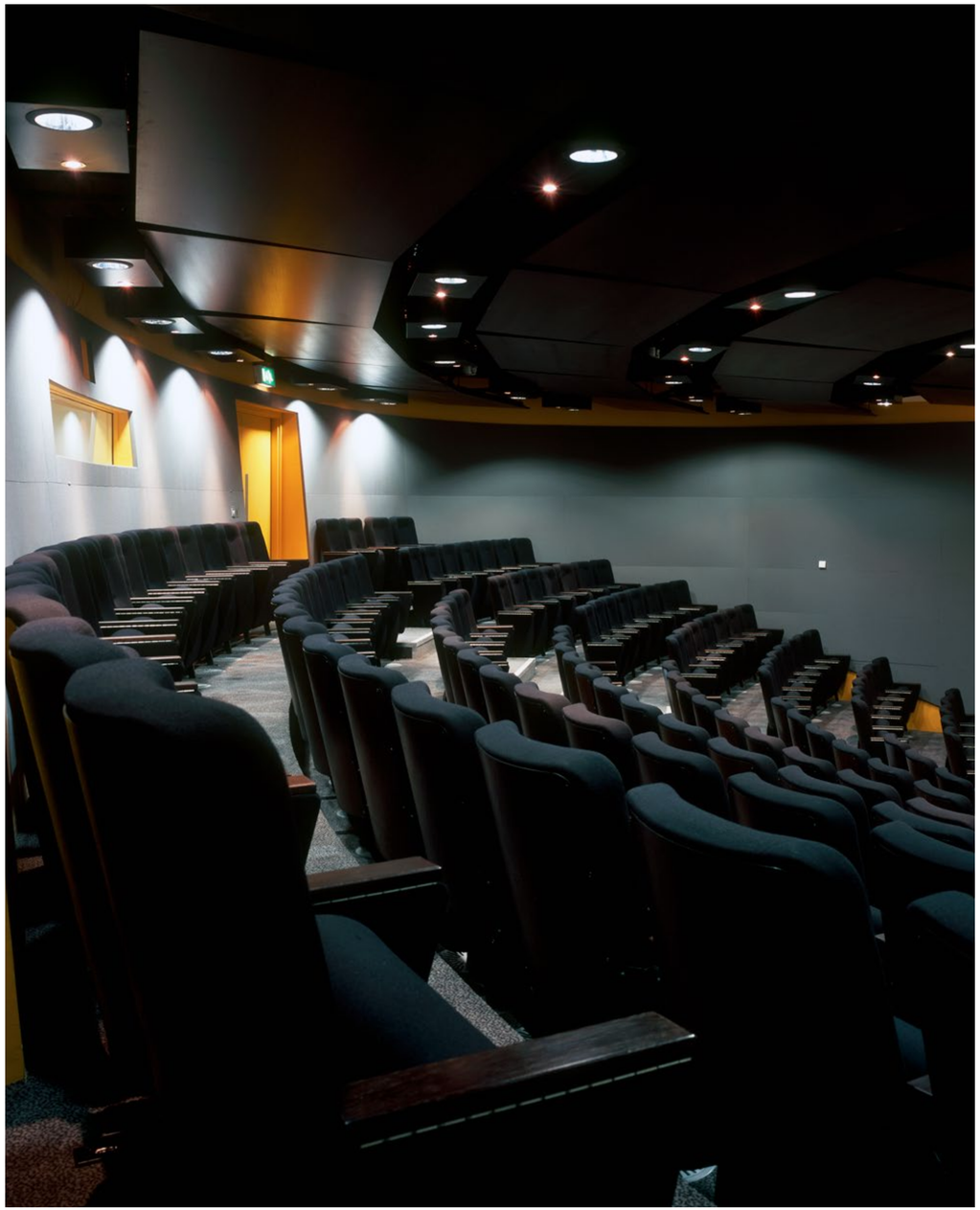
Stantec

Higher Education

Creating the academic campus of the future

Contents



Foreword

Universities matter. Their contribution to education is well understood and the importance of their role in educating students, both domestic and international is increasing.

Universities are so much more to the prosperity of local communities and city regions in terms of their role as major employers, attracters of investment in research and development, providers of links to industry and spin off applications of research to the wider economy. They are true catalysts for growth and in an uncertain global economy they provide a solid foundation for growth embedded in their locality.

Many universities are situated within urban locations, with enormous potential to generate inward investment, support the development of new homes (for those who work as well as those who study) and to encourage growth in the knowledge economy.

From place making to building design, universities need to employ a holistic and strategic approach to succeed, become more appealing and efficient and gain better value from their assets, providing world-class places to live, work and study.

At Stantec, we work closely with a range of universities across the UK & Ireland to help them do just this – maximise and realise their assets. This is not just a financial imperative, but with increasing marketisation of higher education, universities are competing for researchers, graduates and undergraduates.

Universities can use their buildings, campuses and other land holdings to support the dynamic growth of their institution, be that academic or research and enterprise space, student accommodation or sports and leisure facilities. Land assets can be used to realise value and invest in the growth and prosperity of the local economy.

Our team is committed to supporting research and investment, enhancing student living that creating sustainable academic campuses that meet the needs of our students and communities both now and in the future.

Stantec UK&I

Stantec is a top tier global consultancy. We have been working with our clients and communities in the UK for over 150 years. We have consistently been at the forefront of planning, design and delivery of infrastructure and development in the UK.

With offices across the UK, Stantec has a strong reputation for its work with public and private sector clients on a diverse range of high-profile infrastructure and development projects.

Within the UK, we support projects across four core markets, Water, Energy, Infrastructure and Buildings.

OUR PEOPLE IN NUMBERS

620
BUILDINGS,

298
CORPORATE

180
ENERGY & RESOURCES

1159
INFRASTRUCTURE

60
REGIONAL G&A AND SHARED SERVICES

1523
WATER

What we do

We’re architects, planners, programmers, engineers, and interior designers. We are also parents, students, board members, and educators. As such, we understand it takes a community to make visions come to life. Stantec offers its higher education clients in-house, integrated services so your stakeholders can work with one team to ensure its investment is meeting campus and community needs.

Our process is inclusive, collaborative, and fun! From project start to finish, we’re constantly working across offices, disciplines, and sectors, and partnering with clients to innovate, improve our methods, and meet challenges creatively. We strive to create learning environments that inspire and support each student and faculty member to realise their own best potential.

Our services

As one of the world’s leading design and engineering firms, we have collaborative and inter-disciplinary teams who combine their technical and creative skills to deliver solutions that answer our clients needs. Our teams offer a wide range of services including:

