UNIVERSITY OF BIRMINGHAM

Doctoral Research Prospectus

We begin
We activate

birmingham.ac.uk

Now is the time

When you choose Birmingham, you are choosing an outstanding University, renowned for changing lives and transforming society.

Our postgraduate researchers don't just contribute to their fields - they drive discovery, innovation, and change.

At Birmingham, you'll become part of a vibrant, inclusive community where every research journey is supported, challenged and celebrated.

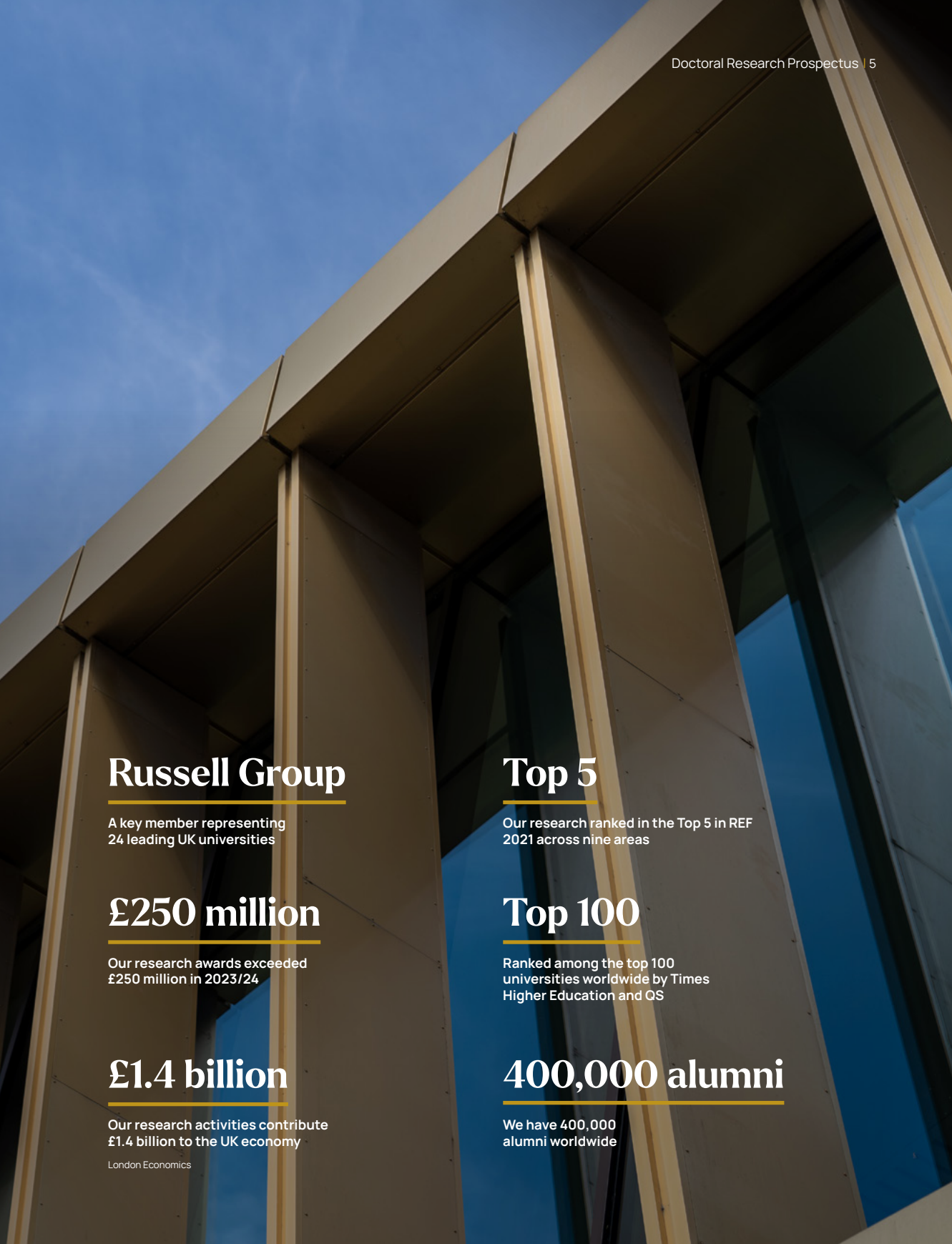
And with a wealth of world-leading expertise and facilities, it's no surprise that we are one of the UK's most popular destinations for postgraduate research.

This is where your research journey begins.

Why choose Birmingham?

We are the most targeted UK university by top graduate employers (High Fliers report, The Graduate Market 2025). Our research is designed to inspire and empower, equipping you with the skills and confidence to advance your career.

At Birmingham, you'll have access to the support, work experience, internships or voluntary placements that build valuable personal and professional skills. As part of our vibrant community, we're here to support every step of your journey.



Russell Group

A key member representing 24 leading UK universities

£250 million

Our research awards exceeded £250 million in 2023/24

£1.4 billion

Our research activities contribute £1.4 billion to the UK economy

London Economics

Top 5

Our research ranked in the Top 5 in REF 2021 across nine areas

Top 100

Ranked among the top 100 universities worldwide by Times Higher Education and QS

400,000 alumni

We have 400,000 alumni worldwide

Contents

The Birmingham Doctoral Programme

The Birmingham Doctoral Programme is a transformative experience for all researchers at Birmingham, whatever your subject area. We offer world-class supervision, a tailored development framework, and real-world engagement opportunities that prepare you to flourish, whatever your future holds.

The Birmingham Doctoral Programme is designed to give Birmingham researchers the support they need to excel in their research, develop essential skills, and connect with global opportunities. You'll benefit from:

1. **Research expertise** - You'll have the chance to work alongside leading academics, engage with policymakers and industry leaders, and contribute to public discourse, ensuring your work makes a tangible difference.
2. **A world-class research environment** - Enjoy a world-class research environment with advanced labs, specialised centres, and collaborative spaces—all in the heart of the UK's second city, on a truly unique campus.
3. **Research skills and development support** - We are committed to helping you grow as a confident, capable, and impactful researcher — equipped with the skills and resilience to lead in academia, industry, and beyond.
4. **A supportive research community** - At Birmingham, no two research journeys are the same. Our researchers are a vibrant and diverse community — each following a pathway shaped by their passions, ideas, and ambitions.
5. **Dedicated careers support for researchers** - From one-to-one career guidance and CV advice to networking events and employer presentations, you'll benefit from dedicated careers support tailored specifically for postgraduate researchers.

Find out more about the University Doctoral School: **birmingham.ac.uk/doctoralschool**

More than research. A transformative journey.

By choosing Birmingham, you're joining a large, diverse and vibrant postgraduate community. Whatever your area of research, you can look forward to a stimulating and engaging experience of the highest quality.

The Birmingham Doctoral Programme shows the level of commitment, resources and support we offer for all our Birmingham postgraduate researchers.

Who is it for?

It doesn't matter whether you are funded by UKRI, supported through industry collaborations, self-funded, or researching part-time. All our postgraduate researchers are part of the Birmingham Doctoral Programme.

Whatever your pathway, you'll be fully supported to grow, connect, and achieve.

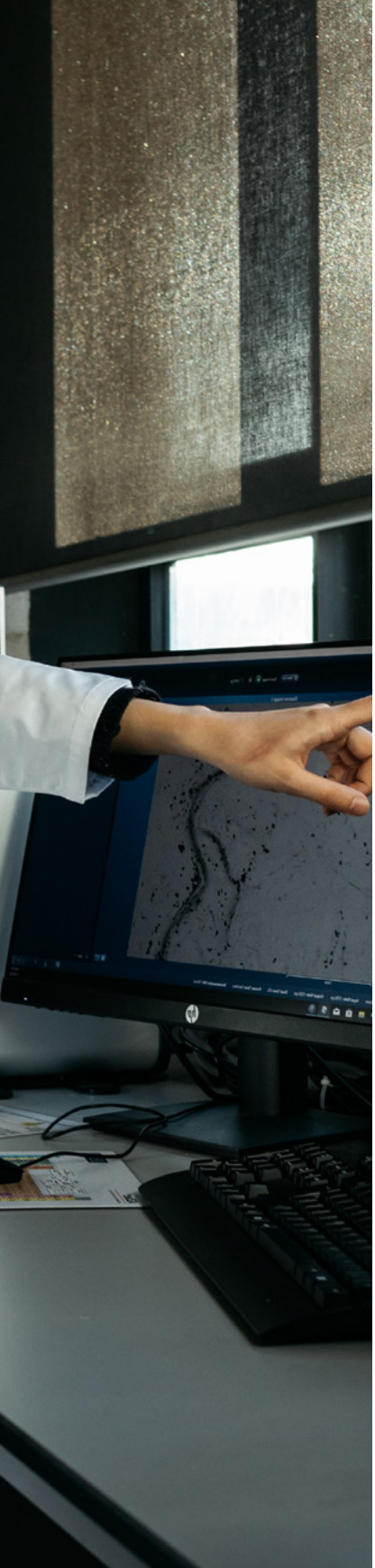
"

The University Doctoral School supports postgraduate researchers throughout their time at the University of Birmingham. At every stage of your journey, from induction through to graduation, we ensure you have the resources, guidance, and opportunities you need to thrive in your PhD and beyond.

Professor Jessica Blair
Director of the University Doctoral School

Research expertise

At Birmingham, research is the driving force that propels us, and the world, forward. Our work impacts thousands of lives each year, enriching academic knowledge and addressing critical global challenges. As a postgraduate researcher, you'll work alongside some of the world's leading researchers.



Challenge the world. Change the future.

Our research has real-world impact. We don't just generate knowledge, we apply it to solve critical issues in the economy, policy, and society.

Empowering independent research

You will have the freedom to pursue independent research, gaining the skills and confidence to make a lasting difference on a global scale.

The Research Excellence Framework (REF) assesses both the quality and broader impact of research in all universities in the UK. In the most recent 2021 results, we were ranked 13th overall in the UK for Research Power.

More than 50 per cent of research at Birmingham was recognised as 4 star: the highest score. This reflects the transformative impact of our research community on today's major social and environmental issues.

History of our research

From revealing the structure of DNA to developing new treatments for heart disease and cancer, raising awareness of climate change to pioneering molecular machines, at Birmingham we have been conducting research that matters for over one hundred years.

1767
John Tomlinson holds 29 weeks of medical education seminars: the first outside London.

1847
Langston Parker, a student at Queen's College (later merging to become Birmingham Medical School) is the first to use ether as an anaesthetic in Birmingham.

1891
John Henry Poynting is the first person to successfully calculate the mean density of the Earth.

1900
Florence Price becomes the first woman at the University to matriculate in a medical degree.

1913
Marie Skłodowska-Curie is awarded an Honorary Doctorate, described as "the greatest woman of science of all time."

1767–

1937
Robert Cecil and Norman Haworth win two Nobel Prizes.

1944
Hilda Lloyd becomes our first female professor, and later the first female President of the Royal College of Obstetricians and Gynaecologists, saving lives through her midwife 'flying squads'.

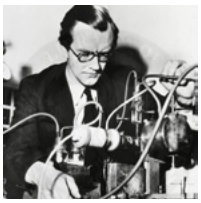
1947
John Randall and Harry Boot develop a cavity magnetron.

1960
Leon Abrams and Ray Lightwood develop and implant the first variable rate pacemaker.

1960
Peter Medawar wins Nobel Prize in Physiology or Medicine for pioneering transplant surgery.

1961
Peter Scott, former Chancellor, helps found the World Wildlife Fund.

–1961



1962
Maurice Wilkins wins Nobel Prize in Physiology or Medicine for revealing structure of DNA.

1968
Charlotte Anderson demonstrates the role of gluten in coeliac disease, leading to the introduction of gluten-free diets.

