



University of  
**Salford**  
MANCHESTER

Candidate Pack

# School of Science, Engineering and Environment





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# Welcome

**I would like to welcome you to the School of Science, Engineering and Environment (SSEE) and thank you for your interest in joining our team.**

Our purpose is to innovate to enrich lives. We do this through developing collaborative advantage externally with businesses, organisations and partners and internally across our four schools. We are investing in our research community and this role will play an important part in shaping that investment.

The school collaborates across the University to tackle some of the biggest issues facing society today. Building a sustainable future is the key priority. From Energy House 2.0, our work on rivers in Cumbria, to our pioneering acoustics, sustainable aviation and our work on disaster risk reduction, we aim to improve lives and ensure a greener future for us all.

We are a centre of discovery and innovation. With a broad portfolio across the span of computer sciences, engineering, built environment and human and natural sciences.

Our school community is diverse, with students and colleagues from all over the world. Equity, inclusivity and diversity is at the heart of everything we do. Our outreach teams work collaboratively with partners locally and globally to engage students from diverse backgrounds, with a particular focus on attracting more students from minoritized ethnic groups and deprived backgrounds, as well as more women into STEM.

Since our inception, we have worked with industry to offer courses driven by the real-world, now we're supporting industry to tackle some of the major environmental challenges of our lifetime.

By joining our school, you can be part of our exciting journey, with the future of people and the planet at the forefront.



**Professor Nic Beech**  
Vice-Chancellor

# About our University



## Our Purpose

Through education, research and enterprise, we harness the skills, imagination and enthusiasm of our students and colleagues, working in partnership to change people and communities, while delivering lasting economic and social benefits.

## Our Vision

By pioneering exceptional industry partnerships, we will lead the way in real-world experiences that prepare students for life.



**26,000** students



**2,800** colleagues



**78%** of our research has been rated as world-leading or internationally excellent *REF 2021*



## Our Strategy

Our strategy is continuously evolving to meet the need of our students, communities and partners. Our journey so far has focused on the following seven pillars:

### / Preparing our Students for the Future

Ensuring that our students are given the knowledge and skills to succeed in their chosen careers is our biggest priority. This means working with employers to connect them to industry as well as embedding real-world learning into the curricula of a demand led portfolio. It also means putting in place opportunities and support for personal development, through their studies and through extracurricular activity.

### / Local Roots, Global Ambition

We will provide an attractive, accessible, and increasingly flexible portfolio that is responsive to the skills needs of regional, national and international economies, facilitating industry engagement, partnership and flexible learning.

### / Equity, Diversity and Inclusion (EDI)

Our aim is to be a university where, regardless of background, all have equity of opportunity and there is equity in outcomes for all colleagues and students, with EDI at the heart of everything we do.

### / Innovation - Intensifying Industry Collaboration

Through our industry-focused research and innovation, we will harness our expertise across our key areas of excellence and work with partners to address real-world challenges. We will do this by helping businesses to improve their products and services, supporting policy makers to tackle the major issues facing our society and through connecting with our community to share knowledge and expertise.

### / Environmental Sustainability

The world has changed, and global environmental challenges faced by humanity are significant and urgent. As a campus university in the city we continue to enhance the environmental benefits of our location and that of our teaching and research excellence that focuses on human interaction with the natural world. We have a commitment to becoming net carbon zero by 2038.

### / People, Digital, Campus

We are committed to ensuring that we have an inclusive and fully diverse colleague community in which each member can feel inspired and motivated to perform at their best. We will transform our campus and the surrounding city district through the Campus Masterplan, creating vibrant, attractive, sustainable and accessible new spaces that will bring together industry, education and innovation. We are continuing to invest in digital technology to connect colleagues, students and our wider communities in new and innovative ways and will transform our University through enabling digital technologies.

### / Financial Resilience

Our aim is to provide long-term financial sustainability that will allow sufficient investment to support our ambitions.

# About our School

The School of Science, Engineering and Environment (SSEE) is a centre of discovery and innovation.

Real-world focus is integral to our learning approach. Alongside industry practitioners, we strive to create enriched and tailored opportunities for our students through live projects, collaborative events and work placements, to enhance their future employability and success. Our courses attract students from all over the world and our alumni community is an active global network of innovators and pioneers, at the heart of change for a better future.