Architecture

Engineering

Sustainability Consulting

Town Planning

Landscape Architecture

Interior Design

Facility Assessments

Masterplanning & Urban Design

Graphic Design & Branding

Feasibility Studies

Utilisation Studies

Programme Management

Research + Benchmarking

Post-Occupancy Evaluation

Smart Campus Planning

Transport and Movement

A global team of over 500 people working in Higher Education

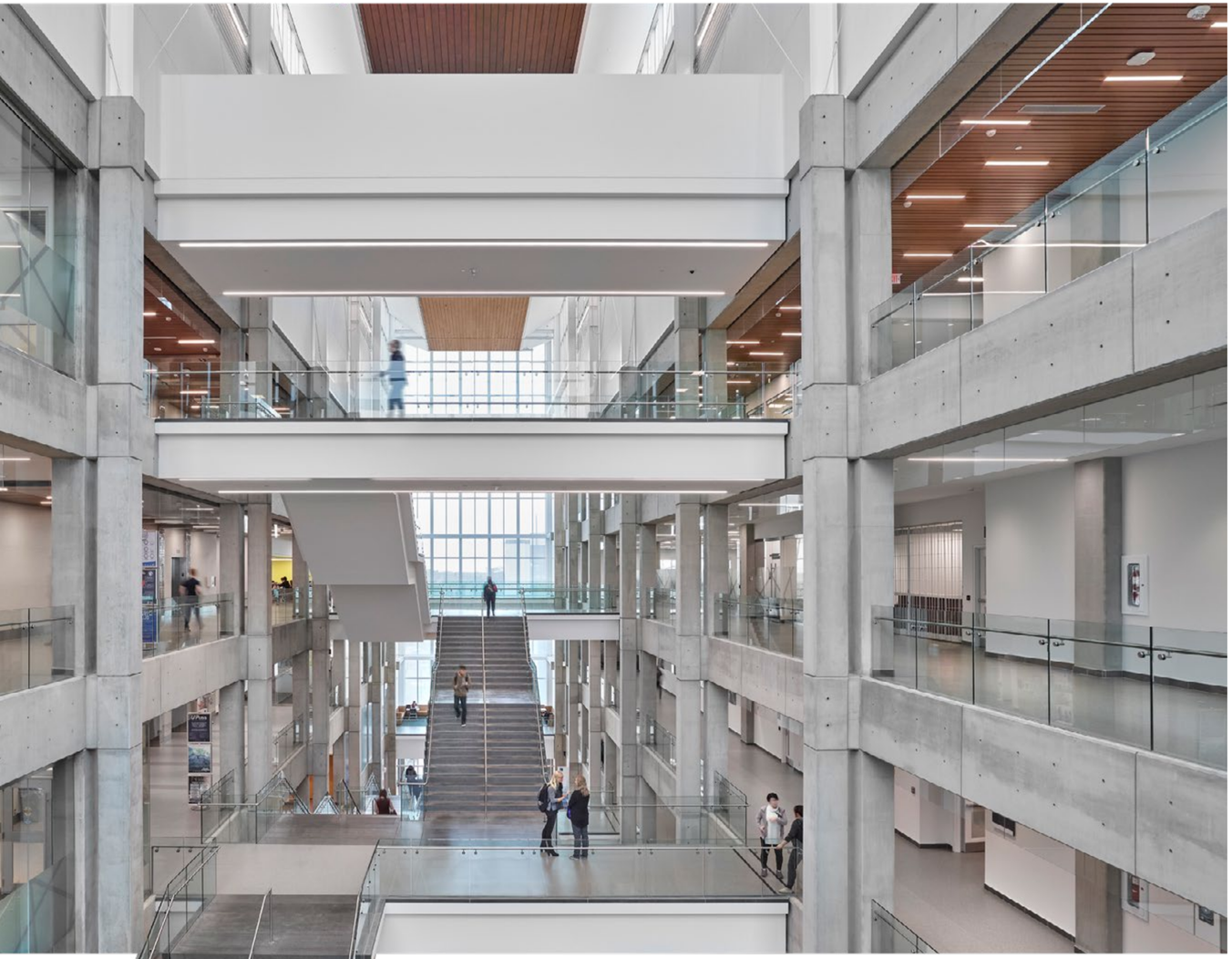
Educational design

When we invest in our future, we move forward together. Our innovative, forward-thinking educational facilities support our greatest asset: the next generation of leaders who will reimagine what's possible.

In campus communities large and small, private and public, we create experiences that bring people together to share knowledge and foster lifelong learning.

Inside our flexible and technology-rich buildings, students are free to open their minds and embrace collaboration. Teaching staff have the tools they need to connect with and engage students. Outside the classroom, our designs maximise each square foot possible to create nooks, collaboration zones, and make spaces where innovation and ideas can flow.

Student accommodation and facilities are crafted to make everyone feel welcome, while providing opportunities for creating meaningful and lifelong relationships. Curious minds can explore individual or group learning opportunities in the creatively designed libraries and information commons, while researchers can test assumptions and make new discoveries in flexible, safe, and well-equipped lab spaces.



Research and benchmarking

To design for education—an industry of constant change and evolution—you must continually learn. This is the simple idea behind our Research + Benchmarking (R+B) program.

Stantec's R+B Program provides an internal framework that allows our team to investigate areas where we see opportunity to increase our collective knowledge, study a trend, evaluate the effectiveness and efficiency of our designs, and share what we learn with our education partners across the globe.

Our teams often partner with universities and other entities to deepen our research. We're proud that our designs are supported by real research and actual practice and are committed to continually learning and enhancing the services and expertise we offer to our education partners and communities.

Our Buildings Digital Practice, working with our Education leaders, has developed a Benchmarking Reporting Tool specifically to address the Education sector's needs. The custom webapp offers options to make data more digestible, and ultimately empowers anyone to examine solutions, designs, and create better spaces more easily.

Practitioners can capture data at all levels to analyse project metrics so they can better understand industry trends and inform schemes. We know the background and have the data and can share this knowledge with our clients to set targets and optimise design, reduce unnecessary building area and bring down a building's carbon footprint.

Clyde Waterfront Innovation Campus

University of Glasgow

The brief for this project is to explore and analyse opportunities to establish an Innovation Centre, “the Clyde Waterfront Innovation Campus” (CWIC), capturing a commanding international lead in the industrialisation of Quantum Technology. The building will be transformative for Glasgow. The CWIC will create a state-of-the-art fabrication platform integrating academic research, industrial partnerships, education, and training for continued regional and UK quantum research excellence.

The new CWIC will provide an environment for research learning and discovery. The world-class cleanroom facilities, support and office accommodation are necessary for over 160 researchers and scientific staff. The indicative total floor area will be approximately 6,500 sq m to 8,000 sq m accommodated within a 2-storey building.

The arrangement will yield a compact facility that maintains a scale that supports and complements a long-term development plan for the future. The environment will promote high levels of interaction between research groups, industry partners, and students. Stantec has worked to develop Strategic Briefing documents and Stages 0 & 1 reports to support the University with an Outline Business Case and grant applications. We are now working on the subsequent phases of the project.

Sustainable design

Sustainable design is a part of our everyday practice. No matter your end goal, from Passivhaus to urban greening to net positive buildings, we can help.

Stantec looks at every detail from energy-saving building technologies and systems to biodiversity net gain landscape strategies, all optimised for the whole life cycle of your project. By applying the lens of carbon emissions avoidance, climate risk management and designing for wellbeing to all planning and design decisions, we support you in meeting your sustainability commitments, minimising operational costs and inspiring generations of staff and students by demonstrating sustainability leadership.

Our experience in sustainability planning has resulted in early buy-in with end users and involvement by technology vendors during the design concept, essential for both performance success and delivering social value over the lifetime of the project. We provide consultancy advice for a range of sustainability certifications (e.g. BREEAM, Passivhaus), from pre-planning through to post-construction, working with co-professionals to optimise scores, project performance and value from the certification process.

Data-driven decision making is key to success in the journey towards decarbonisation for both technology-based and nature-based design solutions. Consumption monitoring provides performance data for return on investment and can help with decisions on future projects at the scale of a single facility or campus. Additionally, we've used visual references and technology that allows students and teachers, and staff to see and understand how the building performs as energy is monitored and savings are realised.

With our thoughtful design, systems-thinking approach to higher education facilities and campuses and range of subject matter experts, we help our clients raise the bar when it comes to creating healthy, safe, and resource-efficient learning environments.

#1

Ranked most sustainable corporation among industry peers

2025 Corporate Knights Global 100

13

Well certified projects

50+

Net zero designed buildings

80+

Greenhouse gas and energy action plans

UCL Pearl

How do you create a world inside a building? This was the problem University College London (UCL) faced when scoping out their new research facility, the Person Environment Activity Research Laboratory (PEARL).

To help make their vision a reality, UCL appointed our team to provide the mechanical and electrical engineering necessary to create an immersive laboratory to monitor what people see, touch, hear, smell, or feel in real world scenarios. Described as one of London's most remarkable new buildings, the 4000 square metre, 10-metre-high mega lab offers full-size simulations and facilitates research into access and mobility, from navigating kerbs in wheelchairs to improving train design and maximising space inside aircraft. We took inspiration from national theatres to deliver the flexibility to change from one scene to another in the shortest possible time. The systems provide specific visual, aural, and olfactory experiences to create a realistic experience. Lighting systems are adjustable so that light levels from anywhere on earth, at any time of the day or night, can be simulated.

PEARL was designed to meet the low energy and carbon emissions targets set by UCL. We modelled the mechanical and engineering systems as well as the building performance to test and predict future energy use. This, combined with efficient building fabric and services, makes PEARL UCL's first carbon net zero building.

Creating a strong sense of place

Institute for Regeneration and Repair South

The University of Edinburgh

The new Institute for Regeneration and Repair South (IRR South) marks the next phase of world-leading research facilities on the Edinburgh BioQuarter, providing the University of Edinburgh with adaptable and highly collaborative space for over 500 scientists.

Removing the traditional gaps of communication and barriers between scientists and clinicians was a key design driver in enhancing the ‘bench to bedside enterprise’. The building is home to flagship centres carrying out inflammation, reproductive health, and regenerative medicine research and also features a dedicated pandemic science hub.

The IRR South features agile themes-based discovery environments that integrate open labs, support labs, offices, and write-up space to provide a sense of community. Scientists are visually-connected—horizontally and vertically—through a ‘discovery forum’. The two-storey spaces promote collaboration by directly connecting floors within the laboratory environment. Seminar areas, offices, and the popular “Niche” café and exhibition area open to the wider campus also foster collaboration.

Eddington

North West Cambridge Development, University of Cambridge

The University of Cambridge's Eddington project is a major mixed-use development that includes housing alongside affordable accommodation for staff and post-graduate students. We have provided transport and movement advice for the masterplan and developed an offsite transport strategy to support the proposals.

The development's transport strategy was aligned with the wider transport strategy for Cambridge—where we focused on developing a walking, cycling, and public transport strategy. Our civil and structural teams have provided design services for the key worker and postgraduate housing and designed external, steel-framed walkways to provide access routes to the new five-storey buildings.

When complete, the Eddington development will become an exciting new district for Cambridge with sustainability at its heart.

