GLOBAL RESEARCH HIGHLIGHTS

ENGAGING LOCALLY TO CHANGE THE WORLD

COLLECTIVE RESPONSIBILITY
GLOBAL RESEARCH

The University of Birmingham collaborates with partners across the world to produce groundbreaking research, deliver innovative teaching and create opportunities for students and staff to gain international experience. Our research is further supported by our international offices in Guangzhou, New Delhi, Brazil, Brussels and Lagos. Here we present a snapshot of just some of the wide-ranging engagement activities we are undertaking around the world.

HIGHLIGHTS

BRAZIL

Youth impact on food, water and energy

Researchers at the University of Birmingham are working with colleagues in Brazil to examine young people’s experiences of, and learning about, food, water and energy.

Previous social-scientific research demonstrates that young people play multiple roles in securing supplies of food, water and energy, yet are largely neglected – both globally and in Brazil – in terms of research about access to crucial resources.

Professor Peter Kraftl and Dr Sophie Hadfield-Hill from the School of Geography, Earth and Environmental Sciences are leading a two-year research partnership with UNESP, in Sao Paolo, and the Universities of Leicester and Northampton, in the UK.

The project will use innovative research techniques to engage with young Brazilians aged up to 24 to learn about their experiences of the food, water and energy ‘nexus.’ The project is funded by the ESRC and FAPESP as part of the Newton Fund.

USA

A new wave of astrophysics

Astrophysicists in Birmingham have played a major role in observing ripples in the fabric of spacetime called gravitational waves – confirming a major prediction of Einstein’s 1915 general theory of relativity and opening an unprecedented new window onto the cosmos.

Scientists at the twin Laser Interferometer Gravitational-wave Observatory (LIGO) detectors, located in Louisiana and Washington, USA detected gravitational waves produced during the collision of two black holes to form a single massive black hole, more than 1 billion years ago.

Professor Alberto Vecchio and his team from our School of Physics and Astronomy developed techniques to analyse and interpret the gravitational wave signature, as well as building key elements of the sophisticated LIGO equipment.

Gravitational waves carry unique information about the origins of our Universe and studying them is expected to provide important insights into its evolution.

AUSTRALIA

Priestley partnership links Birmingham with Melbourne

The Universities of Birmingham and Melbourne have signed a new agreement to formally collaborate on research, education, and cultural engagement – strengthening existing collaboration between the institutions.

A £2 million (A$4 million) joint PhD programme co-funded by both universities will give up to 20 ‘Priestley Scholars’ in engineering the opportunity to study alongside world-leading academics in Birmingham and Melbourne.

The ‘Priestley PhD Fellowships’ programme reflects the unique, 20-year relationship between the universities, which have a shared history through Sir Raymond Priestley, the British geologist and Antarctic explorer who was Vice-Chancellor of both institutions.

Working together across shared areas of priority research including energy storage, biomechanics, artificial intelligence and robotics will lead to high-quality research with global impact, and provide exciting research opportunities for PhD students.
Fighting Ebola from a suitcase

Birmingham DNA experts have delivered a new weapon in the battle against Ebola with a ‘laboratory in a suitcase’.

Dr Nick Loman’s team from the Institute of Microbiology and Infection designed a portable genome sequencing laboratory that can be transported in less than 50kg of airline luggage. Working on the study with co-authors from the Ontario Institute for Cancer Research, they deployed the laboratory in Guinea, where Ebola samples from patients could be sequenced as soon as new cases were diagnosed.

Genome sequencing in outbreaks is useful to understand how the virus evolves, but information must be available quickly to guide control efforts. By sequencing samples in Guinea, during April 2015, the team provided detailed information about how cases were related, providing important clues to World Health Organization epidemiologists battling to halt transmission of the virus.

Smart cities better defined by new research

Researchers in Birmingham have identified a handful of key elements that define ‘smart cities’ – cities like Singapore and Copenhagen, which are both at the top of their game in using technology to enable their citizens to enjoy a better quality of life, but in different ways.

Both cities were used as case studies in the research, which investigates whether smart cities are realising their potential for lower carbon dioxide emissions and is being carried out by a team from the University’s School of Civil Engineering.

They demonstrate that a smart city can be defined by a vision that includes five key factors: digital technology; environmental sustainability; civic initiatives; mobility; and business. The team discovered that over 70 per cent of activity contributing to a smart city occurred in the first three of these areas.

Promoting healthy lifestyles for children

Experts in Birmingham have developed a groundbreaking public health programme to encourage Chinese children to eat more healthily and exercise more.