Our Research and Knowledge Exchange Centres work together to collaborate around the world's greatest challenges including Net Zero, Climate Change and Resilience, Healthy Living and Industry. Our focus is on translating our pioneering research into real-world impact for people and industry and our research is recognised as world leading.

With an expansive and international portfolio of research, plus world-class test facilities such as Energy House 2.0, North of England Robotics Innovation Centre (NERIC), and the Acoustics Research Centre, we are at the forefront of pioneering discovery, nurturing the next generation of industry leaders.

Read more: [Careers at the School of Science, Engineering and Environment | University of Salford](#)



Over **7000** students



Over **2477** international students



Over **450** colleagues



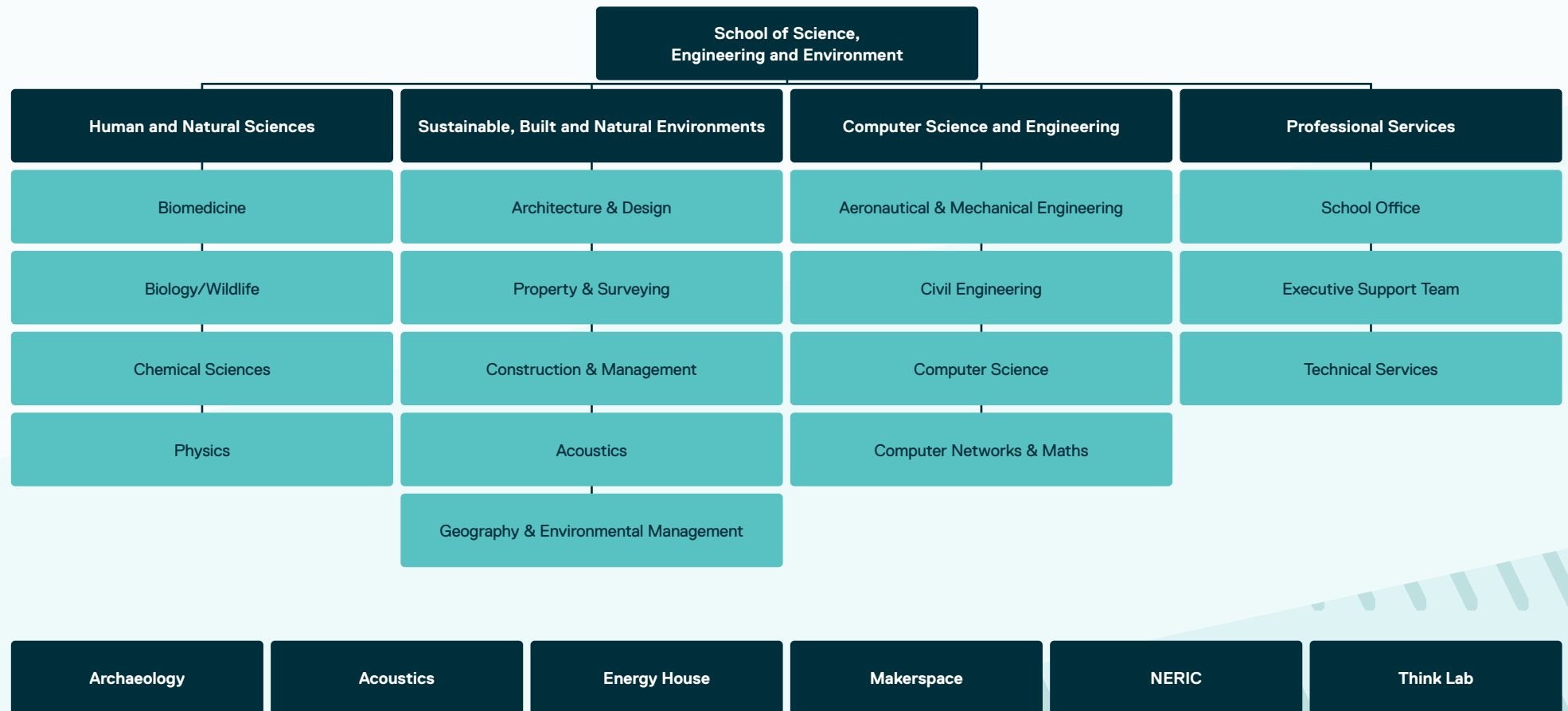
Over **200** courses



MS  
SP  
R

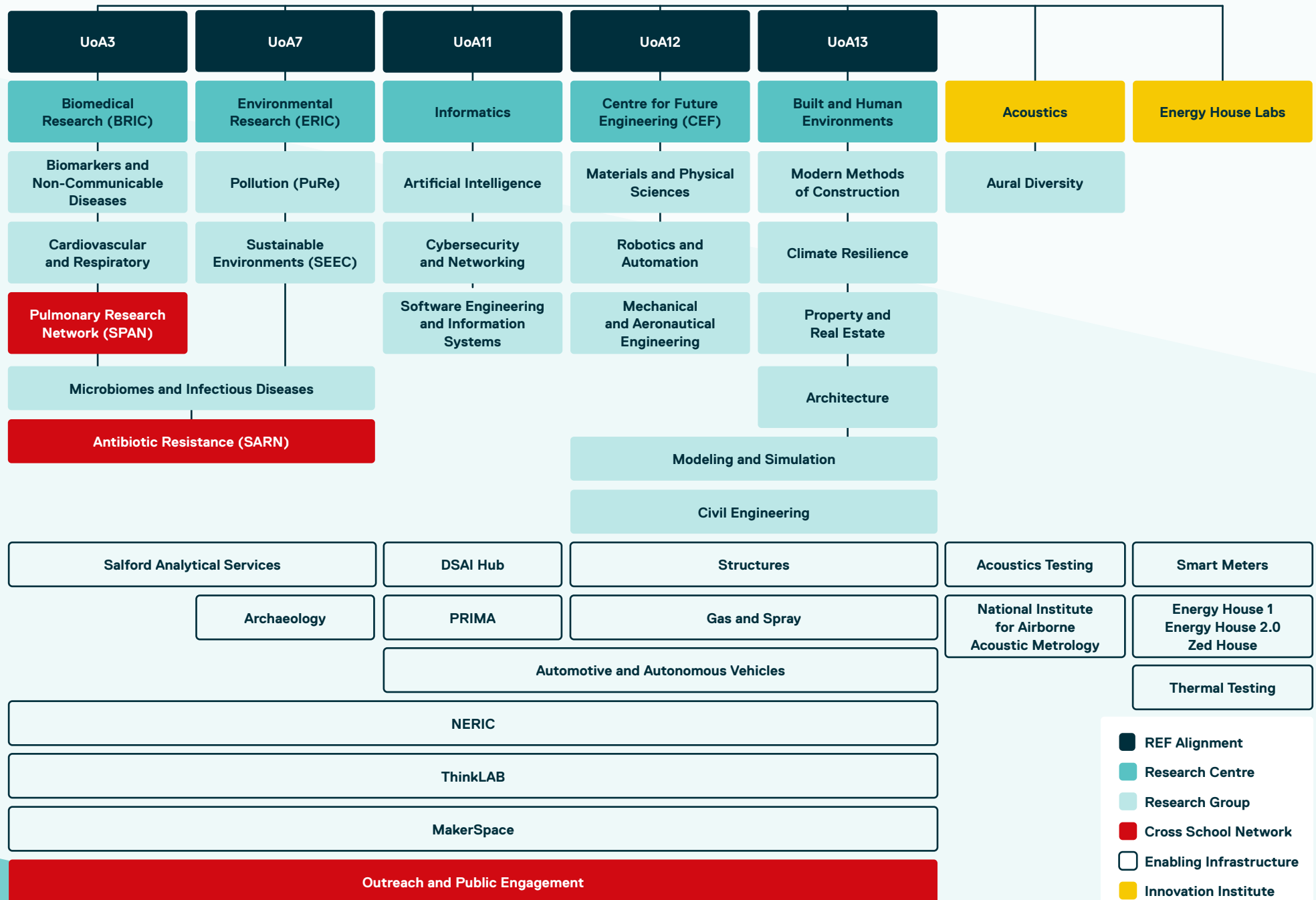


## Our Structure





# School of Science, Engineering and Environment Research Centres Overview



# Our People

Our school is a vibrant, diverse international community. Our colleagues bring a wealth of knowledge, expertise and experiences, and together we share a passion for improving lives and the planet.

## Our Expertise

Our work is truly interdisciplinary. Industry collaboration is at the core of what we do. This is combined with a passion for research and finding solutions to real-world problems and those that we may face in the future.