1982
John Vane wins Nobel Prize for Medicine for revealing how aspirin produces pain relief.

1987
John Sinclair publishes the first COBUILD dictionary using 'real-world' text.

2001
Paul Nurse wins Nobel Prize in Physiology or Medicine for inspiring new cancer treatments.

2006
The first over-the-counter male fertility tests for men are developed by Chris Barratt.

1962–

2007
Peter Bullock wins Nobel Peace Prize for research to understand climate change.

2016
Mike Kosterlitz and David Thouless win Nobel Prize in Physics for deepening understanding of exotic matter. J. Fraser Stoddart wins Nobel Prize in Chemistry for pioneering molecular machines.

2015
Birmingham Qur'an manuscript is dated as amongst the oldest in the world.

2016
Researchers develop and build components for the LIGO sensors that observe gravitational waves for the first time.

2022
Researchers at Birmingham made substantial contributions to the development of the Oxford-AstraZeneca COVID-19 vaccine, which received global recognition and support, marking a significant achievement in public health.

-2025

We're changing how the world works

Our research expertise, across five key challenge themes, focuses on vital issues and tangible solutions locally, nationally, and on the global stage.

Our doctoral researchers are changing how the world works. We are unveiling the hidden with quantum technology, understanding how future atmospheres affect biodiversity, removing barriers to create more inclusive education, promoting cultural understanding, and preventing maternal deaths.

Our research challenge themes

Our Research Challenge Themes showcase our pioneering breakthroughs, multidisciplinary collaborations and significant global impact.

- Global Health
- Fairer World
- Thriving Planet
- Life-Changing Technologies
- Connecting Cultures

Explore our research:
birmingham.ac.uk/research

Research Institutes and Centres

Our nationally and globally recognised Institutes and Centres are advancing discovery and undertaking world-leading research.

College of Arts and Law

- Arts of Place
- B-Film
- BEAST (Birmingham ElectroAcoustic Sound Theatre)
- Birmingham Centre for Philosophy of Religion
- Birmingham Eighteenth Century Centre
- Birmingham Research Institute for History and Cultures
- Centre for Byzantine, Ottoman and Modern Greek Studies
- Centre for Contemporary Literature and Culture
- Centre for Corpus Research
- Centre for Digital Cultures
- Centre for Employability, Professional Legal Education and Research
- Centre for Global American Studies
- Centre for Health Law, Science and Policy
- Centre for Material Cultures and Materialities
- Centre for Midlands History and Culture
- Centre for Modern British Studies
- Centre for Modernist Cultures
- Centre for Pentecostal and Charismatic Studies
- Centre for Reformation and Early Modern Studies
- Centre for the Study of the Middle Ages
- Centre for War Studies
- Institute for German and European Studies
- Institute for Textual Scholarship and Electronic Editing
- Institute of European Law
- International Centre for Heritage
- Nineteenth-Century Centre
- Popular and Genre Fiction Network

College of Engineering and Physical Sciences

- Birmingham Centre for Railway Research and Education
- Birmingham Energy Institute
- Birmingham Institute for Robotics
- Centre for Cyber Security and Privacy
- Centre for Formulation Engineering
- Healthcare Technologies Institute
- High-Temperature Research Centre
- Institute for Gravitational Wave Astronomy
- Institute for Quantum Technologies
- The Institute for Data and AI (IDAI)

College of Life and Environmental Sciences

- Birmingham Centre for Neurogenetics
- Birmingham Drug Discovery Hub
- Birmingham Institute for Forest Research (BIFoR)
- Centre for Developmental Science (CDS)
- Centre for Environmental Research & Justice (CERJ)
- Centre for Human Brain Health (CHBH)
- Centre for Movement and Wellbeing (MoveWell)
- Centre for Urban Wellbeing (CUWb)
- Centre of Precision Rehabilitation for Spinal Pain (CPR Spine)
- CENTRE-UB: Centre for National Training and Research Excellence in Understanding Behaviour
- Institute for Mental Health (IMH)
- Institute of Microbiology & Infection (IMI)
- Mental Health Mission Midlands Translational Centre of Excellence (MHM)
- Phenome Centre Birmingham (PCB)
- The Henry Wellcome Building for Biomolecular NMR Spectroscopy (HWB-NMR)

College of Medicine and Health

- Birmingham Centre for Genome Biology (BCGB)
- Birmingham Clinical Trials Unit
- Birmingham Experimental Cancer Medicine Centre (ECMC)
- Bladder Cancer Research Centre
- Cancer Immunology and Immunotherapy Centre (CIIC)
- Cancer Research UK Clinical Trials Unit
- Centre for Health Data Science
- Centre for Liver and Gastrointestinal Research
- Centre for Patient Reported Outcome Research (CPROR)
- Centre for Primary Care Improvement
- Centre for Rare Disease Studies
- Centre for Systems Modelling and Quantitative Biomedicine (SMQB)
- Centre for the Economics of Obesity
- Centre of Membrane Proteins and Receptors (COMPARE)
- NIHR Biomedical Research Centre
- NIHR Clinical Research Facility
- NIHR Global Health Research Unit on Global Surgery
- The Research into Inflammatory Arthritis Centre Versus Arthritis (RACE)
- The Scar Free Foundation
- Tommy's National Centre for Miscarriage Research
- WHO Collaborating Centre for Global Women's Health

For more information on our Research Institutes and Centres, visit: **birmingham.ac.uk/centres-institutes**

College of Social Sciences

- Autism Centre for Education and Research
- Birmingham Centre for Environmental and Energy
- Birmingham Leadership Institute
- Centre for Artificial Intelligence in Government
- Centre for Crime, Justice and Policing
- Centre for Elections, Democracy, Accountability
- Centre for Research in Race and Education
- Centre for Russian, European, and Eurasian Studies
- Centre on Household Assets and Savings Management
- City Region Economic and Development Institute
- Domus Centre for Interdisciplinary Research in Histories of Education and Childhood
- Economics and Management
- Education Equity Initiative
- ESRC-Health Foundation IMPACT Centre (adult care)
- FCDO Commissioning Centre
- Institute for German and European Studies
- Institute for Mental Health
- Institute for Research into Superdiversity
- Institute for STEMM in Culture and Society
- Jubilee Centre for Character and Virtues
- NIHR BRACE Rapid Evaluation Centre
- NIHR School for Social Care
- Philosophy of Education Research Group
- Sustainable Financial Innovation Centre
- The Centre for Responsible Business
- Third Sector Research Centre
- Vision Impairment Centre for Teaching and Research
- Work Inclusivity Research Centre

Research beyond borders

Since our inception in 1900, we have embodied an international ethos. From welcoming our first international students in 1903 to now hosting over 7,500 students from 150 countries, internationalisation is integral to our identity.

Global Research Collaborations

Our research extends worldwide through our partnerships with over 4,700 institutions. While we collaborate with top researchers globally, we have established signature initiatives in key regions, including our flagship initiatives in Australia, Brazil, China, Europe, India, and the United States.

- **Australia:** With the University of Melbourne, our Priestley Scholars programme supports joint PhDs across Medical and Health Sciences, Arts, and Engineering, spanning impactful research in youth mental health, energy storage, biomechanics, artificial intelligence, and robotics.
- **Brazil:** We co-established the UK's first on-site presence at Brazil's CNPEM, facilitating groundbreaking research in cardiovascular and respiratory diseases and cancer angiogenesis through the Centre of Membrane Proteins and Receptors (COMPARE).
- **China:** In Guangzhou, our focus on healthcare and advanced manufacturing contributes £37 million annually to the city's economy. In Nanjing, our partnership with Southeast University includes a biomedical engineering technology transfer institute and collaborative Shakespearean studies with Nanjing University and Phoenix Publishing.
- **Dubai:** Opened in 2018, our Dubai campus collaborates closely with the Dubai Health Authority, exploring research, education, training, and management opportunities in healthcare.
- **Europe:** Our strategic partnership with Trinity College Dublin strengthens research in clinical trials, biomaterials, and digital textual editing.
- **India:** We work with leading partners such as IITs, IISc Bengaluru and major research bodies to tackle shared challenges in sustainable energy, healthcare, water security, urban transformation and heritage.
- **United States:** Collaborations with the University of Illinois at Urbana-Champaign span diverse fields such as population genetics, brain trauma, water technology, cultural heritage, and education. Our BRIDGE Fellowship programme fosters joint recruitment of researchers in strategic priority areas.

College of Arts and Law

The College of Arts and Law is harnessing the transformative power of the humanities to explore what it means to be human – in historical and cultural contexts, within ethical and legal norms, and through languages and communication.

Using the latest technology and an open, interdisciplinary approach, our research promotes new ideas and connections between diverse cultures and specialisms, helping to influence policy, change lives and foster greater social inclusion.

Research breakthroughs and successes

Our researchers have pioneered abortion law reforms in Ireland and established an international reputation for championing reproductive rights and access to quality medical care for diverse communities around the world. Other notable successes, include working with the RSC to make Shakespeare accessible to D/deaf schools and communities by creating teaching resources and performances of the playwright's major works in sign languages, discovering and encouraging local community engagement with the Birmingham Qur'an, and revealing the mysteries of language-learning through the latest eye-tracking technologies.

Interdisciplinary collaborations

Our academics are involved in multi-disciplinary research projects and groups across Colleges and with other institutions and organisations across the world. We're integrating the humanities into high-profile environmental, clinical and technological research on forestry, mental health, and AI, as well as addressing numerous social challenges, from the criminalisation of poverty to the problem of plastic pollution.

Research areas within the College:

- African Studies and Anthropology
- Art History, Curating and Visual Studies
- Classics, Ancient History and Archaeology
- Drama
- English Literature
- Film and Creative Writing
- Heritage
- History
- Law
- Linguistics and Communication
- Modern Languages
- Music
- Philosophy
- The Shakespeare Institute
- Theology and Religion

Research spotlight

The evolution of English traditional folk music

Georgie Rowe

As part of her PhD research, Georgie explores how technology has shaped the recording and perception of the genre. Focusing on one chapter of her broader research, she traces the shift from early 20th-century collectors who transcribed songs by ear to the use of recording devices like the phonograph and vinyl. These technological developments enabled more accurate preservation but also introduced commercial reinterpretations, often reshaping traditional singing styles to appeal to middle-class audiences.

In recent years, the rise of streaming platforms and the internet has revolutionised how people access and experience music, with Georgie investigating the transition of folk throughout this time. Physical formats like vinyl and CDs have largely been replaced by digital libraries, making music even more accessible. This transformation has not only changed the ways folk music is shared and discovered but has also enabled artists to connect directly with global audiences, breaking down traditional barriers and fostering new opportunities for cultural exchange and preservation.

Life in Birmingham: more than just study

Having already completed both her undergraduate degree and Masters degree at Birmingham, Georgie chose to pursue a PhD. To find balance amid the demands of her research, she joined a local hockey club, which provided a much-needed social outlet and helped her build friendships outside the academic environment. Beyond her research, Georgie has explored Birmingham's creative scene, culture, and vibrant nightlife, helping forge a connection between the city and her own interests.

Research spotlight

Dysfunction for the whole family

Jessica Parker

This research project by Jessica explores how modern horror films reflect changing ideas about family, parenthood, and reproductive rights. Focusing on the theme of paternal absence, the work combines academic analysis and creative video essays to examine how horror cinema has responded to cultural shifts, particularly after the overturning of Roe v. Wade.

Structured into three chapters, "Fatherhood and the Beast", "Motherhood and the Host", and "Birth and the Monster", the project looks at how horror films depict fatherhood as monstrous, motherhood as a reduced reproductive role, and birth as a violent transformation.