Devised in collaboration with the Guangzhou Centre of Disease Prevention and Control, the CHIRPY DRAGON programme aims to engage with children, parents, grandparents and school teachers to promote a healthier diet and more active lifestyle among the young.

The trial involves over 61,000 children at 43 primary schools across Guangzhou city and aims to improve the nutritional quality and taste of school meals, as well as physical activity provision.

Among other elements, the programme is designed to engage with Chinese grandparents, who are increasingly the main caretakers of children in three-generation families and have a greater say in youngsters’ eating behaviours and physical activity.

The University of Birmingham has appointed its first Pro-Vice-Chancellor for International to lead its international agenda. Professor Robin Mason joined the University at the end of March 2016. Watch this space for an article on global engagement from Professor Mason in the next Birmingham Chronicle Supplement.
Engaging locally TO CHANGE THE WORLD

‘Think global, act local’ is a well-worn phrase, but it neatly encapsulates the importance and value of Engagement for Impact (E4I) to the University of Birmingham.

Conceived as the final symbol of Birmingham’s municipal greatness and global ambition, the University has a proud tradition of public, civic, cultural and business engagement stretching back to 1900, when it was established by Royal Charter. Our institution grew out of the radical vision of Joseph Chamberlain, our first Chancellor, to create England’s first civic university, where students from all religions and backgrounds were accepted on an equal basis.

As a civic university in the 21st century, our responsibilities include contributing to enriching the life of our home city and the wider West Midlands region. We work in close partnership with key organisations across the region: from local government, health authorities, industry, and charities to faith groups and community bodies.

Significantly, the local and regional government landscape is changing and the ‘devolution revolution’ will allow regions to take greater responsibility for their own skills, innovation, health, finance and transport policies.

By working with organisations such as Birmingham City Council and the future West Midlands Combined Authority, we contribute to helping our partners improve their performance, but also learn from their experience and expertise. City REDI is our new research institute focused on informing and influencing regional and national economic growth policies at home and abroad.

Our Public Service Academy, in partnership with the Institute of Local Government Studies (INLOGOV), helps elected members and officers become better at what they do. Its research capacity offers the potential to help improve the efficiency and effectiveness of public services, while generating knowledge that is equally applicable to local government in Brazil or China.

Everything we do as a university has a relevance and potential influence at a regional, national and global level. We work with businesses, enterprise bodies, funding bodies and policy makers, to name a few. This is always a mutually beneficial relationship; our partners benefit from our expertise, while we create funding opportunities, influence and impact that benefit the University and wider society.

Globally, we are able to use Birmingham’s critical mass as a Top 100 university founded on a civic mission to educate widely, conduct world-leading research, and contribute to the public good. We forge research and education partnerships with other universities, such as the University of Illinois at Urbana-Champaign, and the University of Melbourne.

We work with multinational companies such as Jaguar Land Rover and Rolls-Royce, drawing on our knowledge and thought leadership, alongside our network of alumni and students, to contribute to collaborations that boost creative thinking and lead to a wider, better and more robust global knowledge base.

Working with partners who enjoy a similar, or arguably even better, global reputation to the University of Birmingham raises everybody’s game. Collaboration for mutual benefit is at the heart of building meaningful partnerships to change the world. These partnerships increasingly draw their strength from a multi-disciplinary focus; engineers, medics, social scientists and more bringing their diverse talents to the same table.

Making important things happen requires trust and respect; networks are vital alongside good individual and organisational relationships. Whether regional, national or global, our diverse forms of engagement always happen at one of three levels:

- Personal – as simple as having a cup of tea with someone and establishing an initial bond;
- Influencing – developing partnerships and collaborations with external stakeholders that draw on our expertise to create influence and understanding; and
Impact – working with our partners to marshal resources, creating impact and delivering real and lasting change. However, no matter what level of engagement, it is important to understand that success needs to be worked at – something embodied by my own ‘Top Ten Rules of Engagement’, which I have developed in recent years (see below).

At Birmingham, we are developing our regional and global engagement at the same time – everything we do has the potential to work across these different levels, to be transferable from the local to the global and vice versa. Our immediate responsibility is to the people and communities around us, whether city or regional, and we contribute to health, wellbeing and job creation across our region. However, to focus just on this would miss a truly important element – the opportunity to draw on expertise and initiatives grown locally that can make a global impact.

A prime example of this is the University of Birmingham School, which opened in September 2015. This is a regional initiative that takes children from across Birmingham from varied cultural and social backgrounds – exploiting strong links to the University and its excellent School of Education; aiming to become a beacon of pioneering education that starts locally and has a global significance. There are schools with a similar ethos in other parts of the world – Brazil has had such an establishment for 20 years – we can learn from their experience and they can learn from ours. And together we can build a global network of universities with their own local training schools.