The breadth of our expertise and impact is vast. In the last twelve months we have opened a new Robotics Innovation Centre, which works with businesses to generate productivity gains, as well as the unique and world leading Energy House 2.0, which is contributing towards Net Zero housing with its climate controlled testing chambers. Our world-class acoustic facilities are designed to meet the highest technical specifications and measurement standards, and our work on the Environment is also award-winning to include the transformation of river catchment areas.

We nurture the next generation of brilliant minds, bring innovation to industry and transform livelihoods in our communities.

Everyone in our team contributes to our journey, from our professors, lecturers and research experts, to our student support experts and our professional services team, who are the engine room of our school. By joining us, you will be part of a innovative, curious and collaborative team, with a shared passion for a more sustainable future.

## Wellbeing

At Salford, our people make us. This is why wellbeing is so important to us – we want our people to thrive. We recognise and value individuals and will support you with your needs and goals. We offer ways of working to suit you, as well as a wide range of extensive services and benefits to support your physical wellbeing, mental health and financial wellbeing.

## Equity, Diversity and Inclusion

Equity, diversity and Inclusion (EDI) are at the heart of everything we do at Salford, and growing, maintaining and developing a diverse community is a key priority for us. We are actively working to ensure our University is an inclusive, innovative, and empowering environment where everybody thrives.



### Striving for gender equity

The School of Science, Engineering and Environment is an Athena Swan Bronze Award holder and is committed to supporting and developing women and colleagues from other underrepresented groups in their careers. We also recognise that many individuals value flexibility in their work/life balance and we support and explore flexible working options.



### Championing diverse voices

We value diversity — in backgrounds and in experiences. Our difference makes us stronger, and together we share a passion for improving students' lives.

Our student body is incredibly diverse, and around 60% of our students are from minoritised ethnic backgrounds. Supported by our EDI statement of ambition, we are committed to diversifying our colleague profile.

### Meet Dr Antonio, Reader in Acoustic Engineering



**'It's an excellent place to work, it's very inclusive and very welcoming. It's the perfect environment to develop your research and develop your career.'**

### Meet Dr Sadaf, Lecturer in Cyber Security



**'The best thing is the opportunities for collaboration – to help you discover new innovations in your field. I can discuss my ideas and innovations with full support.'**

### Meet Richard, Professor of Building Performance



**'I think the University is an inspiring place to be. I work with a lot of people who have inspired me to challenge the way we do things and come up with bigger ideas.'**

### Meet Caroline, Student Experience Manager



**'The people are why I am still here after all this time. It's a really supportive environment and every week is different. It's a really great place to be.'**



[Hear from our colleague about what it's like to work at our University](#)

## A spotlight on – Professor Chloe James



Professor Chloe James, Medical Microbiology

Professor Chloe James' primary research focuses on viruses called bacteriophages (phages) that can infect and kill bacteria. She leads a research group who explore how certain phages affect bacterial survival in the body. Her projects also investigate host-pathogen interactions and antimicrobial resistance (AMR), the findings of which could help the development of new strategies to tackle diseases caused by bacteria.

**“I am passionate about the open sharing of scientific research through public engagement and outreach. I work across disciplines and with creative practitioners to develop immersive and engaging installations to inspire public interest in microbiology, especially phage.”**



# Our Teaching

Our subjects explore and determine solutions to fundamental societal challenges, from biodiversity to sustainability, conservation to renewable energy and materials, artificial intelligence and cyber security to disease prevention and treatment. All supported by advanced expertise in natural sciences, computing and mathematics, hosted in state-of-the-art facilities.

We have key partnerships with sector leading companies across our school. Working directly with industry goes to the heart of what we do, with our modern lab spaces and newly opened robotics facility at NERIC we are working to help businesses, in our region and beyond, refine their ways of working and improve efficiency, creating jobs and boosting the economy.

Real-world focus is integral to our learning approach, we strive to create enriched and tailored opportunities for our students through live projects, collaborative events and work placements.

Alongside a diverse degree portfolio, we have a strong apprenticeship offer, with our Siemens BEng Control and Automation Degree Apprenticeship program recently reaching its 100th graduate. We also hold a key position in the Greater Manchester Institute of Technology (GMiOT), which offers specialist higher level technical qualifications in computing, construction and engineering.