Heart of the Campus

University of Strathclyde

The University of Strathclyde had an ambition—to enhance their city centre campus with re-landscaping and pedestrianisation. But the project would involve a significant amount of appraisal and evidence collection, including funding applications to Sustrans (a walking and cycling charity) and support for a planning permission in principle application.

We coordinated multi-disciplinary services for the estates services team including collecting baseline information and evidence for change as well as transport modelling. We also worked on engagement in pre-application discussions with Glasgow City Council, liaised with the architect and landscape architect on emerging designs, and completed the phase 1 and phase 2 investigations across geo-technical, ecology, transport, and utilities. When it came to flood risk and drainage, we prepared a sustainable urban drainage system (SuDS) strategy for collecting surface water and limiting discharge.

Our funding application for the University successfully obtained funding for options appraisal, site investigations, and site surveys. With these services and enhancements, the University of Strathclyde city centre campus will enhance the physical environment for the student population.

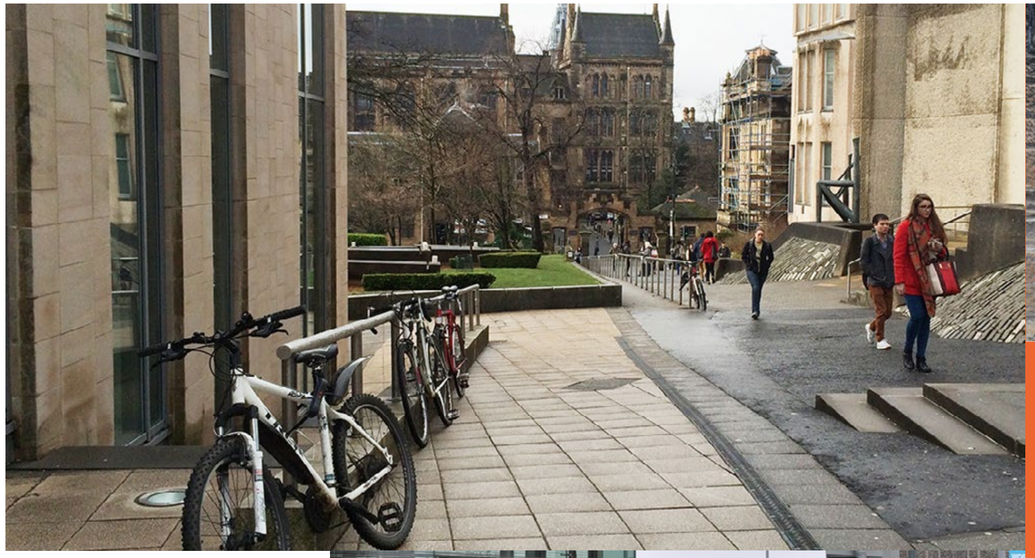
Strategic Travel Plan

University of Glasgow

The University of Glasgow's vision is to develop a campus that is "...fit for today and the future, is innovative and courageous in design, and is reflective of the University's history and of its ambition, inspiring current and future generation". To achieve this, the University appointed us to update their 2010-2015 Travel Plan to include wider issues of campus transport management through a Strategic Transport and Travel Plan (STTP) covering 2016-2025. The aim? Identify, support and promote comfortable and sustainable modes of travel around the campuses.

In developing the STTP, we paid close attention to the University's Development Frameworks, their Carbon Management Plan and the expanding and changing use of the Estate. The final STTP, and supporting documents, covered a much more wide-ranging set of issues than a traditional Travel Plan, including innovative attempts to quantify carbon emissions associated with the University's' travel patterns.

The result? A plan that identifies and eliminates unnecessary travel and reduces the impact of transport generated by the University on the rest of the community as well as the local and wider environment.



Birmingham Life Sciences Park

University of Birmingham

We are working with the University of Birmingham to develop their Battery Park site and create a differentiated, research-focused, financially sustainable Birmingham Life Sciences Park (BLSP) - a four-hectare development set at the heart of the vibrant Birmingham Health Partners campus.

The Park will provide innovation facilities and co-located commercial space for health and life sciences businesses to access this uniquely integrated health campus. Regional and national networks will be able to accelerate the development of innovations in the clinic, transforming the health of our population.

Located at the heart of Birmingham's Health Partners' Campus, the Park is immediately adjacent to major academic and NHS centres of excellence (University of Birmingham; University Hospital Birmingham; Birmingham Women's Hospital).

The Park will establish an entry point for businesses to access a uniquely integrated health innovation infrastructure and a wealth of health data drawn from a diverse population.

Biochemistry Building

University of Oxford

The Biochemistry Department at Oxford University is the largest in the UK, internationally renowned for their research work in DNA, cell growth, and immunity. The building achieves a new ethos of interdisciplinary working, where the exchange of ideas is promoted in a large collective and connective environment.

Working collaboratively with architects HawkinsBrown, we provided structural engineering design to the building. A top-down basement wall construction was used to reduce ground movements to protect the Grade I Pitt Rivers Museum that sits five metres from the building. The carbon footprint was calculated for different structural options to determine the most sustainable framing solution.

The framing also provided cost-effective perimeter cantilever details and support to retaining walls in the two-storey, 10-metre deep, steel-framed basement. The specific structural designs we created achieved a vibration-free environment for the use of electron microscopes.

The building is a contemporary response to a sensitive site surrounded by listed buildings. It is the first of two phases that have started the process of transformation of the science area.

Delivering the next generation campus

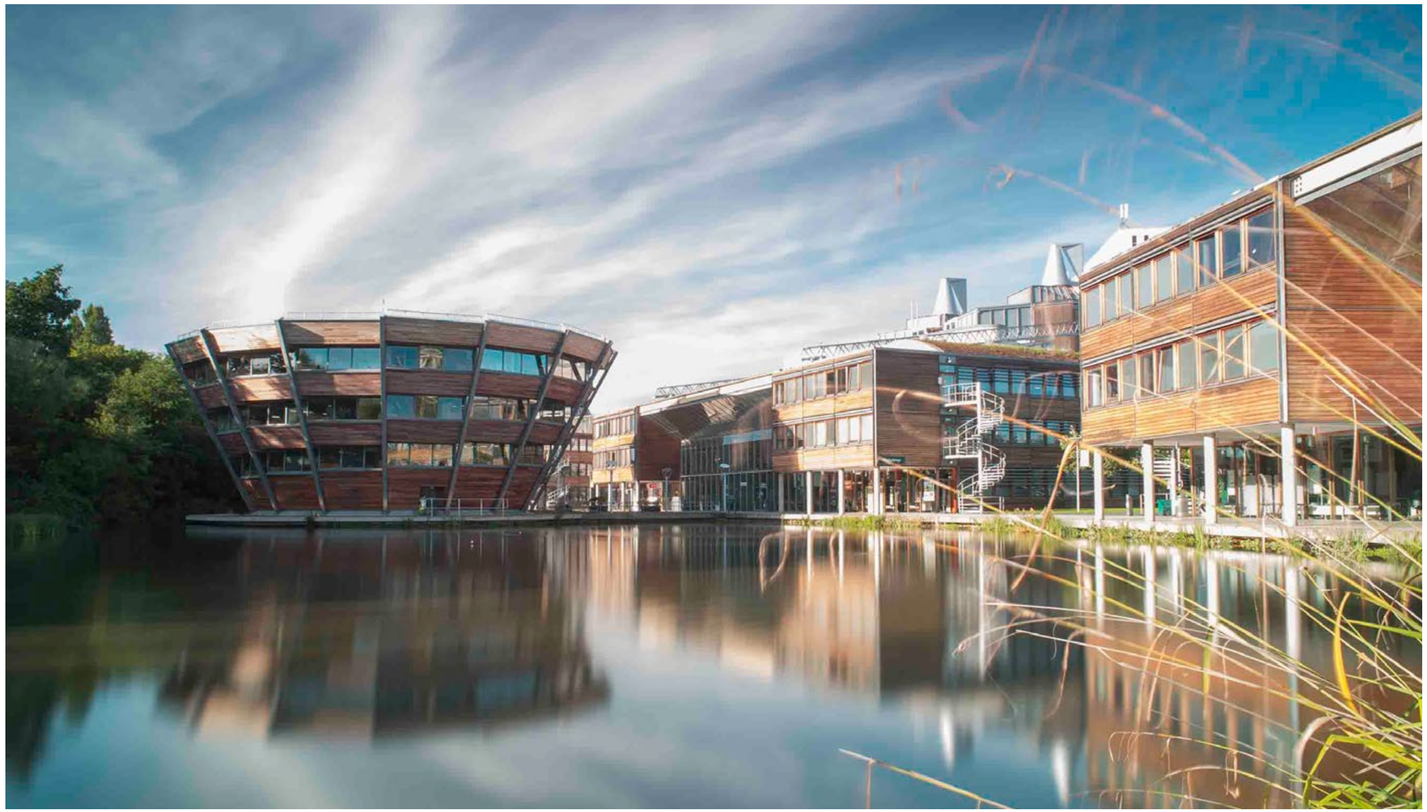
Climate Risk Study

The University of Nottingham

To enhance its sustainability strategy, the University of Nottingham wanted to understand better the long-term physical climate risk to campus buildings and infrastructure. They were especially motivated after the hot summer of 2022, which resulted in laboratories closing and suspended research, reduced lake water levels and a small distant wildfire on part of the estate.