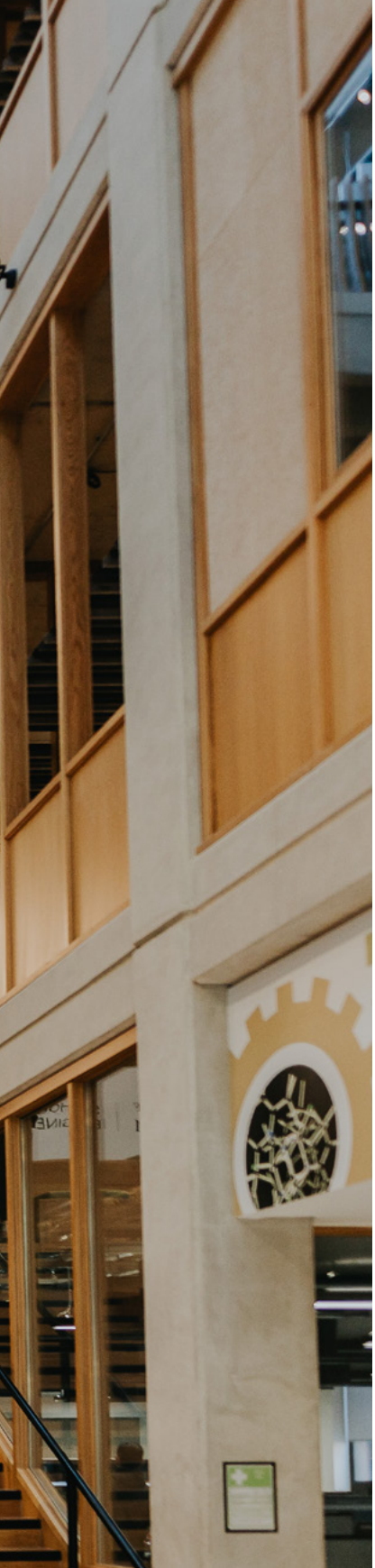
Reimagining parental roles in horror

Jessica highlights how the absence of fathers in horror goes beyond traditional portrayals, showing emotional erasure and dehumanisation. In an era where paternal involvement is increasingly expected, these portrayals become more impactful.

By examining these themes through horror, Jess offers a unique contribution to both film studies and cultural criticism. Her work demonstrates how horror cinema can serve as a powerful lens for exploring real-world fears, reflecting how the genre doesn't just entertain but also challenges audiences to confront uncomfortable truths about the systems and values shaping our lives.

College of Engineering and Physical Sciences

The College of Engineering and Physical Sciences works across areas that address some of the most significant challenges of our time including future mobility, sustainable energy solutions, quantum technologies, datascience and AI, and formulation engineering. Our goal is to transform our understanding of the world to make life easier, healthier and more sustainable.



Research breakthroughs and successes

In 2023, a quantum sensor based on atom interferometry, built by our researchers, was successfully tested in trials on a ship in the North Sea. This technology could offer new capabilities for mapping the ocean and resilient long-term navigation. The trial was another step in the remarkable journey of this sensor, which, in 2022, detected a buried tunnel under a road in real-world conditions while suppressing the effect of vibrations – a world first.

Our success in this area of research was solidified by the announcement of a new UK Quantum Technology Research Hub in Sensing, Imaging and Timing (QuSIT), which will be led by the University of Birmingham, part of a £160 million investment from UKRI Engineering and Physical Sciences Research Council (EPSRC).

Collaborations

The Birmingham Plastics Network is an interdisciplinary team of over 60 researchers working together to shape the fate and sustainable future of plastics. In early 2024, the Network called for systematic change with a series of policy recommendations that promote a sustainable future for plastics in the UK, enhancing the positive contributions that plastics make to our lives whilst minimising the negative impacts across their life cycle.

Research areas within the College:

- Institute for Interdisciplinary Data Science and AI
- Healthcare Technologies Institute
- Energy
- Railways
- Institute for Gravitational Wave Astronomy
- Chemical Engineering
- Chemistry
- Computer Science
- Civil Engineering
- Electronic, Electrical and Systems Engineering
- Mechanical Engineering
- Mathematics
- Metallury and Materials
- Physics

Research spotlight

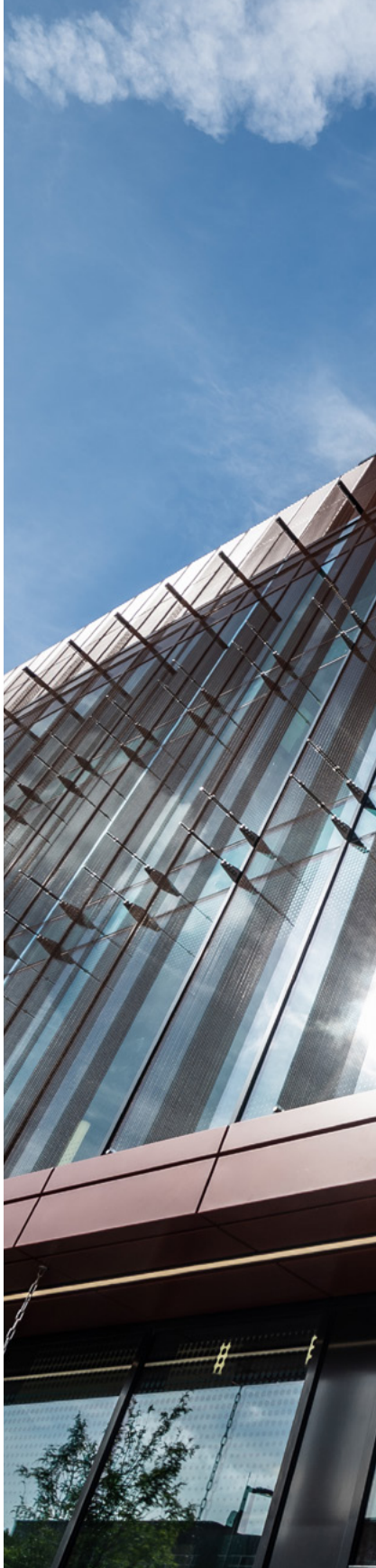
Imaging organic electronics on a sub-molecular scale with electrospray deposition-scanning tunnelling microscopy

Kabeer Abdulhusein

Kabeer's research focuses on characterising conjugated polymers - sustainable materials for organic electronics that could replace energy-intensive, inorganic components currently used in everyday devices. Using electrospray deposition in ultra-high vacuum, he prepares samples on clean gold and images their molecular sequence and surface assembly with a scanning tunnelling microscope. With a single-atom-tipped probe cooled to –196°C, he achieves sub-molecular resolution, offering new insights into the relationship between microscopic structure and macroscopic properties.

Utilising the University's resources

Based in Birmingham's cutting-edge Molecular Sciences Building, Kabeer benefits from world-class facilities and a collaborative research culture. Beyond the lab, he balances his PhD with national and international competition in tennis and archery, supported by the University's vibrant sporting community. For Kabeer, Birmingham is a place where tradition, innovation, and personal growth come together.

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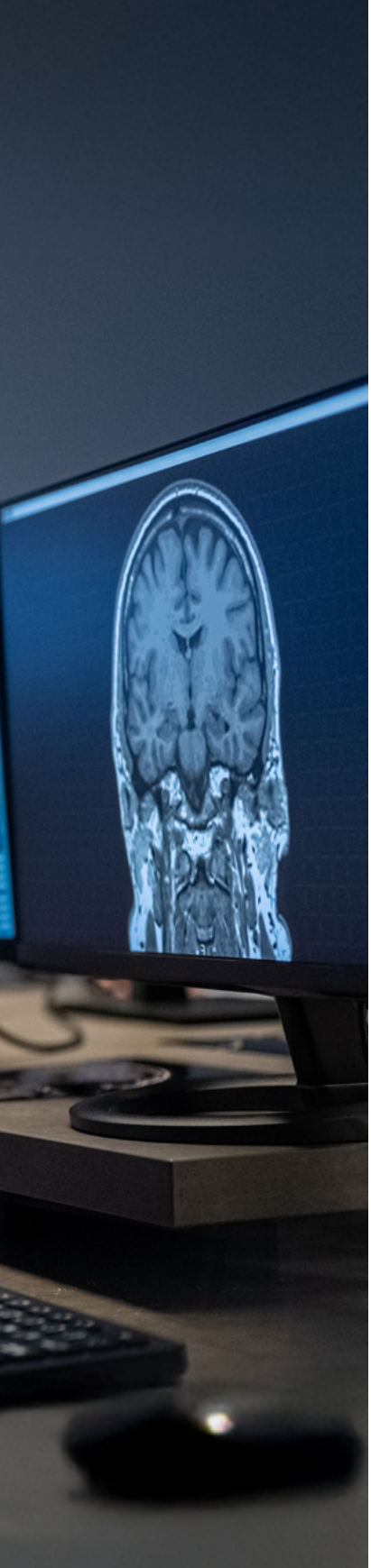


Research spotlight

Finite element modelling of the brain in multiple sclerosis: Understanding tissue mechanics and lesion impact

Adam Christopher Szekely

Adam is pursuing a PhD in finite element modelling of the brain in Multiple Sclerosis (MS), inspired by a personal connection to the disease through his family history. His research addresses a key knowledge gap: how tissue types influence the mechanical behaviour of brain tissue, a factor that may contribute to the disease's progression.

To explore this, Adam has developed a semi-automated computational pipeline that uses MRI data to generate patient-specific 3D models of the brain. These models simulate how pressure is distributed across different brain regions and lesions, enabling analysis of stress, strain, and displacement. His early findings suggest that even small lesions frequently coincide with areas of heightened pressure, pointing to a potential mechanical role in how MS develops and spreads.

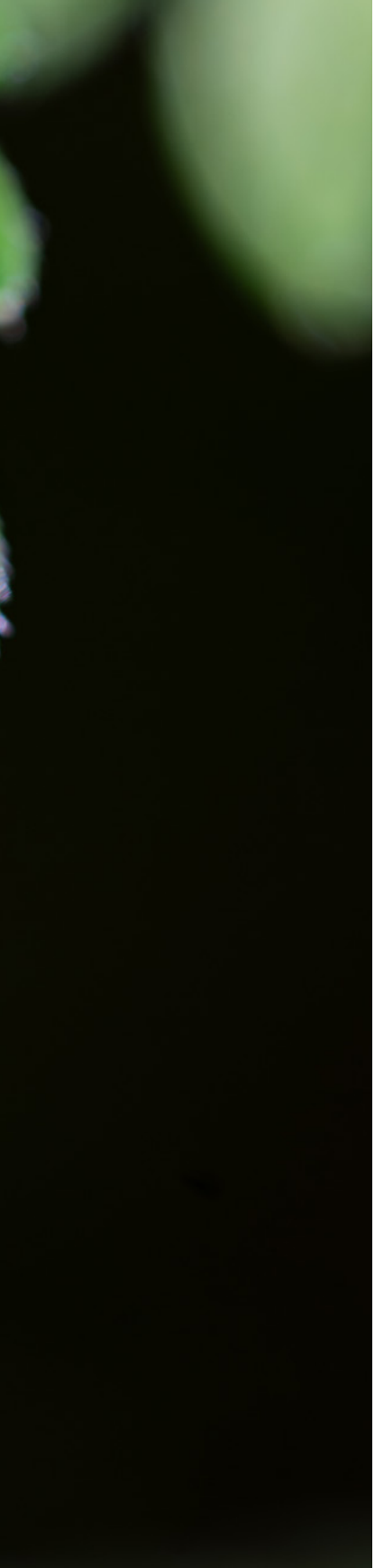
A new window into neurodegenerative disease

By applying his model to a longitudinal MRI dataset, Adam has been able to track mechanical changes in the brain over time. His results indicate that brain tissue surrounding lesions may experience persistent strain - raising new questions about whether mechanical stress is a cause or a consequence of lesion formation.

Importantly, Adam's modelling approach is not limited to MS. It has the potential to be adapted for studying a range of neurological conditions, including Alzheimer's disease, glioblastomas, and traumatic brain injuries. Looking ahead, his work supports the development of digital twins - AI-generated simulations that can predict how diseases progress in individual patients. This could revolutionise how clinicians monitor neurodegeneration, guide treatment, and develop personalised therapies, offering real societal benefit through earlier and more accurate intervention.