Widening Participation runs through the DNA of the school. We are committed to breaking down barriers to HE, ensuring a diverse student body. We also have a strong presence internationally, attracting a large community of students from across the world to Salford and also offering our degrees through partnerships overseas, to include our partner campus, the British University of Bahrain.

Students who study with us are at the heart of change for a better future.

## News highlights



The University is a key partner in the new **Greater Manchester Institute of Technology (GMiOT)**, offering specialist advanced qualifications in computing, construction and engineering.

[Find out more](#)



**Partnership with global software company IRIS Software Group** unlocks opportunities for Salford's talented computer science and engineering students.

[Find out more](#)



**University launches a new scholarship** for talented students from low-income backgrounds who want to study a built environment degree.

[Find out more](#)

# EVOLVING



# Our Research

## School Research Highlights REF2021

**Impact** submissions regarded as 100% outstanding or having very considerable impact:



**Earth Systems and Environmental Sciences**  
(50% 4\*, 50% 3\*)



**Engineering**  
(33% 4\*, 67% 3\*)

The quality of our **research outputs** recognised in REF2021:



**Earth Systems and Environmental Sciences** (23% 4\*; 63% 3\*)

The quality of our **research environment** rated highly in REF2021:



**Architecture, Built Environment and Planning** (62.5% 4\*; 37.5% 3\*)

**Industry collaboration key to our research delivery and impact. Our partnerships help us to deliver innovative research, share expert knowledge and develop specialist facilities to enrich our students' learning.**

Spanning advanced robotics, the development of smart built environments and biomedical breakthroughs, our research exemplifies how our industry-focused collaborative approach can tackle many of the global challenges we face.