Playing a leading role regionally, nationally and globally is important to a Russell Group university of our standing. When a locally rooted organisation, such as ours, connects globally the interactions that follow create new knowledge, understandings, partnerships and impact. These fresh dynamics can begin to deliver real and enduring change – truly thinking locally and acting globally.

Saul Becker, Pro-Vice-Chancellor and Head of the College of Social Sciences

BECKER’S TOP TEN RULES OF ENGAGEMENT

ENGAGEMENT:
1. Can increase the quality, relevance, significance and reach of our work.
2. Is personal, as well as political and institutional.
3. Allows us to learn from our partners and they from us.
4. Requires shared values, principles and enthusiasm.
5. Is both an ideology and a virtue.
6. Requires clarity of purpose, outcomes and communication.
7. Takes place on various levels, with different implications for resources and impact.
8. Can require a leap of faith.
10. Relies on purposeful follow-up, monitoring and evaluation.
Birmingham’s global treasure sparks world-wide research

The discovery of a centuries-old fragment of the Qur’an at the University of Birmingham sparked massive interest and media coverage around the globe, as Muslims and non-Muslims alike realised the ancient parchment’s true significance.

Held at the University’s Cadbury Research Library (CRL), the Qur’anic manuscript had been radiocarbon dated to the early seventh century (568–645 with a 95.4 per cent accuracy), making it potentially one of the earliest examples of the Islamic holy book in existence.

The parchment which excited so much interest, is part of the Mingana Collection of Middle Eastern Manuscripts. Cared for by the CRL, this is one of the University of Birmingham’s most significant cultural assets. The collection contains over 3,000 manuscripts, varying in date from the sixth to the early 20th century and written in over 20 languages, including Arabic, Syriac and Persian.

Responding to overwhelming demand in October 2015, the manuscript went on public display at the University for a three-week period. Throughout the whole process from the initial dating, through the press coverage, to the exhibition, we collaborated very closely with representatives from the Muslim community, particularly the Birmingham Central Mosque who were most generous with their support.

During the course of the exhibition our team of student facilitators led by CRL staff worked with 13 different community groups to introduce them to the collection, delivering 26 introductory talks about the exhibition. These links are invaluable to us and we are keen to develop them further. As part of an Esmee Fairbairn Funded project over an 18-month period, library staff will continue this work particularly involving young people and women’s groups in creative engagement with the collection.

During the course of the exhibition, over 9,000 people visited from as far afield as the United States (California; Washington, DC), Kuwait, Dubai, Pakistan, Indonesia, Malaysia, and Indonesia as well as many UK visitors.

Our desire to make the manuscript available continues and it will be on display at the Birmingham Museum and Art Gallery until 3 August 2016 as part of their new ‘Interfaith’ gallery, a community-led exhibition. We are working with the British Council to confirm opportunities for the manuscript to be displayed in the Middle East and hope to have details confirmed around this soon.

Research into the collection was what originally led to the exciting discovery and our commitment to continue that research remains strong. We are working with a number of high-profile funders to realise our desire to form an institute dedicated to work on the wealth of manuscripts contained in the Mingana Collection and to strengthen our work around Arabic and Middle Eastern manuscripts.

'Shakespeare’s university’ marks 400 years of the Bard

The University of Birmingham has always badged itself as the great civic university of Shakespeare’s home region: a statue of the playwright occupies the place of honour in the pantheon of worthies sculpted above its main door (1900), and its library holdings include a copy of the First Folio, the first collected edition of Shakespeare’s plays (1623).

The playwright’s works, though, do not only feature centrally in the undergraduate and postgraduate curricula of Birmingham’s English and Drama departments, and in the world-leading research of its Shakespeare Institute, established in Stratford-upon-Avon in 1951. They are also the common focus of a whole range of public activities by which the University is now engaged in the civic and creative life of Birmingham as a city and Warwickshire as a county.

In 2016, the year in which Shakespeare’s works will have outlived their author by four productive centuries, those activities include a particular highlight in our groundbreaking five-year collaboration with the Royal Shakespeare Company (RSC).

While the Shakespeare Institute has always provided a database and team of expert consultants for Stratford’s Shakespearean theatres – its honorary fellows include Sir Kenneth Branagh, Dame Judi Dench and the company’s current artistic director Gregory Doran – this spring sees the reopening of the RSC’s iconic studio theatre, The Other Place, of which the University is a Founding Partner.

The third venue of that name, this will be at once the home of the company’s research and development department, a venue for new writing and experimental stagings of classics, and a shared laboratory in which our academics and research students and RSC theatre-makers will work together on new projects. These will include, this year, Marina, a new operatic version of Pericles, co-written by the Institute’s Professor Ewan Fernie.