College of Life and Environmental Sciences

The College of Life and Environmental Sciences delivers internationally excellent research and education, addressing the crucial societal challenges of people and planet.



Research breakthroughs and successes

A significant breakthrough by Professor Vincent Gauci (School of Geography, Earth and Environmental Sciences) discovered that microbes found in bark remove methane from the atmosphere, on a scale equal to or above that of soil, making trees 10 per cent more beneficial for climate than previously thought.

Equally, Professor Clare Anderson (School of Psychology) pioneered a collaborative study with Monash University to develop a blood test which accurately detects when someone has not slept for 24 hours. With about 20 per cent of road accidents worldwide caused by sleep deprivation, future tests can identify sleep-deprived drivers.

Interdisciplinary collaborations

Our researchers frequently collaborate with other Colleges and institutions to drive interdisciplinary innovation. We work closely with the College of Medicine and Health on projects that integrate physical and health sciences with medical applications. Likewise, the Centre for Environmental Research and Justice (CERJ) brings together leading academics to tackle the critical issue of environmental pollution.

Research areas within the College:

- Biosciences
- Geography, Earth and Environmental Sciences
- Psychology
- Sport, Exercise and Rehabilitation Sciences

Research spotlight

Understanding the behaviour of analysts working with online violent extremist content

Barbara Vinagre Mota

Barbara's research focuses on understanding the psychological effects experienced by professionals, such as analysts, content moderators, and criminal justice officers, who are regularly exposed to online violent extremist content. These individuals often face Secondary Traumatic Stress (STS), a condition similar to PTSD. Her study highlights the emotional toll of working with unpredictable and graphic material, emphasising the need to better understand and support those in these roles.

This research delves into the interplay between work-related stressors and individual vulnerabilities that contribute to STS. Work-related factors include the sheer volume and intensity of content, its vivid and sensory nature, and the emotional engagement it demands. On the personal side, factors such as a history of trauma, difficulty regulating emotions, and susceptibility to mental imagery can heighten the risk. These influences can lead to negative psychological outcomes, including disturbed sleep, impaired social functioning, and a diminished belief in a just world.

Contributing to safer work environments

Ultimately, Barbara's research aims to inform occupational health strategies by deepening our understanding of how repeated exposure to violent extremist content affects mental health. The findings will guide the development of targeted interventions to mitigate Secondary Traumatic Stress and support the wellbeing of professionals working in these high-risk digital environments, helping to create safer, healthier workplaces and enabling these vital workers to continue protecting society.


HUR
HUR

Research spotlight

Modifying interval exercise to optimise brain blood flow

Jacob Tennant

Jacob's research explores how different types of interval exercise, specifically high-intensity interval training (HIIT) and sprint interval training (SIT), affect blood flow to the brain. Maintaining healthy cerebral blood flow is essential for cognitive function and overall brain health.

The research aims to identify the most effective work-to-rest ratios in HIIT and SIT protocols to maximise brain blood flow. Jacob's central hypothesis is that longer or more intense exercise intervals will lead to greater increases in brain blood flow, followed by a pronounced rebound during rest periods – an effect thought to support vascular health.

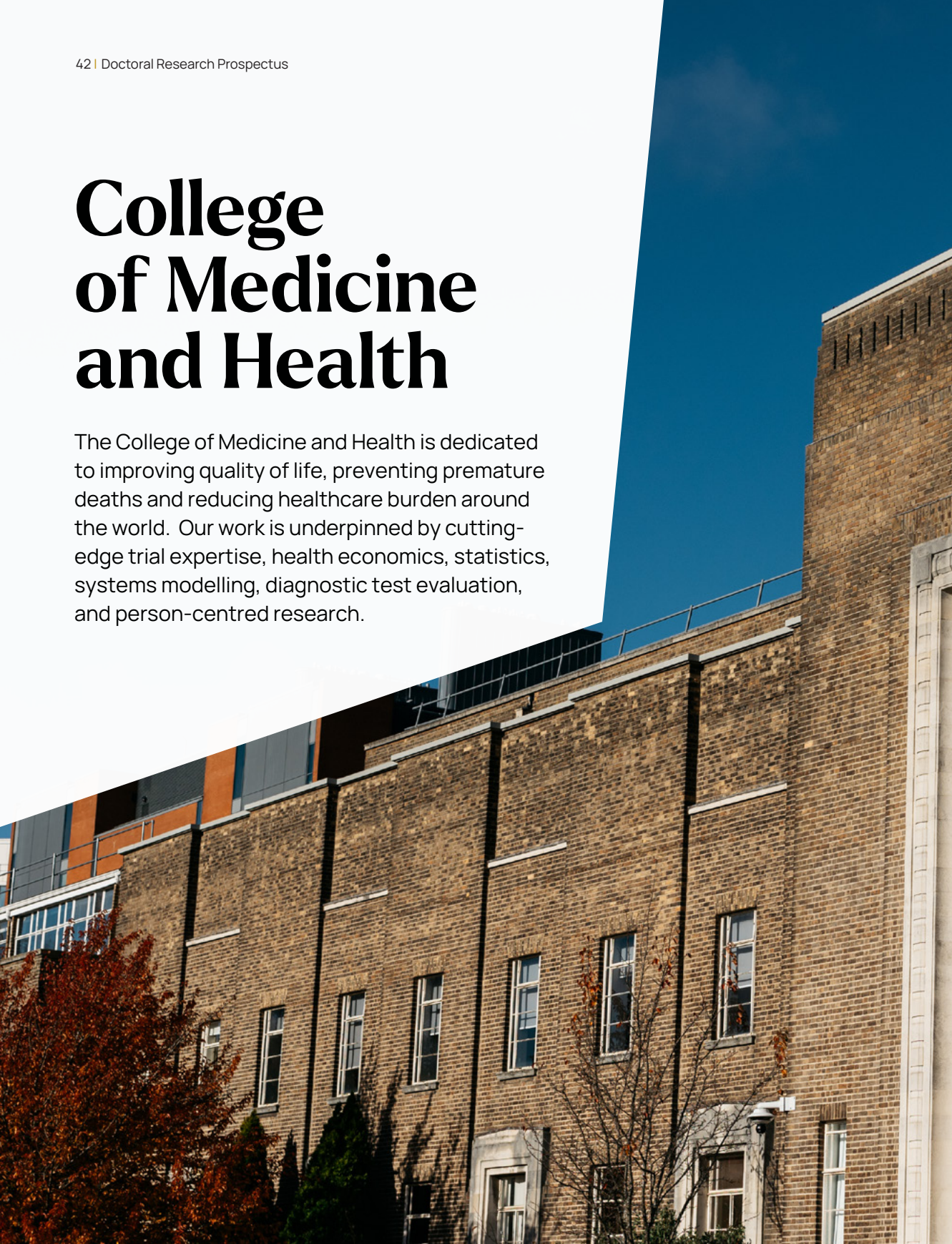
Enhancing exercise for improved brain health

Jacob's research uses measurements of brain blood velocity alongside breath gas analysis to monitor carbon dioxide levels, which indicate respiratory function. These data will reveal how different interval structures influence both brain blood flow and CO_2 levels, providing valuable insights into the physiological responses during exercise.

By identifying interval training protocols that enhance cerebral blood flow, his research seeks to inform exercise guidelines that support brain vascular health. This work has the potential to improve cognitive function and reduce the risk of neurological diseases, contributing to healthier, longer lives.

College of Medicine and Health

The College of Medicine and Health is dedicated to improving quality of life, preventing premature deaths and reducing healthcare burden around the world. Our work is underpinned by cutting-edge trial expertise, health economics, statistics, systems modelling, diagnostic test evaluation, and person-centred research.



Research breakthroughs and successes

Our researchers have helped to dramatically reduce the numbers of women dying from excessive bleeding during childbirth. With the potential to save a woman's life every seven minutes, the recommendations from our award-winning international clinical trial are currently being rolled out globally.

We have a large portfolio of work studying childhood cancers. One notable study has recently developed a quicker and less invasive approach for diagnosing types of brain tumour in children using MRI scans. This could determine which type of tumour is present in as little as ten minutes, potentially cutting treatment waiting times by weeks.

Collaborations

Our researchers work collaboratively across the University, using facilities and expertise based in physics to conduct research into improving innovative proton beam therapy, which is more targeted and safer than other types of radiotherapy.

We're working with researchers from sports medicine and psychology, along with military partners, to improve diagnosis of concussion from head injuries and to understand the longer-term impacts.

Research areas within the College:

- Applied Health Sciences
- Biomedical Sciences
- Cancer and Genomic Sciences
- Cardiovascular Sciences
- Immunology and Immunotherapy
- Inflammation and Ageing
- Metabolism and Systems Science
- Microbes, Infection and Microbiomes
- Dentistry
- Nursing and Midwifery
- Pharmacy

Research spotlight

Protein mutations? You're breaking my heart

Bethany A.I. Jones

Bethany's research focuses on cardiomyopathy, a group of diseases where the structure of the heart is altered, reducing its ability to pump blood effectively. These structural changes can lead to symptoms similar to other heart conditions or, in severe cases, sudden death. Understanding the genetic causes behind cardiomyopathy is vital for improving treatments and ultimately saving lives.

Investigating the impact of genetic mutations on heart cells

This research investigates how specific DNA mutations affect the structural proteins within heart cells. Such mutations can produce faulty proteins that disrupt the heart's architecture and function. Bethany studied two different mutations in heart-related proteins to uncover their potential impacts on heart health.

Using laboratory techniques including staining and microscopy, she compared heart cells from normal mice with those carrying one of the mutations. She examined differences in gene expression and cell structure. Interestingly, her findings revealed that this particular mutation did not cause visible damage or structural changes in heart cells, suggesting its effects might be more subtle or require further investigation.

Bethany's research contributes to the wider effort to link specific genetic mutations with their effects on the heart. By improving our understanding of these connections, her work helps pave the way for more targeted diagnostics and treatments for cardiomyopathy, offering hope for better patient outcomes in the future.


PLAN
100x/1.25
PLAN
10x/0.22

Research spotlight

Advancing early detection methods for ovarian cancer

Leah Brown

Leah is a cancer researcher at the University of Birmingham, focused on improving early detection of ovarian cancer. With a ten-year survival rate of just 30 per cent, early diagnosis is crucial, but current methods often lack accuracy. Leah's research aims to address this by developing a comprehensive diagnostic tool that identifies immune system dysfunction as an early indicator of cancer.

Her project involves analysing blood samples from ovarian cancer patients and healthy controls using two main approaches. The first is protein and circulating tumour DNA detection, using techniques such as multiplex ELISA panels, mass spectrometry, and sequencing to identify markers of chronic immune activation. The second is cellular analysis, examining immune cell profiles—like myeloid suppressor cells and exhausted T cells through flow cytometry, CyTOF, and DNA methylation profiling.

Towards improved diagnosis for patients

Leah aims to create a sensitive, specific, and less invasive diagnostic tool. While centred on ovarian cancer, these methods could be applied to other cancers with similar immune profiles. Her research not only aims to improve early cancer detection and survival rates but also contributes to the broader understanding of tumour-immune interactions, paving the way for targeted therapies, personalised medicine, and more efficient healthcare strategies.

College of Social Sciences

The College of Social Sciences is tackling some of the world's most pressing social challenges through hard-hitting research, including addressing growing economic and social inequalities, reframing our education and curriculum for better inclusivity, and contextualising the climate crisis.

Our research brings light to the persisting issues faced by those throughout society every day, from gender inequality, racism and discrimination of the LGBTQ+ community to health and social care, youth mental health, and our struggling healthcare system.

Research breakthroughs and successes

The Autism Centre for Education and Research has transformed how education stakeholders nationally and internationally understand and value autistic Children and Young People by systematically enabling educators to adopt improved, pupil-centred approaches. Our researchers have worked closely with the Autism Education Trust, a partnership that has trained over 275,000 education staff across England.