## A focus on Acoustics

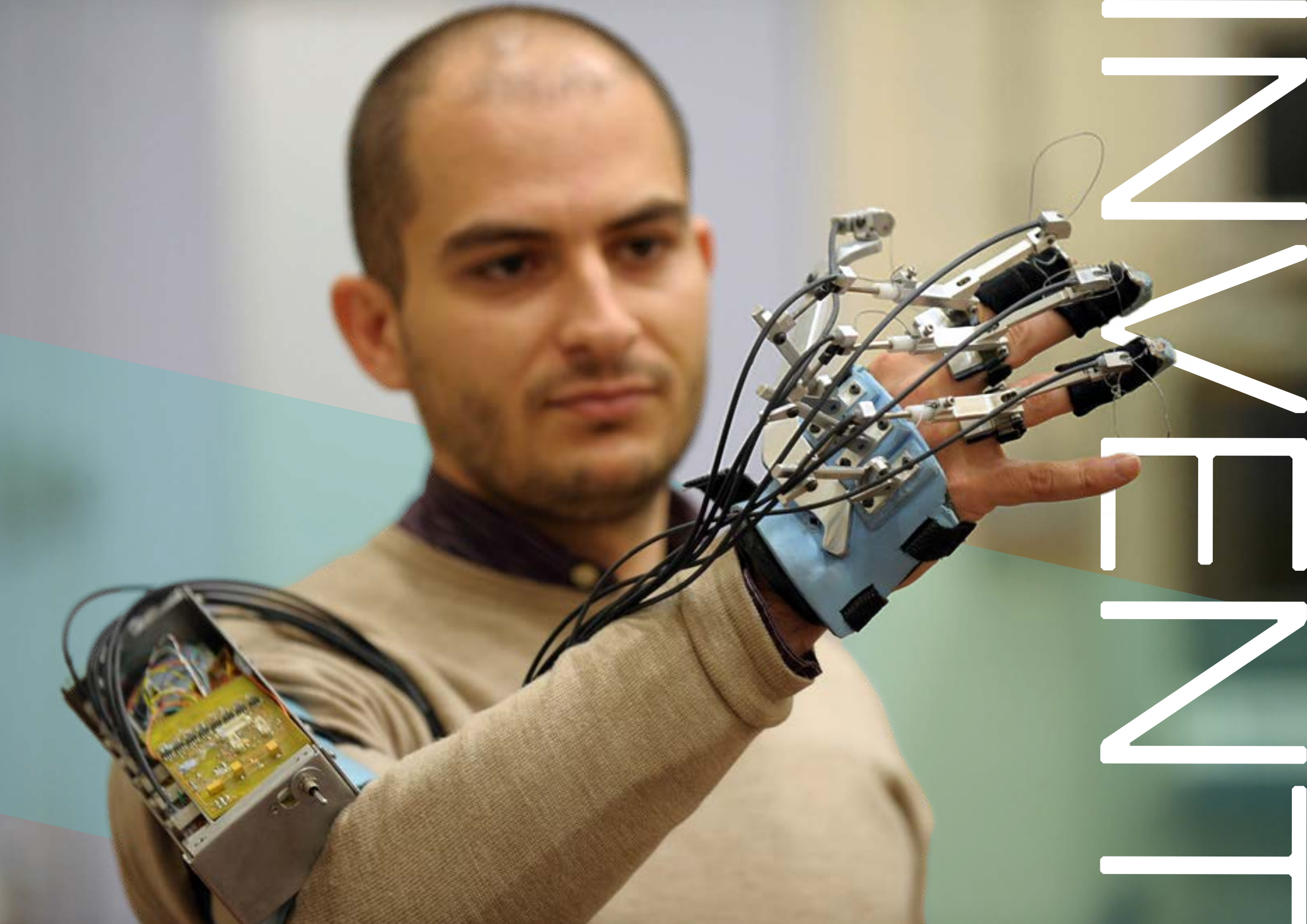


Our school is home to one of the largest acoustics research groups in the world. Over the past 60 years the world-leading commercial and grant funded research carried out by our team at Salford has helped children to focus at school by reducing the amount of noise legally permitted in learning environments. It's created ingenious spin out companies like Carbon Air, has enhanced the acoustics of national concert venues such as the Royal Albert Hall and has sought to improve accessibility issues for people with hearing impairments.

Our world-class acoustics laboratories allow us to address research problems regarding poor acoustics, environmental noise and building acoustics leading to an extensive set of industry partners and collaborations. Our research feeds into products manufactured and sold worldwide, as well as regulations and standards used in the UK, Europe and internationally. The research centre is also one of the founding partners of the BBC Audio Research Partnership and part of the National Institute for Airborne Acoustic Metrology (NIAAM).

As part of our campus masterplan, there are also ambitious plans for a new acoustics centre to house and expand our world leading research.

[Find out more](#)





## A focus on Energy House



With the built environment accounting for 40% of the UK's carbon footprint, our Energy House Laboratories support the development of innovative products that can make homes more eco-friendly, energy efficient and well insulated. The research and testing facilities enable the assessment of both retrofit technologies and new build solutions for the future, including low carbon and net zero housing design.

Energy House 2.0 is a unique purpose-built testing facility designed to help create the energy efficient homes of the future. At a cost of £16million, Energy House 2.0 is the largest research and test facility of its kind in the world. The facility hosts leading research and testing in tightly controlled conditions, providing new ways of powering, heating and insulating homes to make them more efficient. This research is helping to meet new standards which require a significant reduction in carbon emissions for new build homes from 2025.

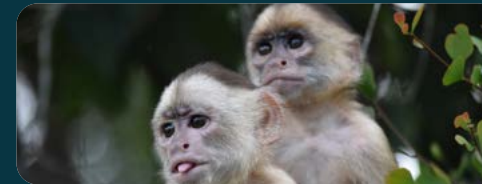
[Find out more](#)

## Project highlights



Our **acoustics centre** partners with responsible European micromobility company Dott, and the Royal National Institute for Blind People (RNIB) to test a selection of e-scooter sounds.

[Find out more](#)



Our **'game-changing' research** reveals the full genome sequences of hundreds of primates.

[Find out more](#)



**Brand new technology** developed by our school is helping tackle flood risk in the UK.

[Find out more](#)

[Find out more about our research](#)

# Our Facilities

We have made significant recent investment into new buildings and facilities, with more than £100million invested in the last 5 years. Our innovative learning and research environments are leading the way for cutting edge research and teaching and are home to expertise in robotics, digital transformation and sustainability.

## Highlights



**Bodmer Lab** - our world-class destination for biomedical, chemical and biological science teaching, facilities and research



New **£65million SSEE building** for engineering, computing and architecture, opened in 2022



**The North of England Robotics and Innovation Centre** is a beacon for the University's robotics and automation specialisms



**Maker Space** - a collaborative design and manufacturing facility available to industry partners and students across the University .