The University engaged us to conduct a climate risk study. We used climate datasets within the UK Green Building Council's (UKGBC) Physical Risk Framework methodology to understand and prioritise key risks against a wide range of chronic (slow onset) and acute (extreme) climate hazards. We analysed how built assets and infrastructure might respond to heat stress, extreme cold, flooding, and drought risks. We looked at specific physical thresholds, likeliness, and consequences to determine the overall climate risks.

This process enabled us to recommend adaptation measures including passive and nature-based solutions, and design interventions.



This approach will help long-term resilience to extreme weather events and a changing climate, help attract new students and support their well-being. It will also aid business continuity, support long-term research, and address potential long-term impacts on insurance liabilities and costs.

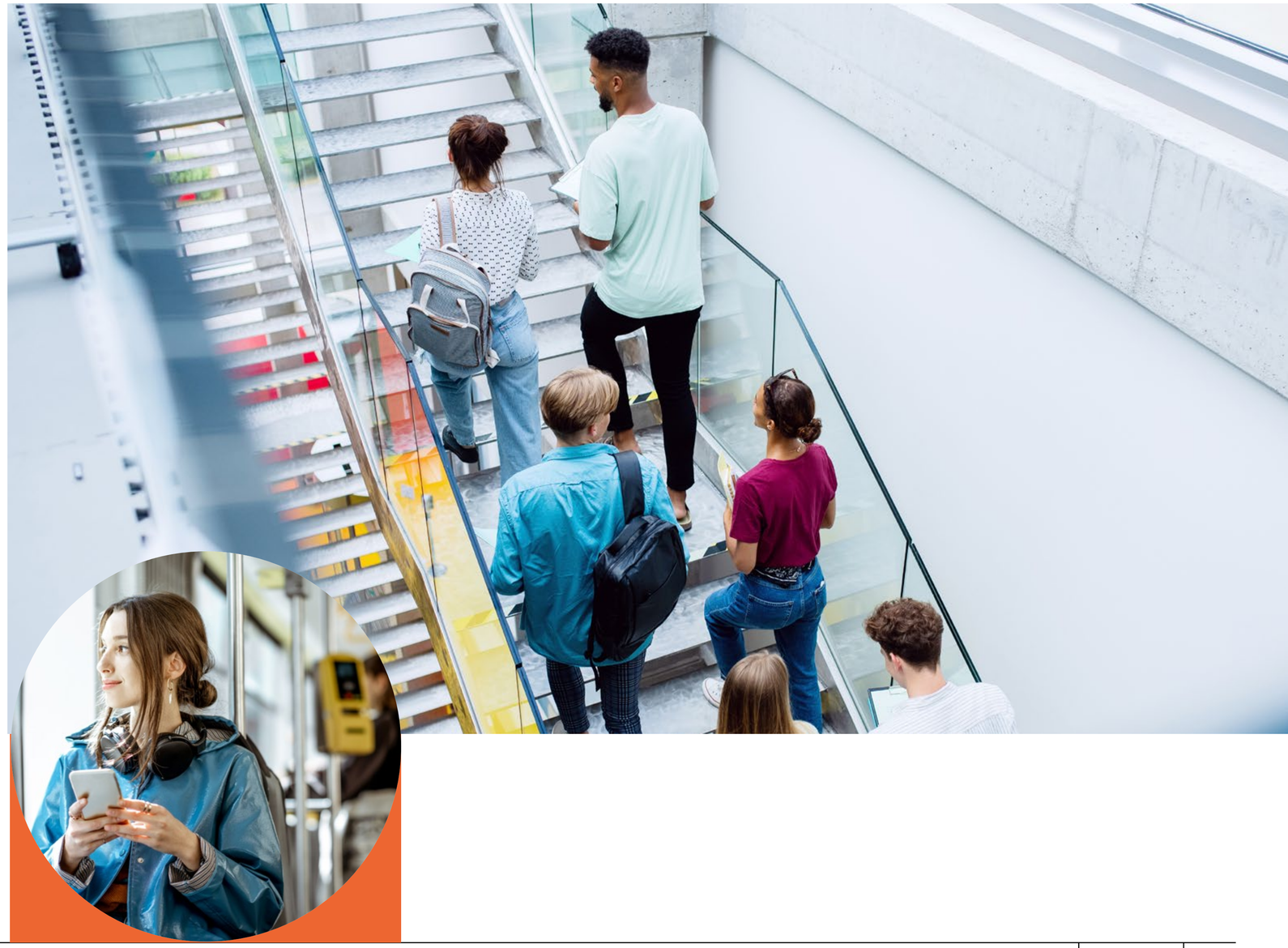
Transport Strategy

Manchester Metropolitan University

The School of Digital Arts (SODA) on Higher Chatham Street in Manchester will form part of Manchester Metropolitan University's (MMU) All Saints Campus. The SODA is a new digital arts building which provides innovation laboratories, media exhibition space, seminar rooms, studios, production suites, and office accommodation—and we've been providing transport support for them since 2017.

Project work initially commenced with consultation on the closing of High Chatham Street between Rosamond Street West and Boundary Street West. We then produced a transport statement to assess the potential transportation and highways issues associated with the SODA and to support a full planning application for the development.

To encourage sustainable travel, we liaised with the MMU travel plan coordinator to set out measures—such as offering student bus passes and cycle to work schemes—within the transport statement. Planned to open in 2021, SODA is a £35 million investment into workspaces, networks, teaching, and research that will support the urgent and growing demand for skilled workers in the region's creative and digital industries.



Copperas Hill

Liverpool John Moores University

Liverpool John Moore's University (LJMU) set out to transform a forgotten site in the heart of Liverpool into a landmark student destination. LJMU enlisted our professionals, as part of a larger team, to provide town planning services to realise this ambition.

Engagement with the local and LMJU student community helped the team understand the complexities of this urban site, and focus the proposals on delivering a regenerative gateway development for the Liverpool Lime Street and Knowledge Quarter area of the city. Our pre-application activity sought to address sensitivies such as the proximity of the proposals to the Metropolitan Cathedral and the opportunity the scheme has to enhance LJMU's connection to the city centre, their wider campus, and the surrounding business community.

The proposals provide a focal point for student life, housing advice and wellbeing services, student union and international exchange student support, careers advice, teaching spaces, and extensive sports facilities. With phase one completed in 2021, the scheme forms a key part of the LJMU's investment masterplan and meets its ambition to contribute to the city centre's regeneration and Liverpool's economy.

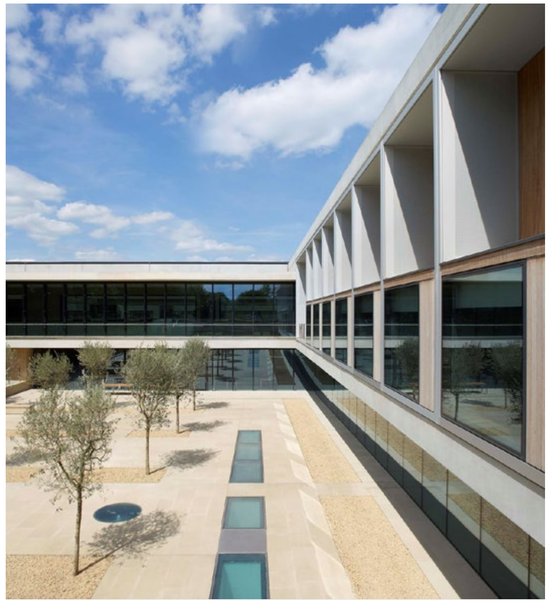
Sainsbury University

University of Cambridge

Located in Cambridge University Botanic Garden, the design challenge was to reconcile complex scientific requirements with the need for a work of architecture that also responded to its landscape setting and provided a collegial, stimulating, environment for innovative research and collaboration. The client's aim was to elucidate the regulatory systems underlying plant growth and plant development.

Our team were project and contract administrators on the prestigious 11,000 square metre development. We oversaw the management of the two-stage procurement process, instigation of early enabling works ahead of design completion, and liaison between the design team and contractor to ensure an excellent BREEAM rating and permanent on-site representation.

The Sainsbury Laboratory houses 120 scientists in state-of-the-art laboratory facilities which include over 35 plant growth facilities, experimental glasshouses, wet laboratories, seminar rooms, a 150-seat lecture theatre, and office space. The building also provides a home for the university herbarium, which contains over one million pressed and dried plant specimens from all over the world, including those collected by Charles Darwin on the Beagle voyage.



Driving innovation through design

Faculty of Engineering and Design Building

University of the West of England (UWE)

UWE wanted a new teaching and research facility to support training the next generation of engineers. They engaged us to provide end-to-end multidisciplinary engineering services.