Sexual and gender-based violence has been a key feature of the experience of forced migrants. The SEREDA project lifted the lid on the treatment of forced migrant SGBV victims in the UK. Findings from interviews with victims and experts working with them have enabled the project to uncover failings within immigration and asylum systems that generate further harm and trauma, and extreme poverty or destitution – leading to extensive engagement with policy makers and meaningful changes in policy.

Interdisciplinary collaborations

Our researchers work at the intersection of many disciplines, creating research outcomes that are truly a depiction of the society we live in. The College has seen great success working with academics from other College's as part of the Birmingham Plastics Network, working to shape the sustainable future of plastics. The College's academics have also closely engaged with the College of Arts and Law, exploring how we perceive crime and punishment of those living in poverty through the 'Is it a crime to be poor?' project.

Research areas within the College:

- Business
- Education
- Government
- Social Policy and Society

Research spotlight

Sustainable marketing with virtual influencers

Xi Zhang

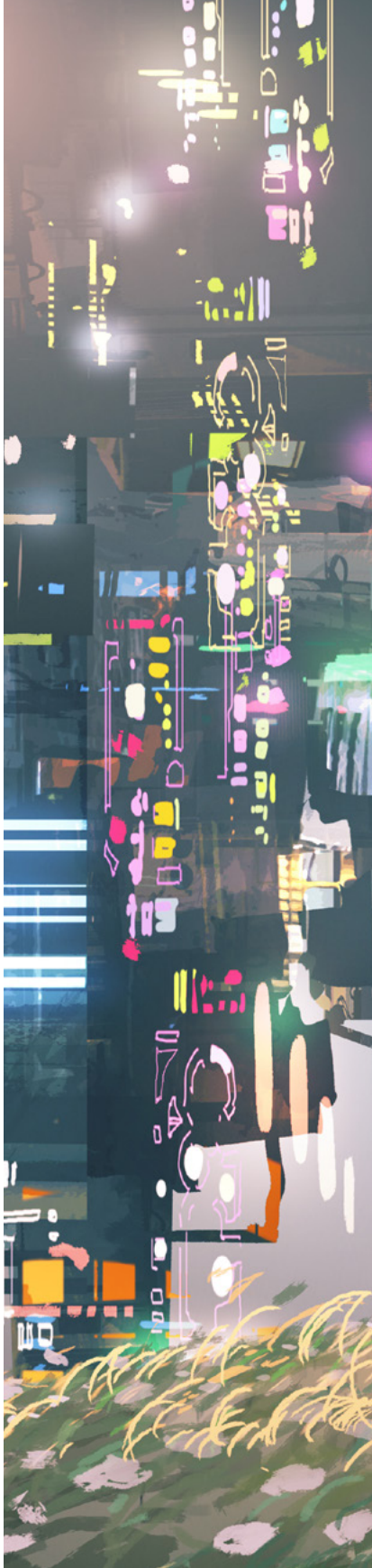
Xi's research investigates how Virtual Influencers - a rapidly growing phenomenon accelerated by the COVID-19 pandemic and the rise of the Metaverse - affect consumer attitudes and behaviours toward sustainable products. Virtual Influencers have transformed how companies interact with customers, and Xi's work focuses on how these AI-driven marketing tools influence attitudes toward eco-friendly products and purchase intentions.

Organised around three experiments, this research aims to shed light on the role of Virtual Influencers in shaping consumer behaviour around sustainability. Xi's research so far confirms that the level of realism in Virtual Influencers matters, showing that consumers respond best to those with a medium level of realism. It also reveals that how realistic a Virtual Influencer appears significantly shapes consumer perceptions of sustainability.

Over the course of her research, Xi will explore why this happens, examining psychological factors such as attractiveness, authenticity, scepticism, and the degree to which consumers identify with the Virtual Influencer.

Driving responsible digital marketing for a sustainable future

By uncovering how Virtual Influencers can effectively promote sustainable products, Xi's research offers valuable insights for brands seeking to develop impactful and responsible digital marketing strategies. This work contributes to society by helping to foster more sustainable consumer behaviours, encouraging the adoption of eco-friendly products, and supporting broader environmental goals through innovative marketing approaches.




Woodrush High School
STAFF

Research spotlight

Unlocking literacy across languages: How learning word parts makes a difference in bilingual children

Zhenyan Yin

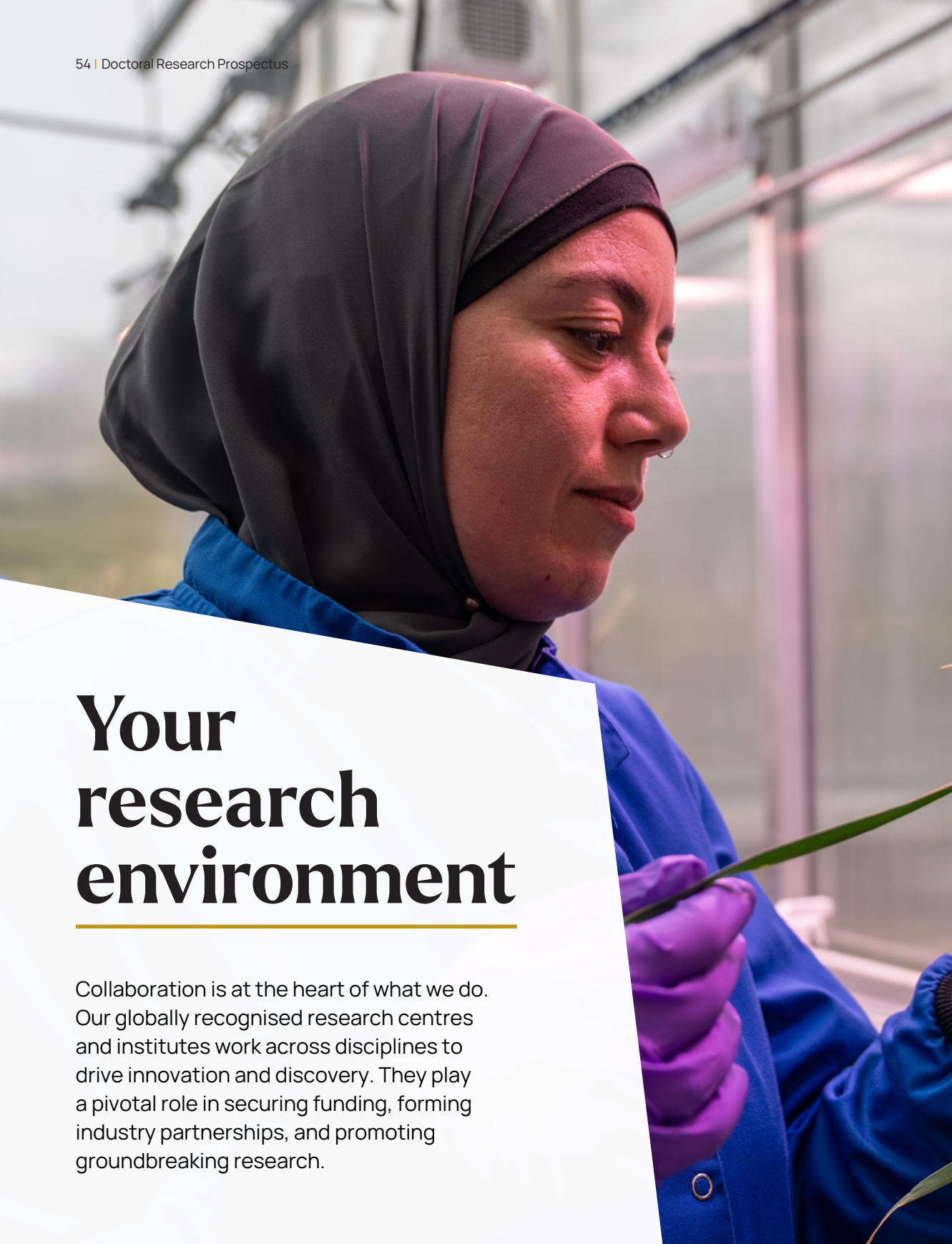
Zhenyan Yin's research explores how teaching word parts, known as morphemes, can boost reading skills in bilingual children who speak both English and Chinese. With many Chinese-English bilingual learners in UK schools, the study examines how understanding word structure helps children read more effectively in both languages.

How morphological training supports bilingual literacy

The study involved 150–200 children aged 9 to 11 across the UK. One group received eight weeks of short, focused lessons using English word-building exercises, while a control group received no training. Children were tested in both English and Chinese before and after the intervention.

Early findings show that morphological awareness not only predicts literacy skills in both languages but that targeted training leads to significant improvements – even with words children hadn't seen before.

This research offers a promising way to support bilingual learners by integrating word structure training into literacy lessons. It can help schools design better strategies that value both heritage and societal languages, giving children the tools to succeed across two worlds of learning.



Your research environment

Collaboration is at the heart of what we do. Our globally recognised research centres and institutes work across disciplines to drive innovation and discovery. They play a pivotal role in securing funding, forming industry partnerships, and promoting groundbreaking research.

Collaborating with renowned academics

Our research has real-world impact. We don't just generate knowledge; we apply it to solve critical issues in the economy, policy, and society. As a researcher at Birmingham, you'll work alongside leading academics, engage with policymakers and industry leaders, and contribute to public discourse, ensuring your work makes a tangible difference.

Research centres and collaboration

We thrive on collaboration across disciplines, partnering with institutions in the UK and around the world. Our Institutes and Centres of Excellence are key to our success, securing funding, building cross-sector partnerships, and promoting innovation across teaching, learning, and research.

Our research focus

Birmingham is a hub for pioneering research that tackles global issues through a collaborative, cross-disciplinary approach. Our cutting-edge facilities, expansive networks, and expert guidance enable us to develop practical solutions to some of the world's most pressing problems.

Global opportunities

Diversity and collaboration define our research community.
As a member of Universitas 21, a prestigious international network of leading universities, we foster global partnerships that enhance the reach and depth of our research. Whether you're conducting research abroad at world-renowned institutions or collaborating with visiting scholars, these opportunities will enrich your experience and broaden your perspectives.

All the space you need

At Birmingham, we offer you a world-class research environment, featuring cutting-edge laboratories, specialised research centres, and collaborative workspaces. You'll be researching in the heart of the UK's second city, on a campus like no other.

Westmere House

The beautiful Westmere House is your dedicated postgraduate researcher hub, offering study and social spaces, workshops, and support.

Westmere House provides a supportive and friendly environment for workshops, conferences, training, networking and community events that are specifically tailored to postgraduate researchers.

You can also book a space within Westmere to organise your own events and engagement activities.

Want to research online?

Some of our research degrees offer flexible online options. If you're joining our research community online, you'll have access to the same resources and facilities as you would on campus.

We've delivered online degrees for over 20 years and now offer over four million digital resources and collections you can access from anywhere.

What's more, our Virtual Learning Environment, Canvas, provides you with electronic learning materials, careers support, and the opportunity to connect with other students and tutors through online chats and discussion forums.

Research resources

From our campus to the city and across the wider region, we have an evolving wealth of resources for researchers across all disciplines, contributing to the delivery of innovative work.

The Cadbury Research Library

The Cadbury Research Library houses our extensive collection of rare books, manuscripts, archives, photographs and associated artefacts. Among these is the Mingana Collection of more than 3,000 Middle Eastern manuscripts in more than 20 languages, with the oldest item dating back to 2,500BC and includes the Birmingham Qur'an Manuscript, one of the earliest surviving fragments of the Qur'an, dated to between 568 and 645AD.

