being able to spend five months at Tufcot has given me a genuine impression of what it's like to work in industry, and brilliant experience that will help me move on in my career when I finish my degree."

Megan Wakeling - MEng Materials Science and Engineering

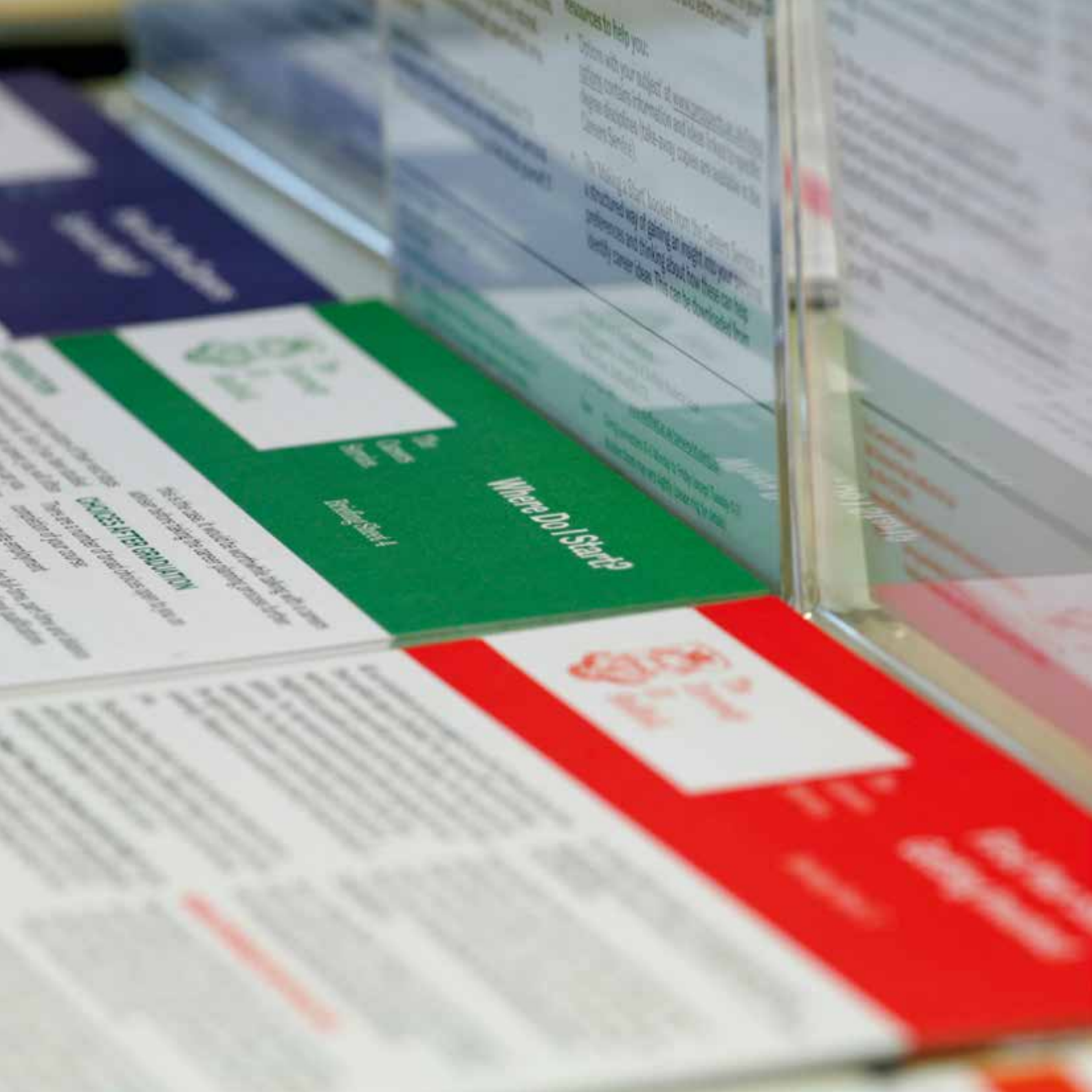
"I was selected for a once in a lifetime opportunity to intern for three months as a nuclear engineer with Hitachi-GE Nuclear Energy. At Hitachi I am in the Plant Layout and Design group and have worked on both domestic Japanese projects and the new UK Wylfa plant in Wales. At Sheffield my research is focused on producing cements that can encapsulate the radioactive waste from the Fukushima disaster so even my studies at the University have been Japan focused. I'm getting to contribute to real projects and real nuclear power plants and am very grateful for the experience."

Hadiza Mohammed - MSc Nuclear Science and Technology

"When I'm not busy in labs, lectures or writing coursework I am also part of the University's Formula Student team, Sheffield Formula Racing (SFR). The team represents The University of Sheffield in The Institute of Mechanical Engineers' (IMechE) annual Formula Student competition.

During the project we gain valuable teamwork, networking, machining, design, business and financial planning skills. The competition is also an exceptionally good way of demonstrating practical engineering ability. Students who have taken part in Formula Student become incredibly attractive to future employers upon graduation, or even for short placements during summer vacation."

Gabby Coe - MEng Materials Science and Engineering (Research) and member of the Sheffield Formula Racing team


Where Do I Start?

What support can you get from the University?

You will have lots of opportunities during your time at University to engage with industry, and there are teams within the Department and University that will help you make the most of your opportunities.

Industrial placements - students studying our MEng degrees are guaranteed a five-month extended work placement, and all students are encouraged to gain relevant work experience where possible.

Industrial partners - employers feed into our modules so teaching is relevant to industry needs.