The building considers and supports the varying physical natures of engineering subjects. Structural engineering, construction material, mechanical workshops, and engine test cells requiring large spaces are on the ground floor. We designed a reinforced concrete slab mounted on special acoustic bearing pads to absorb vibrational impacts. We also incorporated sound insulation.

High-tech electronics labs, modelling and simulation suites, and mechatronics labs had different requirements to combat high heat gains and sensitivity to noise and vibration.

We incorporated features to meet UWE's goal to reduce carbon emissions by 2030. These included rainwater collection facilities, a solar panel array, a combined heat and power district heating network connection, and low carbon design principles. Designed as a smart building, rooms are controlled individually through the building management system.

The building reflects UWE's aim of encouraging greater diversity within engineering and meeting the local demand for skilled graduates with flexible, collaborative spaces for 1,600 students and 100 employees.

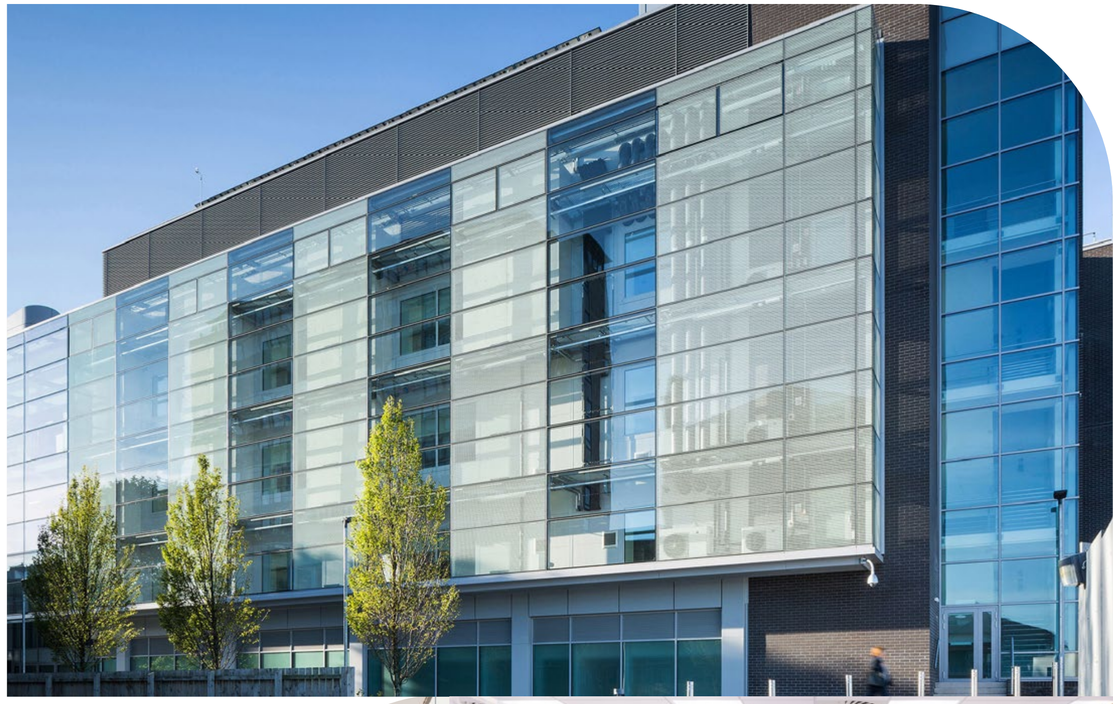
Wellcome-Wolfson Institute of Experimental Medicine (WWEIM)

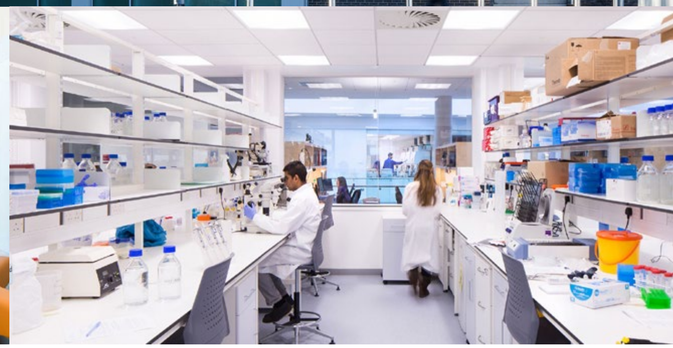
Queen's University Belfast

Collaboration in a research environment isn't just about shared facilities and collaborative workspaces; it's also about creating a layout that connects research teams to each other with a combination of open plan areas and visual connectivity between enclosed areas. At the WWEIM, that visual connection is delivered by the presence of two atria; a core atrium in the centre of the 'collaboration zone' and an additional atrium that has been used to extend the building to the full footprint of the site.

Key to achieving future flexibility was the client request that the Revit models be developed with the future use of facilities management—a first for the university. During construction, the Revit models were continuously updated to reflect the actual construction, allowing the university's staff to virtually navigate the building upon completion. Model objects, now embedded with data such as product number and installation date, negate the need for the University to maintain voluminous operations and maintenance manuals.

The resulting building has an airy, open-plan feel and a wealth of informal spaces where colleagues and students can discuss their work, with natural light and openness.





Awards

2016 RICS Awards, Northern Ireland, Project of the Year Award and Innovation through Design Award

2015 Construction Excellence for Northern Ireland, Construction Excellence Awards

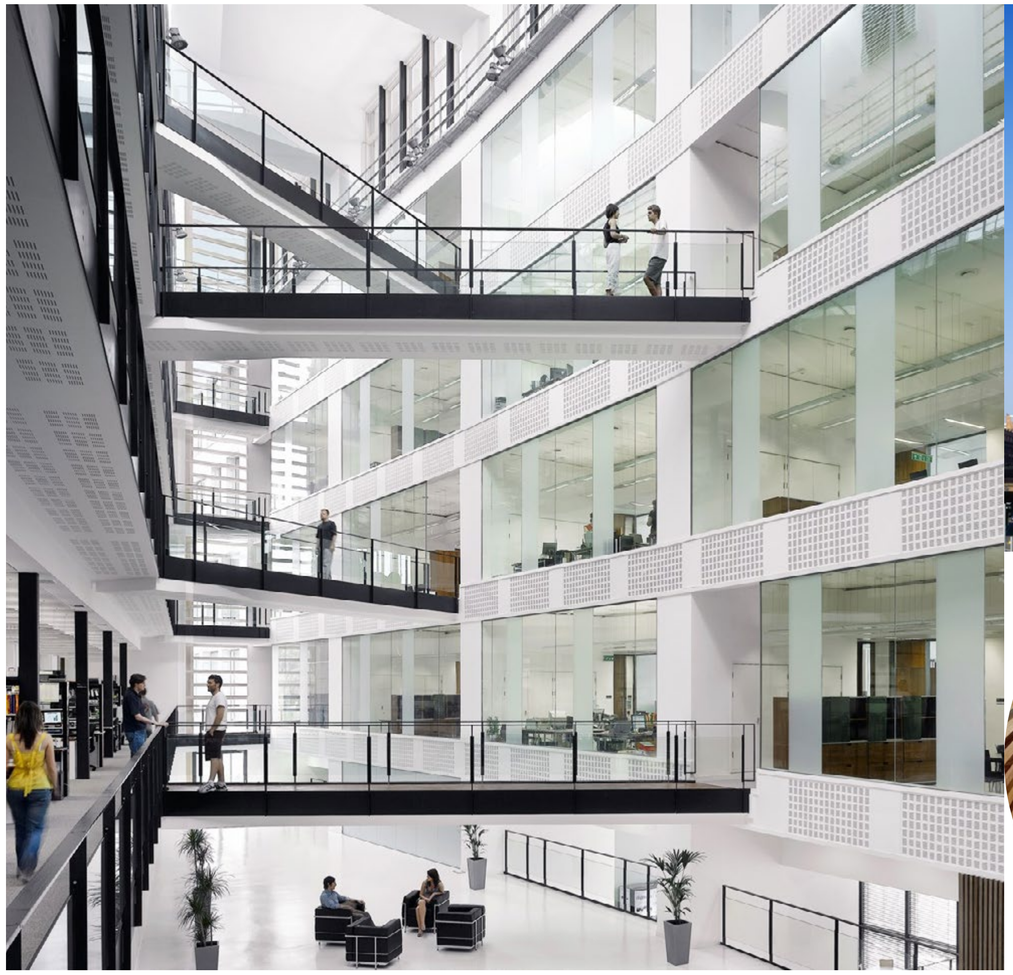
Manchester Institute of Biotechnology

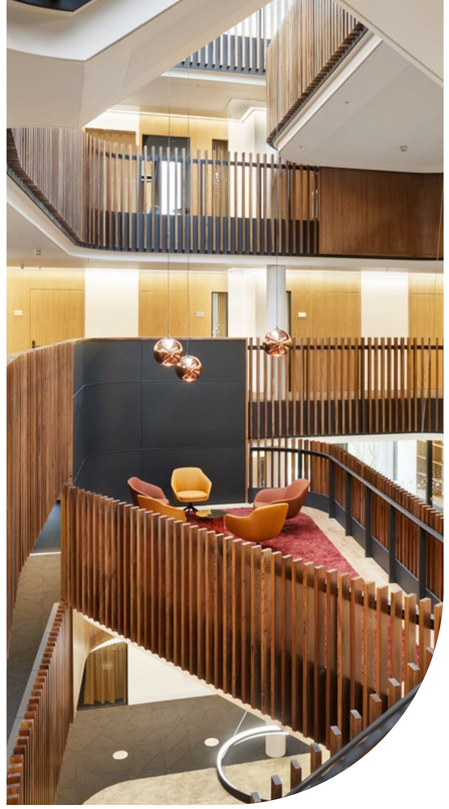
The University of Manchester

The Manchester Institute of Biotechnology, formerly the Manchester Interdisciplinary Biocentre (MIB) is an architectural gem which quickly won critical approval, picking up local, national and international awards. An electrophoretic DNA fenestration pattern proudly identifies the MIB as a building of science.