The Cadbury Research Library

The Barber Institute of Fine Arts

The Barber Institute of Fine Arts is a beautiful Art Deco building, with a concert hall and exhibition space, and holds one of the most outstanding and internationally significant collections of art assembled in Britain during the 20th century, including works by Monet, Turner, Gainsborough and Van Gogh. It also has one of the finest collections of Roman, Byzantine and Medieval coins in the world.

The Lapworth Museum of Geology

The Lapworth Museum of Geology has one of the finest and most extensive collections of fossils, minerals and rocks in the Midlands – with more than 250,000 specimens dating back 4.5 billion years and contains large collections of early geological maps and equipment, as well as zoological specimens and stone axes.

The Lapworth Museum of Geology

Winterbourne House and Garden

Our estate includes a number of historic houses.
These include Winterbourne House and Garden. Constructed in 1903 in the Arts and Crafts style, gardens bloom with more than 6,000 plant species attracting a host of insects, including the resident bees, while the house has been transformed with interactive displays and hands-on learning exhibits for all ages.

The Barber Institute of Fine Arts

Winterbourne House and Garden

The Birmingham Institute of Forest Research (BIFoR)

The Birmingham Institute of Forest Research (BIFoR) will provide a step-change in our understanding of how our forests will respond to future increases in atmospheric carbon dioxide (CO_2). A Free-Air Carbon Dioxide Enrichment (FACE) experiment has been established in mature, unmanaged, temperate woodland – only the second such facility worldwide and the only one in the Northern Hemisphere.

The Institute of Translational Medicine

The Institue of Translational Medicine acts as a central hub for clinical trials acceleration and stratification, and clinical informatics, bringing experts together to rapidly turn medical science into innovative patient and healthcare system applications. It does this by providing a platform for interaction between scientists, academic clinicians, clinical informatics, biostatisticians, trial design experts in biomarker development and validation to accelerate the development of drugs and devices.

Birmingham Health Innovation Campus (BHIC)

Birmingham Health Innovation Campus, located in Selly Oak, is a world leading healthcare technologies hub. The campus offers the full circle of translational medicine, from drug development to real-world studies, to promote healthy living through maintaining quality of life and developing new treatments for disease. We are already tackling cancer, chronic and rare diseases, dementia, trauma, and antibiotic resistance.

Tyseley Energy Park

Tyseley Energy Park is the energy and waste nexus for the city of Birmingham, showing how novel energy technologies can form an innovative industrial ecology. We will build an innovation hub that will provide businesses with the chance to develop their technology in collaboration with our researchers, becoming a centre for training associated with state-of-the-art energy, waste and low-carbon transport systems.

The Birmingham Institute of Forest Research (BIFoR)

Institute of Translational Medicine

Tyseley Energy Park

Birmingham Health Innovation Campus (BHIC)

Life on campus

We've created the ideal place for you to live and study. From new accommodation to new teaching and study facilities, we've transformed our beautiful campus close to Birmingham city centre.

At the centre of our campus, you'll find the Green Heart that has 12 acres of lush parkland. It's a unique and rejuvenating space where many of our students enjoy meeting, studying and performing.

Explore life on campus:
birmingham.ac.uk/campus-life

Your campus

Our green and spacious campus has all the space you need to study, relax and socialise.

With all the amenities of a small town, you'll find shops, bars, and cafés, plus medical and dental surgeries, sports facilities, and even our own train station to transport you to the heart of the city in just seven minutes.

Looking for cultural inspiration? With the Barber Institute of Fine Arts, the Bramall Music Building, Winterbourne House and Garden and the Lapworth Museum of Geology on campus, you'll be spoilt for choice.

Take a virtual campus tour: **birmingham.ac.uk/virtual-tour**


The Medical School
Pritchatts Park Village
Aston Webb Student Hub
Bramall Music Building
Main Library and Teaching and Learning Building
The Green Heart
The Vale Village
To The Barber Institute of Fine Arts
To Westmere House
To the Guild of Students
To Dentistry School
To Business School
To Sport & Fitness


UNIVERSITY OF BIRMINGHAM
09:38
Monday 8 July

Our study spaces

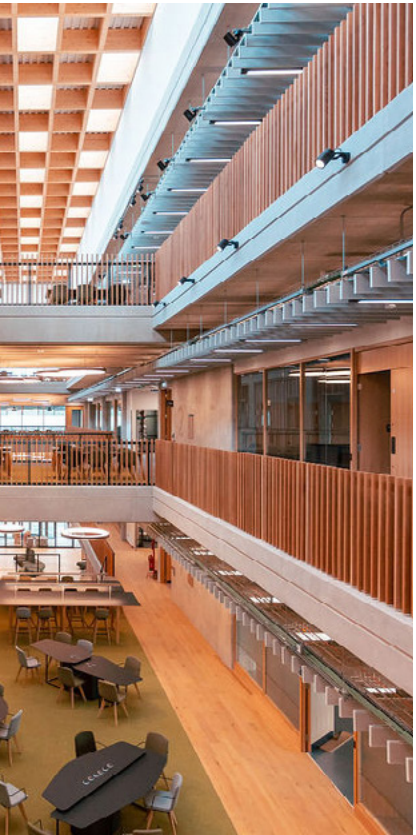
Our study spaces have been designed to meet your learning needs.

Whether you want to study independently or in a group, our Main Library offers informal seating, group study areas and private desks. This modern space is also open 24/7 during term time, and offers a dedicated researcher suite. Our Teaching and Learning Building adjacent to the Main Library provides collaborative study areas and there are 2,500 additional study spaces across campus.

Our Library curates an extensive collection of digital and physical assets supporting the University's research, learning and teaching. Our Cadbury Research Library houses a collection of over 250,000 rare books dating from 1471 and more than four million manuscript items.

Our Research Skills and Academic Skills teams are on hand to provide high quality guidance and learning support throughout your research via one-to-one, group and online sessions, supported by an array of resources designed to help you succeed.

Westmere House, our postgraduate researcher hub, has been redeveloped into a training and social space for all postgraduate researchers and is the centre for postgraduate researcher workshops, conferences, training, social events and networking. Each year the University Doctoral School delivers a diverse and inclusive calendar of activities designed to support our postgraduate research community.




Library of Birmingham

Living in Birmingham

The UK's second city, Birmingham is a vibrant and inspiring place to live, with a rich culture and diverse community.

Make Birmingham yours

Birmingham is the top regional city for quality of life in the UK and almost 40 per cent of its population is under 25, making it one of the youngest major cities in Europe. Our cosmopolitan city has a unique history and so much to see and do. It's no wonder our students fall in love with the city and almost half decide to stay in the region after they graduate.

Our contributions

Through education and skills, research and development, and our work with students, staff, local communities and partners, we make a positive and lasting impact on individuals and society – totalling £4.4 billion and supporting nearly 20,000 jobs.

The city

Our historic campus is minutes away from the vibrant energy of an exciting modern city. We even have our own railway station that can connect you to the city centre in seven minutes.

Culture and heritage

Birmingham is full of history and cultural landmarks waiting to be explored. Discover museums and galleries showcasing art, design, and local history, or visit beautifully preserved historic buildings nestled in green parkland. Areas like the Jewellery Quarter offer insight into the city's rich industrial and creative heritage, with plenty of spots to learn and wander.

Food and local flavours

Our food scene is diverse and vibrant. You'll find a wide range of global cuisines across the city, from authentic dishes in Chinatown to the delicacies of local neighbourhoods. You'll find markets perfect for picking up fresh produce, street food, and handmade goods. With so many independent events, you'll soon discover some new favourites.

Entertainment

There's always something happening in Birmingham. Spend your day exploring brands in the Bullring, visiting our famous library, or discovering new activities. At night, the city comes alive with music, theatre and a buzzing nightlife. Whether you're catching a performance, meeting friends, or just soaking up the energy, the city is packed with opportunities to unwind and connect.

Explore what our city has to offer:
birmingham.ac.uk/city

Bullring

Custard Factory

Digbeth

> The city is filled with diverse culture. The architecture, the colour, the grit, and the vintage street signs—along with the beautiful trees and gardens of Edgbaston—made me realise that nothing stops this city from moving further. Birmingham truly is bold.

Adithiyan Venkataramanan
MSc Immunology
and Immunotherapy


Brindleyplace

Canalside

Explore Birmingham

Birmingham is more than just a city centre. We have a variety of lively, quaint and friendly suburbs in the surrounding areas for you to explore.

Edgbaston

Our University campus is based in leafy Edgbaston, just two miles south-east of the vibrant city centre. You'll find plenty of green space, lakes and attractions nearby, including the scenic Cannon Hill Park.

Harborne

A student favourite close to campus, Harborne offers a village feel with a lively high street, cosy cafés, and regular farmers markets.

Moseley

Just two miles from campus, Moseley blends vintage stores and creative energy, hosting popular festivals and community events.

Bournville

Bournville is a charming and peaceful suburb known for its strong community feel and beautiful green spaces. It's famous for its roots in the Cadbury chocolate factory, which gives the area a unique historical character.

Cannon Hill Park

Discover more about what Birmingham has to offer: **birmingham.ac.uk/city**

Skills development for researchers

We believe your PhD journey is about more than research alone. We are committed to helping you grow as a confident, capable, and impactful researcher - equipped with the skills and resilience to lead in academia, industry, and beyond.

What skills will I develop?

You'll develop much more than just core research skills. With the support of the University Doctoral School and your academic community, you'll develop knowledge, skills and values in line with Vitae's Researcher Development Framework. You'll develop skills across three key strands:

- Researcher: Personal and professional values and behaviours of effective researchers, such as being strategic, collaborative, reflexive and responsible.
- Research: Knowledge and skills to undertake research and deliver outcomes, through knowledge and practice, research management and engagement and impact.
- Research communities: Knowledge and skills to engage and work with others, such as teamworking, leadership and networking.

Workshops and development opportunities

Our extensive programme of workshops, training series, and events is designed to support your growth as a researcher. Workshops cover academic writing, research processes, productivity, open research, communication, and thesis preparation.

These workshops are complemented by other development activities within your subject area, ensuring that our researchers have access to a comprehensive range of learning opportunities.

An open research culture

Our postgraduate researchers are encouraged to be part of an open research culture. This dynamic approach fosters transparency, collaboration, and accessibility in research. By openly sharing data, publications, and methodologies, researchers contribute to a global network where knowledge is verified, expanded, and enriched. This strengthens academic integrity, drives innovation, and ensures research has a meaningful impact beyond academia.

Sharing your research with the public

Postgraduate researchers have access to a range of public engagement opportunities, designed to help them share their research with wider audiences.

Through events at The Exchange, volunteering at events, or taking part in the Three Minute Thesis challenge, our tailored training helps researchers find creative ways to share their work with the public. You can also plan and deliver your own events, with funding available through a dedicated grant scheme to pilot and test new initiatives.

Additionally, an annual award recognises outstanding contributions to public engagement, highlighting the vital role researchers play in connecting academic work with the wider community.

Life as a researcher

At Birmingham, no two research journeys are the same. Our postgraduate researchers are a vibrant, diverse community, each following a pathway shaped by their passions, ideas, and ambitions.

Your academic community

As a Birmingham postgraduate researcher, you'll work on real-world challenges, build a global network, and unlock opportunities you never imagined.

You'll be joining one of the UK's largest postgraduate communities. Our 14,000+ postgraduates make up around 40 per cent of our student population.

Life at Birmingham is about far more than studying a degree or course. It's about getting involved in research groups, publications, talks, conferences and more. Our friendly postgraduate community has so much to offer. We'd love to welcome you in.

A day in the life of a doctoral researcher

PhD Chemistry

My day starts with a train ride to campus – prime time to get stuck into a book or just relax and mentally prepare for the day ahead.

Once I get to campus, I dive into emails and check my daily plan. I also make sure to review the experiments I have planned, any meetings I need to attend, and any random admin tasks that may have popped up.

The lab is where the real fun begins! I start by weighing out reagents and setting up my experiment to run. While the reaction gets going, I check if anything else in the lab needs doing, whether it's restocking solvents, dealing with the store's deliveries, or prepping and analysing previous samples.