**THINKlab** - a unique centre for advancing digital innovation to solve global challenges



World leading **Acoustics Research Centre**

# A Focus on Sustainability

We have a commitment to becoming NetZero Carbon by 2038 and are part of the carbon revolution which will transform Greater Manchester into a world-leading greener, cleaner, climate resilient city region.

Sustainability is fundamental to everything we do from our research, teaching, projects and our campus. We're working together with our partners to ensure a more sustainable future both locally, nationally and globally.

As a member of the COP26 Universities Network we work with our partners to ensure the academic sector had a strong voice for tackling the climate crisis prior to, and during, United Nations International COP26. Our Energy House Laboratories and the IGNITION Living Lab were recently featured as part of a Climate Innovation Showcase throughout COP26.



**Professor Will Swan** is the Director of Energy House Laboratories (EHL) and sustainability lead at Salford. Will is a member of a number of groups concerning retrofit and energy efficiency of buildings; he was one of the founder members of the UK Building Performance Network, is Chair for the Low Carbon Buildings Challenge Group in Greater Manchester, and a member of the Retrofit Task Force.

## A focus on Living Lab

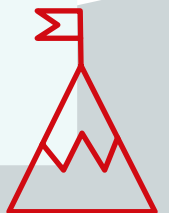


### Ignition Project – Making our campus more environmentally friendly

**Problem:** Carbon reduction is a global challenge. Greater Manchester Combined Authority and the University have a goal to be carbon neutral by 2038.

**Solution:** We partnered with other organisations across the city region in the €4.6 million EU-funded IGNITION Project to establish innovative solutions to promote wide scale implementation of green infrastructure. Our on-campus Living Laboratory is directed by Professor Hisham Elkadi.

**Outcome:** Our Nature-Based Solutions Living Lab is a live test facility that showcases viable and innovative green technologies in real time, such as green roofs, a living wall, SUDS trees and rain garden. Evidence gathered from the Living Lab has shaped future projects and has led to the deployment of more than 40 nature-based solutions across Greater Manchester.



## Other projects / highlights



University plays a key role in **international research partnership to shape future of zero waste** construction.

[Find out more](#)



University partnership project with The Environment Agency **won the prestigious European River Prize and is now shortlisted for the World River Prize**, as part of the Cumbria River Restoration Strategy.

[Find out more](#)



# Our Location

Our location in Salford sets us apart. Just 2km from central Manchester, we are proud to be part of one of the most diverse city regions in the UK with over 200 languages spoken.

Our colleagues are fortunate to live and work in one of the most vibrant areas in the UK, a thriving centre of digital innovation, excellent schools and colleges, and with affordable city, suburban and rural living options to suit a wide range of lifestyle choices.

The city region has a proud history in science, politics, music, arts and sport and is a city of culture, diversity and opportunity. We are proud to partner with a wide range of organisations across the region and beyond.

There are great transport links both in and around Greater Manchester. Furthermore, we offer a packed calendar of world-class events and festivals to discover.



## Our Peel Park Campus



We are a campus university, and our Peel Park campus is unique, offering lots of green spaces to explore. There are an array of amenities on site, from eateries to our sports centre, museum and library.

Our £55million New Adelphi building is a North West hub for talent, academia, and creativity and sits alongside the recently opened £65million new Science, Engineering and Environment building, which serves as a centre for discovery and innovation.

## Our MediaCity Campus

Our MediaCity campus is at the heart of one of the country's leading digital and media cores - sitting right next to neighbours such as ITV and the BBC.

The campus is home to our renowned undergraduate and postgraduate Film, TV and Media, Creative Digital Media and Gaming, and Journalism degrees.

This high-tech, sustainable and accessible MediaCity building is a North West hot spot for talent, academia, and technology which is supported by a thriving media industry in Greater Manchester.



## Future Investment



To further enhance our Peel Park and MediaCity campuses, we are investing in our people and our infrastructure to ensure that we have the means to deliver on our ambitions.

We will transform our campus and the surrounding city district through our Campus Masterplan, creating a new city district that will bring together industry, education and innovation.

Together with Salford City Council and The English Cities Fund we have committed to a £2.5bn 20-year Crescent regeneration programme which will provide spaces for teaching, innovation, commercial, residential, green space and sustainable travel that will drive economic and social prosperity in the region and reduce carbon emissions.



Find out more  
[salford.ac.uk/jobs](https://salford.ac.uk/jobs)



A career that  
works for you