So, how do you get multi-skilled scientists from different disciplines to cross boundaries and work together? The MIB is home to a diverse community of researchers from six disciplines—biology, chemistry, physics, mathematics, computation and engineering. What Stantec's design does is create opportunities for these researchers to interact. Using spatial analysis technology during the design stages, it was possible to predict people's movements and identify traffic hot spots. By locating kitchen, social, and informal meeting areas at these hot spots we significantly increased the chance meetings between a wide variety of researchers and impromptu discussions.

Materials inspired by Manchester's important civic buildings are used to codify the MIB. The offices are clad in limestone with extensive glazing towards the street, while copper was used to clad the labs.





Beecroft Building

University of Oxford

The new Beecroft Building occupies a prominent site opposite Keble College Chapel in the Science Area of Oxford. The five storeys above ground provide office, teaching, and collaboration space aimed at theoretical physics, with three basement levels dedicated to research labs for experimental physics.

When designing the basement labs, we included a very high degree of vibration isolation, including isolation pads between columns and foundations, floating floors to labs, keel slabs, and air tables to provide the highest possible level of isolation.

The keel slabs are supported off the lowest level basement which is a sterile space reserved only for this purpose and serves no other function. Modelling of the construction sequence of the building showed that foundation movements of the adjacent building would be excessive, so we developed a strategy to minimise this movement. The solutions? Grout injection under the adjacent building, stabilising the soil, and reducing movement to acceptable magnitude.

Joining the Lindemann Building and Townsend Building, the Beecroft Building will help physics students and faculty at Oxford study, collaborate, and experiment.

Interdisciplinary Biomedical Research Building

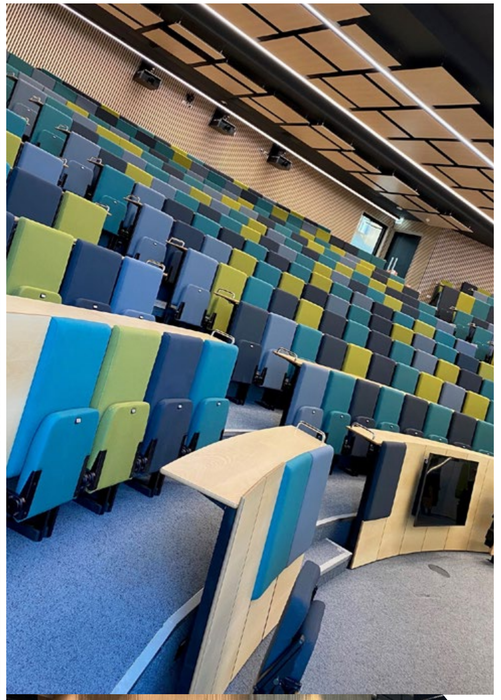
The University of Warwick

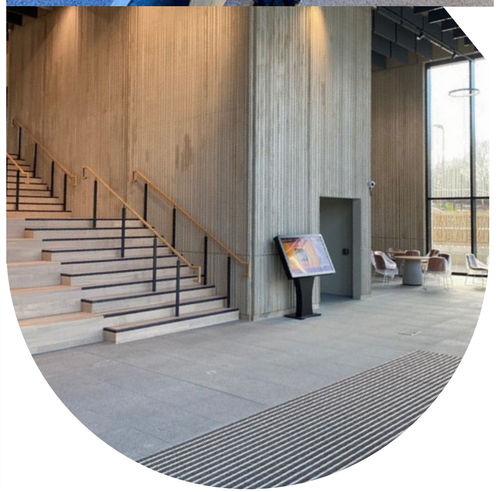
Our team were appointed by the University of Warwick to assist in the construction of the new Interdisciplinary Biomedical Research Building (IBRB). The 7,000 square metre biomedical research facility has been constructed on the existing Gibbet Hill Campus and brings together up to 300 biomedical researchers from across the School of Life Sciences and Warwick Medical School to fight human diseases.

To help deliver this world-class building, our team was tasked with providing geotechnical services as well as structural and civil engineering. The scheme begins the process of replacing the ageing research facilities on the campus and, provides a world-class environment in which to train future generations of biomedical researchers.

The five-storey building supports a central ‘lab village’ core with open plan write-up, office space, and collaboration zones located at the perimeter to activate the facade. The key to promoting collaboration is strong visual connections through the building between spaces. The IBRB features a 400-seat lecture theatre with a large public entrance space that responds to the steep topography of the site.

The building promotes a feeling of inclusivity through transparency and openness of this space for all building users, visitors, and the wider community.





School of Environmental Science

University of Liverpool

Our Manchester team has been supporting the University of Liverpool on their proposed refurbishment of the Derby and Hartley Buildings since the Spring of 2022.

The exciting scheme comprises plans for the total refurbishment of and extensions of these non-designated heritage assets to house the new School of Environmental Sciences (SoES). The scheme will deliver world class laboratory space in the heart of the North Campus, as well as a modern car parking facility as part of the University's consolidation (and overall reduction) of campus carparking spaces.

SoES is being developed to respond to advancements in technology and will contain state-of-the-art laboratories, open workspaces, dark rooms, rock cutting facilities, offices, tutorial rooms and breakout areas.

Externally, high quality public realm will create a new attractive gateway to what is a key entry point onto the university campus. Our team have worked closely with Officer's at the Council and the consultant team to ensure the modern extensions assimilate sensitively into the site and to ensure highways, ecology and design issues are addressed.

We led the co-ordination and preparation of the full planning application, which was submitted to the Council in late Summer 2022. Dialogue with the Council has been constructive thus far, and we are expected the application to be determined before the end of the year.

Isttaniokaksini / Science Commons

University of Lethbridge, Alberta, Canada

Drawing inspiration from Arthur Erickson's iconic University Hall and the striking coulee landscape, the Science Commons establishes itself as a leader in the emerging field of transdisciplinary research, while creating a new exemplar for climate-responsive research buildings.

Four flexible lab neighbourhoods define the public realm and prioritise learning and collaboration through a variety of spaces. The building's interior is highly transparent to reinforce the concept of science on display and to encourage visual connection to the surrounding prairie landscape.

The building capitalizes on Lethbridge's climate—one of the sunniest and driest places in Canada—for passive energy. A double-façade system for perimeter offices and glazing along the east and south elevations draw light deep into the core. This LEED Gold certified building is designed to outperform a conventional lab building, the Science Commons anticipates significant energy reductions—78% for support spaces and 60% for lab spaces.

With the new Science Commons, the University has positioned itself at the forefront of scientific research and education, inspiring the next generation while setting the stage for an unprecedented era of discovery.

Djavad Mowafaghian Centre for Brain Health

University of British Columbia

Our design reflects Vancouver Coastal Health's unique whole brain approach, in which neuroscience, geriatric medicine, rehabilitation, mental health and addiction initiatives are integrated with interdisciplinary research in a way that has never been done before.

Integration, collaboration, flexibility, and sustainability are the core values for the new center. The project site is immediately adjacent to the Koerner Pavilion of the University of British Columbia hospital and is strategically poised to both unify health sciences while enhancing the cohesion of the larger campus.

We designed the components of the center to reflect principles and create unique functional spaces. The research laboratories are light and airy—Research Air—celebrating the optimism of the health sciences. The patient areas of the garden—Clinic Ground—are calm and supportive of a therapeutic environment characterized by light and nature. Synapse, key to positive brain function, was the inspiration for the Synapse Atrium—a network of space that ensures quality, frequency, and quantity of constructive collaboration between researcher, physician and patient.

Awards

2017 S-Lab Awards, Translational Research Building,

2015 Education Estates Awards, Innovation in Teaching and Learning, Commended

La Ki Shing Centre

The Cancer Research UK Cambridge Research Institute

Cancer Research UK formed a partnership with the University of Cambridge to create the Cambridge Institute. They brought together 20 diverse research groups and core facilities whilst capitalising on the synergy of the Cambridge area. Their new home is the Li Ka Shing Centre—a flagship facility for enhanced translational research located on Addenbrooke's medical campus.