When my experiment is up and running safely, it's back to my desk to catch up on reading or analyse any raw data I have. As a first year, I'm always trying to get ahead on papers and learn as much as I can about the research I'm doing.

After lunch, it's back to the lab to finish the reaction. I clean up the fume hood and glassware while my reaction product cools. I also prepare samples for further analysis—whether that's for spectroscopy, microscopy, or another technique.

Now it's time to do some sample analysis. I run tests and gather raw data that will hopefully show my reactions worked as planned. Some days, the data is great. Other days, it can be a confusing disappointment but that's all part of the process. The best days are when you take a risk with an experiment that you doubt will work and end up with some amazing, unexpected results!

After the lab, I head home to unwind. But before I relax, I hit the gym. It's a great outlet for any pent-up energy or emotions from the day, it helps me stay physically fit and helps massively with my mental health.

My name is Charlotte and I am a first year Chemistry student researching the world of nanotechnology and its application in biomedicine.

Charlotte
PhD Chemistry

birmingham.ac.uk/meetcharlotteh

“

The University of Birmingham offered me the chance to be part of a vibrant postgraduate community, to meet a lot of people thanks to dedicated events for students and to be a part of societies.

The University hosts so many international students, so it was very easy to integrate myself, and feel part of a community.

Charity Nankunda
PhD Civil Engineering

Supporting you

As a safe, inclusive community, your wellbeing is our top priority. We'll support every part of your mental and physical health, so you can realise your full potential.

If you're facing any concerns or challenges, you can get assistance from The Student Hub in the Aston Webb Building on campus, or online through Student Help. Whether you're looking for information, guidance, emotional support or a specific service, The Student Hub is a great place to start.

Studying as a parent

If you're studying while caring for young children, you'll find three different day nurseries on campus. Each offer a high standard of care and experience, with reduced nursery fees to support you during your studies.

Practicing your faith

Our Multi-Faith Chaplaincy is for students of all faiths and none. Here you can meet for worship, relax in the Oasis Lounge, see a chaplain for spiritual and religious advice or pastoral counselling. We have chaplains from most major faith traditions, as well as many faith groups and societies run by students.

Supporting your wellbeing

If you're having any practical, emotional or psychological issues, our confidential service can help. Staffed by professional counsellors and wellbeing advisors, it offers one-to-one sessions, online counselling, and a range of support groups. The Guild also runs a free, impartial and confidential advice service. All from fully trained advisors, with practical advice on every aspect of student life.

Explore all our support:
birmingham.ac.uk/support

Supporting disabled students

Birmingham is an inclusive learning community where we want everyone to have the best experience. So, if you have a disability (including long-term health conditions, specific learning disabilities such as dyslexia, or a mental health difficulty), you can get help from our Student Disability Service.

Disclosing a disability won't affect your academic course admission, but will make sure you get any support or adjustments you need. Our professional team offer specialist advice, including help getting any disability funding support you may be entitled to.

Personal enrichment

During the summer term enjoy a three week programme of activities designed to learn and develop new skills, connect with like-minded people and unwind in the sunshine.

So whether you want to chat to our Careers team about the future, gain additional skills and certificates from one of our workshops or even just relax at the outdoor cinema, there is something for everyone to enjoy!

Birmingham International Academy

The Birmingham International Academy (BIA) combines the highest standards of one of Britain's leading global universities with a fully integrated student experience. The BIA provides Presessional English programmes for students preparing to study at Birmingham. The department is accredited by the British Council for the teaching of English in the UK.

Find out more: **birmingham.ac.uk/bia**

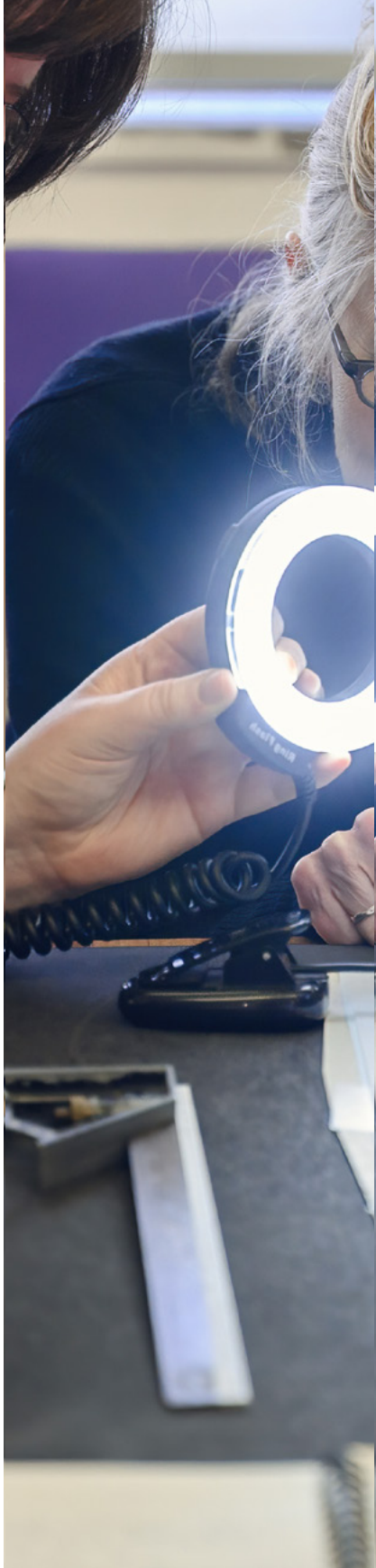
Your academic community

Our community is safe, diverse and inclusive, with strong student representation and dedicated resources such as our University Doctoral School and the Guild's full-time Postgraduate Officer.

We offer everything from advice and support, to training, facilities, tutoring and supervision.

A diverse programme of events runs through the year, such as cultural celebrations, the Research Poster Conference and our Postgraduate Research Festival. With a full calendar, you'll have the chance to gain new skills, while finding creative ways to share your knowledge and research with the public.

At Birmingham, we teach and carry out research across the full breadth of academic disciplines. This creates a vibrant community and provides multidisciplinary opportunities for research and education. Our truly international community is made up of more than 8,000 staff, 38,000 students, 3,000 doctoral researchers and over 390,000 alumni.



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The best thing about being a doctoral researcher at the University of Birmingham is undoubtedly the sense of belonging.

I really feel like a member of the academic community who is heard, respected, and valued.

Daniela
PhD Law

Your Guild of Students

There are many ways to get involved with our student community. At the heart of it all is the Guild of Students, helping everyone connect and thrive together.

Your social community

Representation

Our elected student officers represent all students across the University. Led by the President, the team cover activities and employability, education, international, sports, welfare and community matters. From shaping your course and how the University is run, to campaigning on local and national issues, we're here to help you create positive change.

Student groups

With over 350 active societies, there are lots of opportunities to meet people and have fun during your studies.

Within your academic department, you can participate in further activities, seminars and groups for postgraduates, all available to you the moment you start your course.

Get involved

Represent your student community by becoming a Student Rep or Guild Officer. You can fight for the causes you believe in, or campaign for changes you want to see. On campus, or in the world.

Your global community

Helping you feel at home

To help you adjust to life as a postgraduate, the Guild also offers free, impartial and confidential advice. There's welfare support for all students, and our Global Buddies scheme to help international students settle in.

From making new friends, to getting the most out of life at Birmingham, you'll have the full support of our friendly student community, including after you graduate.

Our global network consists of over 400,000 alumni. With gatherings taking place all over the world, you can keep in touch wherever the future takes you.

Jobs, skills and volunteering

Earn money and build skills while you study. Guild Jobs gives you access to part-time vacancies across the University and city.

You can also boost your CV by volunteering in the Guild, the University and the local community. There are thousands of projects to choose from, all flexible around your studies.

The Guild also hosts a wide range of events and workshops to develop your academic and vocational skills. From Employability Fairs, to masterclasses and postgraduate networking events, they've got everything covered.

Discover more
guildofstudents.com

Careers support for researchers

We prepare doctoral researchers to make an impact across every sector of society. Our PhD graduates are global change-makers: advancing knowledge, shaping policy, leading industries, and educating future generations.

Mentoring opportunities

Our mentoring programme offers a valuable opportunity to connect with experienced professionals, often Birmingham alumni, who can provide expert insights and guidance.

The programme focuses on sectors beyond academia, helping researchers build professional networks and gain perspectives from industry specialists.

Dedicated support for researchers

At Birmingham, postgraduate researchers benefit from dedicated careers support tailored to their unique paths. Our expert team of Careers Advisers, including a dedicated postgraduate research adviser, offer one-to-one guidance to help researchers navigate career decisions both within and beyond academia.

You'll also have the opportunity to attend careers events and workshops, ensuring you are well prepared for your next steps after graduation.

Find out more:
birmingham.ac.uk/career

Connect with our global alumni

As an active part of our community, our alumni love to share their experiences, giving you a unique insight into their career journeys. With over 350,000 alumni, they're also a great source of professional support, providing guest lectures, mentoring and work placements.

Meet our global alumni:
birmingham.ac.uk/alumni

Built in Birmingham. Forged for the future.

When you choose to study at Birmingham, you will be joining a university that prides itself on exceptional links to a wide variety of leading industries and employers.

According to the 2025 High Fliers report, we are the most targeted UK university by top graduate employers, for the second year running. At Birmingham, your career comes first. From developing new skills to preparing for your next steps, our commitment to your career can help you gain an advantage in the job market or advance in your field.

Don't just take our word for it. Meet some of our postgraduates who forged their future at Birmingham and are now leading the change in their chosen area.

Meet our alumni:
birmingham.ac.uk/builtinbirmingham

Llion Jones

Co-founder & Chief Technology Officer

Sakana AI

Deepali's graduate story

PhD Astrophysics: Gravitational Wave DetectionSenior Education and Future Workforce Managerfor Space Exploration, UK Space Agency

"

I went into a PhD course where I looked at gravitational wave detection. It was quite an experimental course, which I absolutely loved. It was a really interesting thing to work on.

Gravitational waves were first theorised by Albert Einstein 100 years ago, and it's only been proven by maths and for many, many years now, we've been working on a detector to directly detect these waves.

It's never been done before and we weren't sure if we would ever be able to do it.

It was a huge international collaboration and we finally did it. We finally detected gravitational waves for the first time, and it led to a Nobel Prize. And it makes me incredibly proud to have been part of that.

Deepali Lodhia

Find out more:
birmingham.ac.uk/highfliers


UK SPACE
AGENCY

Enterprise and innovation

Whether you're interested in start-ups, social enterprise, or commercialising your research, you will have the opportunity to develop an entrepreneurial mindset at Birmingham.

The B-Enterprising team helps students and graduates start their own businesses. You can join special programmes, get funding to try out ideas, go to exciting events, and be part of a friendly start-up community.

And through the Emerging Researchers Innovation Challenge (ERIC), you'll compete in teams to solve real world challenges. The aim of the challenge is to give postgraduate researchers a greater understanding of the benefits of developing entrepreneurial skills. Skills that are beneficial for research practice as well as your future career, whether in academia or not.

Find out more at:
birmingham.ac.uk/the-exchange/about/uob-elevate

Solving water scarcity

NovNat Tech's co-founders Abdulbari Belouafi, Kamal Diab and Ibrahim Albaik originally met as graduate researchers before developing their novel technology. They attended the B-Enterprising Elevate programme, an incubator and business growth programme for University of Birmingham student and graduate start-ups, where they received advice and mentoring.

NovNat Tech is a start-up business which aims to bring a solution to help address water scarcity. The innovative business idea was instigated by three Birmingham graduates, with their mission to develop atmospheric water generation technology created as a means of reducing the reliance on municipal water.