Alumni - the people who have graduated from our courses are a great source of advice about career development, and can offer opportunities for work experience, placements and employment opportunities.

University careers service - provides a full information, guidance and support service for all our students, researchers and those who graduated within the last three years from the University.

Faculty of Engineering's employability placement team - managing the Year in Industry placement process across all seven engineering departments.

Team building and employability skills - our annual project weeks, Global Engineering Challenge and Engineering You're Hired, give you the chance to work in teams from other departments in the Faculty of Engineering to solve real-life engineering problems.

Industrial training programme - a unique opportunity for our MEng students to spend several weeks working in groups with an industrial partner to apply materials science and engineering knowledge to analyse and solve a relevant open-ended industrial problem.

myJobshop - gain work experience right here at the University by taking on casual student work.

Sheffield Engineering Leadership Academy (SELA) develops engineering undergraduate students to become leaders of tomorrow, who create positive impact in research and industry. The co-curricular programme includes a leadership Bootcamp, skills workshops, exclusive events with leaders from industry and academia, summer internships and bursaries, and experience leading real projects. You can fast-track your development as a leader with the skills, confidence and aptitude to make a positive difference. You'll graduate from SELA with enhanced leadership capability, and access to our network of engineering leaders who can help shape your career.

In 2018, Materials Science and Engineering student, Matthew Smith, was awarded a prestigious Engineering Leaders Scholarship from the Royal Academy of Engineering. The scholarship programme aims to support engineering undergraduates who have the potential to become future leaders in engineering, and who are able to act as role models for future engineers. Recipients get the opportunity to acquire the skills needed to fulfil their potential, helping them to move into engineering leadership positions in UK industry soon after graduation.

'This scholarship honestly means the world to me! This opportunity will further my network along with knowledge within engineering; that is all supported by the financial reward. I want to thank SELA for developing the soft skills an engineer needs which is what I presented about in my interview. Also, thanks for widening my network which has helped me secure a summer placement'

Matthew Smith - MEng Materials Science and Engineering

Where will your degree take you?

Our graduates progress into a variety of different careers. Here are just a few examples from our alumni.

Sarah Hinton graduated in 2009 with an MEng in Metallurgy. She is now a Development Metallurgist at Outokumpu, a global leader in the production of stainless steel.

"I use the metallurgical foundations from my degree every day; my stainless steel technical knowledge has been built on those foundations. I still have my text books that I used during my degree on my desk! In terms of soft-skills; communication, presentation and report-writing skills are a necessity of any job.

"The Industrial Placement gave me my first chance to really apply the theory I had learned in my degree to real-world metallurgical problems."

Sinan Al-Bermani received his MEng Materials Science and Engineering in 2005 and his PhD Metallurgy in 2011

As a Development Engineer at Forgemasters RD26 Ltd, Sinan's main responsibilities revolve around assisting customers and colleagues with research and computer simulations, as well as helping solve metallurgical and engineering issues.

"The most enjoyable aspect of my job is the freedom that I have to work in different areas of the company; most people work in one area of the business, however, my colleagues and I get to work on forgings, castings, heat treatment operations, machining, inspection, implementation of new technology, mechanical testing plus whatever other challenges there are on site that benefit from R&D activities.

"I would advise current students who are interested in a career in industry to show a passion for their field of interest by gaining as much experience in it as they can. This experience can take many guises but evidence of some extra-curricular activities will make you stand out from other potential job applicants."

Just a few of the companies where our graduates have found work...

Where will your degree take you?

While most graduates from Sheffield go to jobs where they use their materials science and engineering knowledge and skills, some do use the degree to follow a career path in other directions such as in the financial and legal sector, where the transferable skills are also valued, others undertake further study for higher degrees, such as PhDs, which can be a route to an academic or industrial career.

Chris Rodger (MEng Materials Science and Engineering (Research)) graduated in 2017 and became a Trainee Patent Attorney at Patent Boutique LLP in London.

"Some of the most important skills that I learned on my degree were the ability to communicate, both verbally and in writing. In my job it is vital to be clear and concise when communicating, and I honed this skill through having to present the results of various projects throughout my degree, both in reports and presentations.

"The mini-projects in my MEng Research degree were an excellent vehicle for learning these skills across a wide variety of disciplines, and the final year project was a fantastic opportunity to put them all into action."

Dr Kathryn Hurrell-Gillingham obtained both her MEng and PhD from the Department, and currently works as the Research Manager for the School of Clinical Dentistry here at the University of Sheffield.

"I went straight from doing my degree to doing a PhD on glass-ionomer bone cements funded by the EPSRC. This was jointly supervised between the Department and the Dental School.

"Following on from that I did a postdoctoral research job which continued in the same research area. After that I took a side step into working as a Business Development Manager where I worked alongside academics and industry helping the two to collaborate on mutually beneficial research. Through this role I was able to work with clinicians, which I preferred, so when a Research Support Officer role came up at the Dental School I jumped at the chance.

"I was then promoted to Research Manager for Dentistry. It's a great job and quite varied. I don't think I could do my current job without the insight in medical materials and research my undergraduate degree and PhD gave me."

The University Of Sheffield.

Department Of Materials Science & Engineering.

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The content of our courses is reviewed annually to make sure it's up-to-date and relevant. This is in response to discoveries through our world-leading research, funding changes, professional accreditation requirements, student or employer feedback, outcomes of reviews, and variations in staff or student numbers.

We aim to provide accurate and up-to-date information in all of our publications, but applicants should always refer to our website for the most up to date course information.