The design supports multidisciplinary collaboration between research groups and clinicians. Four generous open lab spaces were conceived as studios and linked together by a series of meeting room and write-up areas. There is a rich public zone at ground level—including exhibition hall, dining area and lecture theatre—which creates a town square for the institute. These areas provide opportunities for scientists and clinicians to meet up informally and generate spontaneous discussions.

The architectural inspiration came from Corpus Christi College in the nearby historic quarter of University of Cambridge. The emotional tone is set in glass and gleaming brilliant concrete and an elegantly proportioned courtyard projects a sense of optimism and contemplation. This is a building which inspires discovery.

Enhancing the student experience

Corpus Christi College

University of Oxford: Oldham and Jackson Buildings

The 1880’s stone Jackson Building with vaulted masonry basement and the adjacent 1960’s concrete framed Oldham Building are of architectural and historical significance. Both buildings are occupied by Corpus Christi, University of Oxford, as student accommodation. Our job? To link the two buildings, refurbish the study bedrooms, and introduce en-suite facilities to improve the quantity and quality of the student accommodation in a manner which is sympathetic to the original architectural vision.

Structural challenges included analysing the load paths in the existing concrete slab and determining suitable alterations to remove load bearing elements and increase the footprint of the third floor. The limited existing floor to ceiling height eliminated beam supports as a plausible solution. Working alongside Berman Guedes Stretton architects, we designed external reinforcement that fixed to the underside of the concrete slabs to provide supports with minimal impact on head height.

Key highlights of the refurbishment included the preservation and inclusion of formerly hidden features, a doubling of the onsite cycle parking provision, and the creation of a bright, spacious and flexible garden with an integral performance area. To top it off, it features energy cost-saving sustainable buildings.

David Russell Hall

University of St Andrews

The facilities building at the University of St Andrews (the David Russell Hall Complex) needed redevelopment to keep up with the growing student population. We were appointed to provide the structural and civil engineering design for a new build: a single-storey, steel-framed, masonry-clad building.

The project included the demolition of the existing David Russell Hall development and the construction of eight individual blocks of student residence. It contains a total of 513 bed spaces with ensuite facilities, and a new central facilities building including a computer room, activities room, music room, common room, laundry facilities, and a bar.

The new building was completed in June 2015 and incorporates all the facilities associated with catering functions, bars and conferences. It's fully utilised year-round: by the student population as a community hub during the school year, and also as a commercial enterprise to assist the University in raising funding outside of semesters. With a curved feature entrance, clear storey glazing, roof lanterns, and an eco-friendly green sedum roof, the finished building provides a much more attractive environment than its predecessor.

The Quad

University of Reading

Our Landscape Design team has been working on the ‘route strategy and quad landscape’ for the University of Reading. The area has huge unreached potential and will provide a new heart to the campus, reinforcing the University’s brand of mirroring excellence with quality of place.

There were several issues that needed to be addressed when responding to the route strategy. These included a perception of conflict between pedestrians and cyclists, overcrowding on paths at peak times, a demand for separate cycle and pedestrian routes and a need to increase cycling to campus.

We identified three linked spaces that each have independent characters; a space to contemplate, a space to gather, and a space to play. Defining these key spaces through their intended use, provides a clear and distinct sense of character and purpose. By pinning the quads together by an ‘orientation marker’ at the centre of the university and using simple wayfinding throughout the campus, a clear, safe route is provided.

A strong and appealing campus results from connectivity, safety, and circulation. Ensuring the correct materials reflect the requirements and purpose of the space is key to creating a strong sense of place. As the competition grows to attract students, universities need to focus on their assets, both academic and physical to create a safe and appealing environment to learn, grow and play.

Yale Science Building

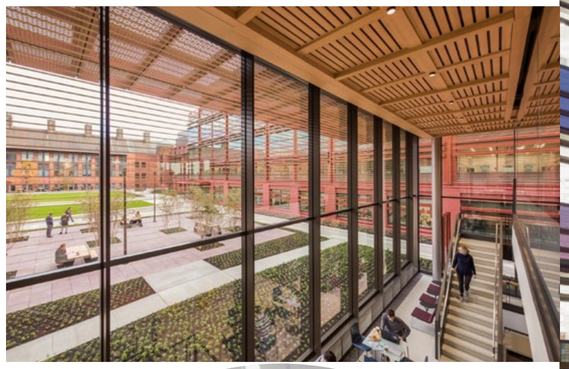
Yale Universit, New Haven, Connecticut, USA

The new Yale Science Building provides interdisciplinary research laboratories, supporting work in molecular, cellular, and developmental biology; molecular biophysics and biochemistry; and atomic, molecular, and optical physics. Their client's goal was to encourage interaction and collaboration for the faculty and the students. To put all of that under one roof, Yale called on our architects and designers.

The seven-story, 277,500-square-foot building is constructed on the campus' renowned Science Hill. With a rooftop greenhouse, aquatics and insect labs, state-of-the-art imaging technology, and a 500-seat lecture hall, this complex assignment combines the demands of state-of-the-art laboratory design with sensitivity to the scale and history of Science Hill and its surrounding community.

High-level research collides with room for teaching opportunities in the same lab. Laboratories are arranged in large, open, modular neighbourhoods with adjacent support rooms.

With all of these features plus collaboration spaces in varying sizes and located at major circulation intersections the new Yale Science Building brings students closer together and helps faculty collaborate more easily.



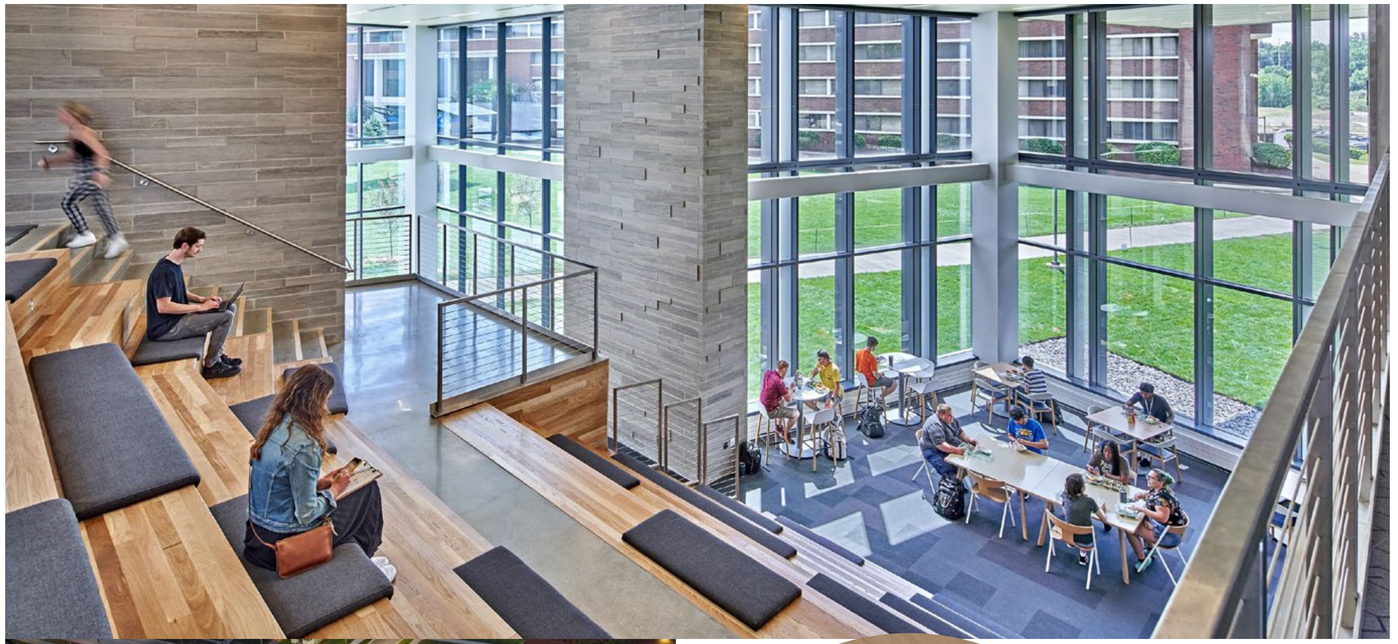
New Learning Commons

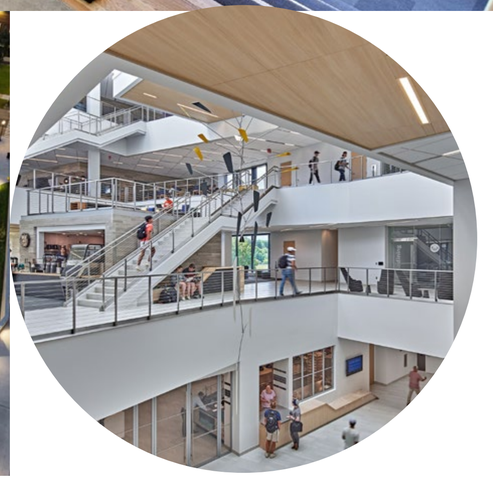
Kettering University, Flint, Michigan, USA

As the first project coming out of the Stantec-led 2013 Master Plan, this 105,000 square foot (9,800 square metres) building utilizes building systems that speak to the permanence and longevity of the institution while offering durability for the decades ahead. Connecting the ground floor to the existing Campus Center, the new four-story building features an open-air atrium topped by a skylight filling the entire interior space with natural light.