"

We are tackling the global water scarcity crisis by developing innovative atmospheric water generation technology. Our mission is to reduce dependency on municipal water supplies by creating systems that extract water from the air, using waste heat to minimize energy consumption. This breakthrough approach can serve industries, agriculture, and homes, providing much-needed water in regions experiencing shortages.

By taking part in the UoB Elevate incubator we hope to learn and develop our business knowledge and leverage it to accelerate the growth of our business. This programme will also give us access to an excellent network of fellow founders, entrepreneurs, investors, mentors and advisors, all of whom will help and guide us through this exciting journey. The funding from these partners has been crucial to deliver commercial solutions for a sustainable future.

Applying for a research programme

If you'd like to study a research degree with us, there are generally two routes you can take.

Route 1: Apply for an 'advertised PhD'

An 'advertised PhD' simply means that it's part of an established research project at the University. It's also usually funded by us, or another funding body. Most of the time, the advertised listing will direct you to the correct course page, where you can check the requirements and apply.

1. Explore our current research projects: **birmingham.ac.uk/findaphd**
2. Prepare your personal statement and any supporting documents.
3. Submit your application online through our course finder and upload your supporting documents.

Apply for our postgraduate courses: **birmingham.ac.uk/pgapply**

Route 2: Apply to propose your own research

You're not limited to our existing projects. You can propose your own research, too. First, you'll need to submit a proposal for your research. This includes identifying the supervisor you'd like to work with. To pay for your research, there's a range of funding available from scholarships, charities, loans and self-finance.

1. Think about the type of research degree you'd like to study (PhD, MA/MSc by Research or MRes) and explore our research themes.
2. Find and consult with a supervisor or department: **birmingham.ac.uk/findasupervisor**
3. Explore research funding options and look through our scholarships and funding database: **birmingham.ac.uk/pgfunding**
4. Write your proposal as a clear and concise summary of your research. It's a key part of your application, so take your time. Your potential supervisors will use it to decide if your research is something they can support.
5. Prepare your personal statement and supporting documents.
6. Submit a formal application by visiting the course page of the subject most relevant to your area of research.

Find a supervisor for your project

If you are proposing your own research, you will need to find a supervisor for your project. All Doctoral Researchers are provided with a lead supervisor, who will act as the main source of academic supervisory support and research mentoring during your time as a Doctoral Researcher at the University.

You will usually have the same lead supervisor throughout your studies, however in some cases Doctoral Researchers may require additional supervision from another member of academic staff. The appointment of a co-supervisor is generally decided between the prospective student and the lead supervisor.

Once you have ensured that the department to which you are applying is able to offer appropriate supervisory support in your research area, you can start to reach out to the staff members who you think will be a great fit as your research supervisor. You may be invited to have an informal chat with the academic to discuss the viability of your project. Start by contacting potential supervisors by using the details provided on their staff profile.

Search for a supervisor:
birmingham.ac.uk/pgapply

Top tips for finding a supervisor

Finding the right supervisor for your research project is a key part of your research journey. Here are our five top tips for you on how to find your supervisor:

1

Pinpoint key names in your research area
Before looking for a supervisor, clarify your research topic, area and aim. Identify key academics through reading any relevant books and journals.

2

Prepare a research proposal
The first thing a prospective supervisor will want to see is your research proposal. The proposal needs to demonstrate a good depth of knowledge and reading in your research area. Remember that the methodology section is just as important as the literature review.

3

Approach a prospective supervisor informally
Before applying to a PhD programme, approach a potential supervisor informally to discuss your research and if they are willing to supervise your study. Approach academics who are early or mid-career – they are more likely to engage in your research.

4

Be open to feedback and exploration
When you approach your potential supervisor by email, show that you are flexible in your thinking. Talk about the experience and qualifications you already have. Ask to virtually meet them to discuss your idea. Show that you know about their research and explain why you have decided to approach them.

5

After you find a supervisor
Once you have established a supervisor for your study, you can then apply to enter the PhD programme. Make sure to include the academic's name in your application.

Writing a research proposal

If you wish to propose your own research topic, you will need to submit a research proposal.

It generally consists of an outline of your proposed research project, including your main research questions and the methods you intend to use.

Ask yourself where your research sits within the wider context of existing research in the field. Highlight the impact your research will have on society. Take time to research the department and demonstrate how your project fits within the research interests of your supervisor. You'll also need to show that the scope, timescale and resources for your study are realistic and achievable.

How to structure your proposal

1 **Research topic**
What will your research focus on?

2 **Review of literature**
What similar studies have been conducted?
What makes your research original compared to existing literature?

3 **Research objectives and strategy**
What do you intend to achieve? You may want to offer hypotheses, objectives, propositions or show how your research will solve a problem

4 **Research strategy**
How do you plan to conduct your research?

5 **Anticipated results**
What type of results do you expect?
How will you analyse your data?
What problems may you face?

6 **Schedule and budget required**
Think about resource requirements and timescales

7 **References and bibliography**
Make sure you've referenced your proposal like you would for any essay or research project

Further guidance on writing a compelling research proposal can be found at: **birmingham.ac.uk/proposalwriting**

Fees, funding and scholarships

For researchers, there are many different options to fund your degree. From scholarships and studentships, to loans and partial funding, you can explore all your options on our funding database.

What does it cost?

Our annual tuition fees are at least the minimum fees recommended by UKRI for our research-level programmes.You'll find full details in our course directory. But remember, there may be other costs involved, such as field trips, travel and off-campus research.

Research Council Funding (UKRI)

You may be able to get financial support from a government-funded research council. They're known jointly as UKRI (United Kingdom Research and Innovation):

- **BBSRC** (Biotechnology and Biological Sciences Research Council)
- **ESRC** (Economic and Social Research Council)
- **EPSRC** (Engineering and Physical Sciences Research Council)
- **MRC** (Medical Research Council)
- **NERC** (Natural Environment Research Council)
- **STFC** (Science and Technology Facilities Council)
- **AHRC** (Arts and Humanities Research Council)

A full UKRI award will cover the cost of tuition fees and give you a maintenance grant for support during your studies. Learn more: **birmingham.ac.uk/researchcouncils**

Our University scholarships are usually linked to the research areas we're focused on. Find out more here: **birmingham.ac.uk/pgfunding**

Postgraduate Doctoral Loan

If you're a UK national who normally lives in England, this government loan allows you to borrow to help with course fees and living costs. Full-time or part-time, the loan is divided into equal payments for each year of your course, which can last from three to eight academic years. Discover more: **birmingham.ac.uk/pgdloan**

Other sources of funding

From charities and trusts, to foundations and medical societies, there are many more organisations who can help you fund your degree: **birmingham.ac.uk/pgcharitiesfund**

Find out more:
birmingham.ac.uk/pgfunding

Make it happen

Ready to start your journey? Whether you want to sign up to an event, chat to our students, or read about their experiences with our student stories, there are plenty of ways to discover what life at Birmingham is really like.

Meet us

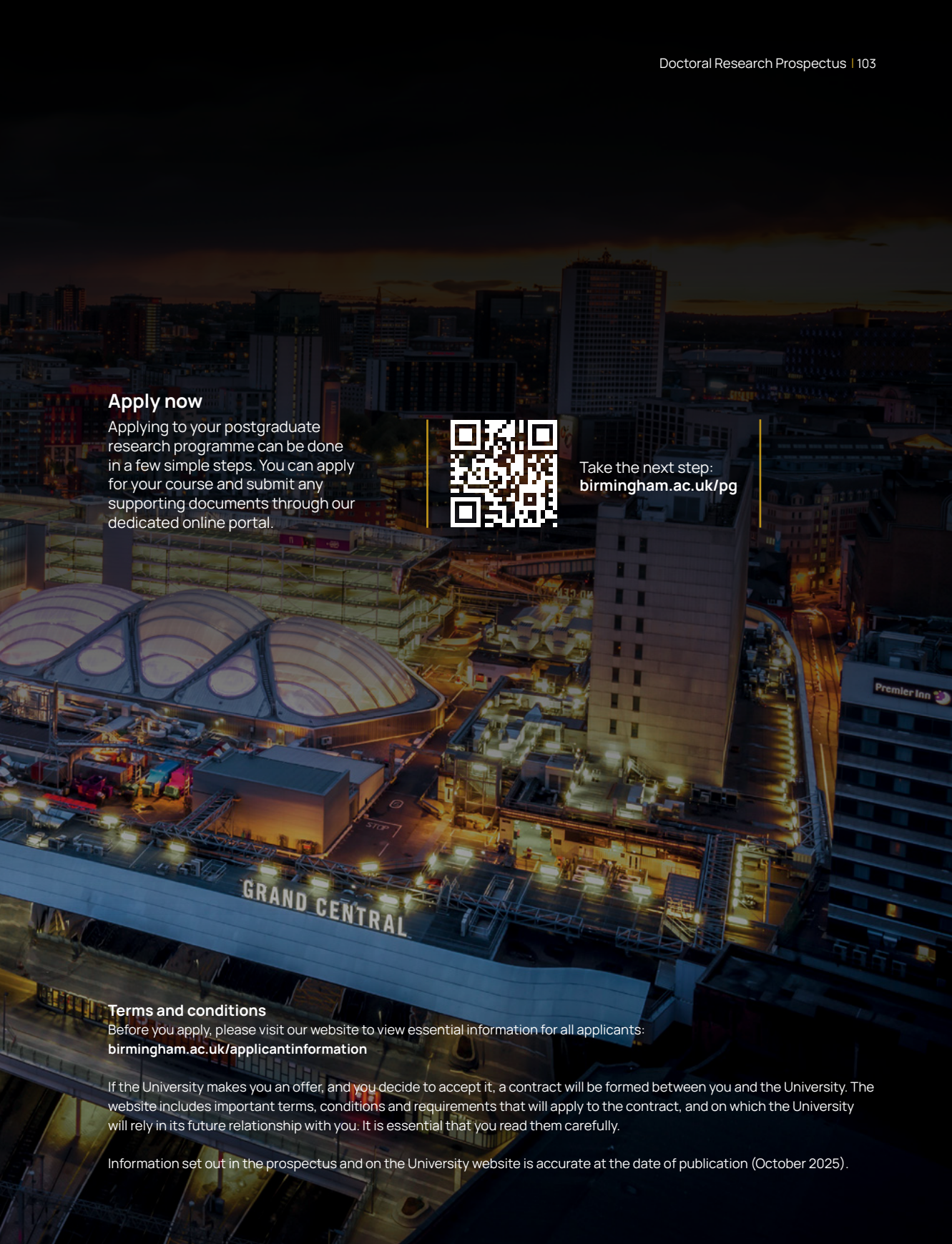
You can meet our staff and students in a variety of ways. We offer both campus and online events, ensuring you can discover Birmingham in a way to suit you.

Stories

Our students and alumni share their experiences of settling in, studying, and living in Birmingham. Discover their experience, career journeys, and everything in between.

Chat to a student

Our friendly and welcoming students are ready and waiting to chat and share their thoughts on our courses, stunning campus and life in a vibrant city.



Apply now

Applying to your postgraduate research programme can be done in a few simple steps. You can apply for your course and submit any supporting documents through our dedicated online portal.

Take the next step:
birmingham.ac.uk/pg

Terms and conditions

Before you apply, please visit our website to view essential information for all applicants:
birmingham.ac.uk/applicantinformation

If the University makes you an offer, and you decide to accept it, a contract will be formed between you and the University. The website includes important terms, conditions and requirements that will apply to the contract, and on which the University will rely in its future relationship with you. It is essential that you read them carefully.

Information set out in the prospectus and on the University website is accurate at the date of publication (October 2025).

Postgraduate Open Days

Saturday 15 November 2025
Wednesday 18 March 2026
Saturday 27 June 2026

Find out more:
birmingham.ac.uk/pgopenday

Designed and printed by

UNIVERSITY OF BIRMINGHAM | Creative Media

Edgbaston, Birmingham,
B15 2TT, United Kingdom
birmingham.ac.uk