The first and second floors feature public gathering, dining, and collaborative spaces spilling out from the central atrium—focusing on creating dynamic social spaces for students. The third and fourth floors consist of additional collaborative spaces and environments for research, student support, media resources, individual focus and group project work.

While affording a strong, timeless, and permanent structure, the interiors have been designed to afford optimum flexibility. With power and technology woven throughout, the building can easily transform to meet untold academic needs while also affording adaptability to any future programs or space reconfigurations that cannot yet be foreseen.





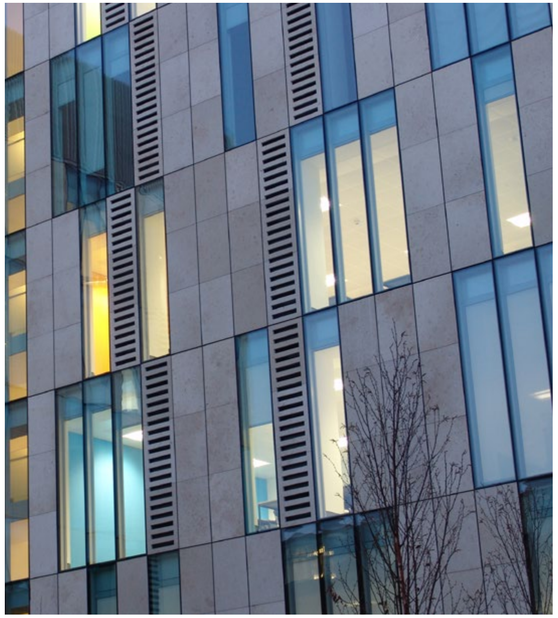
Realising and maintaining your assets

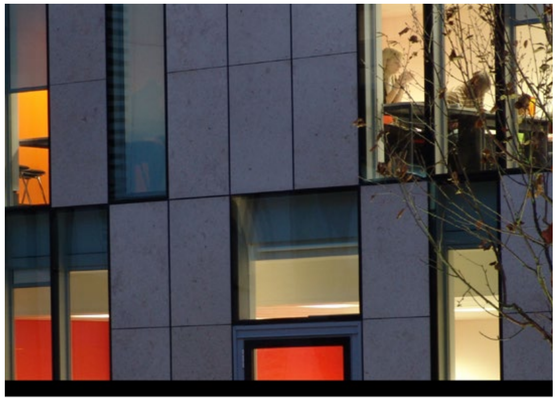
Penrhyn Road Campus

Kingston University

At the centre of Kingston University's Penrhyn Road campus, the new John Galsworthy Building is the third phase of a strategic plan to create new lecture theatres, classrooms, offices, social spaces, IT areas, and canteen facilities for the university. We were commissioned to provide structural and civil engineering services for the building.

We designed a 9x9 grid with 18-metre clear spans at two levels, to be built using a combination of bonded post-tensioned concrete slabs and post tensioned beams providing column free space at the second and fourth floor levels for lecture theatres. The steel hangers were designed in a hybrid structure linking the clear beam spans. Our façades are predominantly storey height limestone and glazing panels supported off slab edges. The original team's concept design in steel was amended to concrete at tender stage and won in competition against the compliant bids. We selected comparatively thin post-tensioned floor slabs to minimise the building height, thereby reducing the visual impact on the surrounding buildings and local community.





The design also includes an open courtyard at the centre of the campus providing a central social area for university students and staff as well as members of the local community.

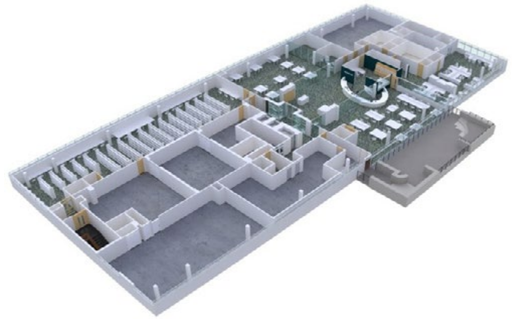
Main Library

University of Edinburgh

The University of Edinburgh's main library building is considered one of the finest pieces of modernist architecture in the country and is grade A listed. Over the years there had been some reorganisation of accommodation, but generally the building was in its original condition—and showing signs of age.

We were required to remodel the building to reflect current and future needs at the same time ensuring that, while building works were being undertaken, the library could remain in use throughout. Additionally, careful consideration had to be given to security of the stock. The requirement to remain operational throughout led to the project being phased over seven years.

The extensive works included repairs to the fabric of the building, renovation of finishes, and the complete renewal of all building services. A new Special Collections, Archive, and Research Centre area was formed on the top two floors and later phases included the remodelling of the entrance area, formation of a 220-seat cafe with internet facilities, and the insertion of a mezzanine gallery and exhibition space.



Book Storage Facility

Bodleian Library

The Bodleian Library, located in Oxford, is the largest university library system in the United Kingdom. Due to the sheer number of collections it's held since being built in 1602, space was becoming sparse and a new solution for low-usage items to be stored elsewhere was needed. This led to a unique purpose-built warehouse in South Marston, on the outskirts of Swindon. Working alongside architects Scott Brownrigg, our team designed a bespoke storage facility to hold the overflow of the Bodleian Libraries vast collections.

The Book Storage Facility (BSF) has the capacity for 8 million volumes; combining 10,000 square metres (m²) of warehouse space with 1,000m² of ancillary office and processing space. The Book Storage Facility stores lower-usage items from the Libraries' collections including books, maps and manuscripts primarily from the 18th century onwards. Our team also provided transport impact advice on the public network during the book migration and operational phases, as well as ecology and waste management advice.

With the BSF now housing low-use collections, this has given the New Bodleian Library the space its needed to be redeveloped as a modern special collection's library and research centre. This has increased the overall speed of access to information by providing direct access to high-demand print collections.

Reuben College

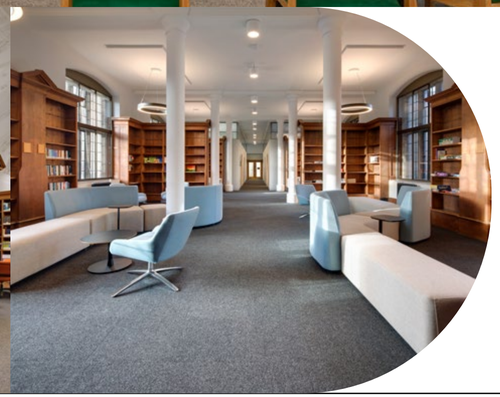
University of Oxford

As the oldest university in the English-speaking world, the University of Oxford strives to keep their existing estate renewed and complemented with new buildings. They reached out to us to help refurbish Grade-listed buildings from the 1880s to the 1970s—including the Grade I neo-gothic Museum of Natural History and the Grade II Radcliffe Science Library—to create Reuben College, Oxford's first new college in 30 years.

We worked closely with construction and heritage teams. Extensive opening-up works allowed us to investigate the heritage building's structure with the aim of reducing design and programme risk. We reused and strengthened the existing structure where required and created a new link building providing Equality Act compliant access between the existing building levels.

Updating the environmental conditions of a 1970s basement helped improve storage conditions for the museum's collection. Following consultation with waterproofing specialists, we designed and constructed a drainage system for a new climate-controlled storage facility within the restricted headroom space. Aesthetically sensitive external works included the removal and reinstatement of the formal lawn in front of the museum to improve surface water drainage.

Housed in stunning, architecturally-renowned buildings, Reuben College provides an outstanding teaching and social space. Upgraded and re-designed storage spaces facilitate modern library teaching, collaboration spaces, and the new college.



Jesus College

University of Cambridge

The West Court site needed substantial refurbishment to meet the needs of Jesus College. We worked closely with Niall McLaughlin Architects on this impressively complex £12 million project, including designing a new pavilion café with a basement bar and the refurbishment of both a 1920s Grade II listed building and a 1970s concrete-framed building which closes the south side of the original court.

The cramped 1970’s building structure was heavily remodelled to fit in a high-specification lecture theatre and create new two-story light wells to bring daylight into the conference accommodation. The architect used glulam oak throughout the project to unify the different parts of the development, all with expressed form and hidden fixings. Our creativity in quickly producing concepts for connections and slender structural forms, including prototyping a key connection detail using 3D printing, allowed us to inform the architectural design in real-time.

We enhanced accessibility and provided connections to the students at Jesus College in a modern, sustainable way.

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