For devotees of other media, the University is staging a Shakespearean art exhibition on its campus, and is involved in a still larger Shakespeare-themed exhibition, hosted by Compton Verney gallery near Stratford in association with the RSC.

Shakespeare Institute faculty and students have also produced a digital Shakespeare exhibition on touch-tables at the BBC’s Birmingham headquarters. The Institute is involved, too, in helping mount a Shakespeare
Collective responsibility

Working together for a brighter future

Collaboration matters. The most successful universities understand that global partnership is essential for world-class research, and those of us who forge meaningful and resilient links with like-minded partners around the world can expect to flourish in an increasingly international context.

At Birmingham, fundamentally we believe that as a pioneering global institution we must continue to be outward looking and to work with key international allies, supporting one another via mutually beneficial links. I have written here before about our signature partnership with the University of Illinois at Urbana-Champaign, a partnership which grew organically from academic relationships, and which we have nourished through joint institutional investments. Our new Birmingham–Illinois BRIDGE Fellowships will attract high-calibre early-career researchers to undertake exceptional research in areas as diverse as brain trauma, cultural heritage, genomic medicine, aging, race and high-speed rail, and spend a year at Urbana-Champaign.

Earlier this year our astrophysicists were critical to the international academic collaboration at the twin Laser Interferometer Gravitational-wave Laboratory (LIGO) detectors in Louisiana and Washington which detected cosmic gravitational waves.

Later this year the Birmingham Institute for Forest Research will commence work at our new Free Atmosphere Carbon Enrichment (FACE) facility. The ecological equivalent of the Large Hadron Collider, Birmingham stands alongside Sydney’s existing FACE facility and the proposed facility in Manaus, Brazil, in delivering a step-change in understanding how our forests will respond to future increases in atmospheric carbon dioxide, including effects on forest growth and agricultural pests and diseases. Only an interdisciplinary, international approach will achieve this.

Our partnership with Guangzhou, China, is illustrative of the way in which we prefer to develop partnerships – a collaborative investment model, which includes opportunities for two-way capacity and capability building. Our approach is not simply ‘come to Birmingham’; rather it is about building on our respective strengths to respond to shared priorities.

So far our collaboration with Guangzhou Municipal Government has enabled three phases of joint research which utilise areas of excellence from the University to contribute to the economic, social and cultural development of Guangzhou. Eleven joint research projects have been funded to date, with collaborations on railways, health, transport and energy storage projects, and a further four are expected this year.

During a recent visit to Melbourne to attend the Asia-Pacific Association for International Education Annual Conference, I signed a new strategic collaboration with the University of Melbourne, the centrepiece of which is an agreement to create 20 joint Priestley PhD fellowships. I was also honoured to have been invited to be a panellist at a debate on higher education policy issues attended by 80 Presidents, Vice-Chancellors, and Senior Academic Leaders from universities from 19 countries across the Asia Pacific Region. The areas covered were familiar to universities everywhere: the role of government in creating a sustainable funding environment for higher education; striking a regulatory balance which offers accountability while protecting the essential tenets of university autonomy and academic freedom; defining the role and purpose of a university.

Here in the UK, we are debating questions of teaching quality: how to find meaningful ways to assess the education we deliver that enhance what we already have but avoid the introduction of costly and burdensome bureaucracy? And how do we underpin this with structures which represent the student interest without allowing that interest to become the narrow filter through which all judgements are made and decisions taken?

Many of these questions are not new, and universities are incredibly resilient: they have withstood decades (and, in some cases, centuries) of turbulence. But to navigate successfully, and find opportunities in some of these challenges, requires a combination of creative thinking, rigorous future-proofing and ingenious collaboration. Having a powerful compass, such as the University of Birmingham’s five-year Strategic Framework, is essential for survival. Making Important Things Happen is the masterplan that sets out our ambitions to 2020 across the key platforms of Research, Education, Influence and Resources; harnessing the quality of our students, the creativity and leadership of our people, and our willingness to make bold – and sometimes tough – choices to realise our goals.

As one of the leading research institutions in the UK, we are characterised by our ability to innovate while remaining grounded in reality. Our partnerships, like all of our work, arise from intellectual curiosity and research power, but are focused on creating innovative, practical, and enduring solutions to big issues.

When academic partnerships work, they can achieve truly remarkable things.

Professor Sir David Eastwood,
President, University of Birmingham
Global ambition.
Global talent.

There are outstanding opportunities for academics at all stages of their careers to join our vibrant intellectual community and help shape the research agenda of the future.

Professor Tim Sottley, Pro-Vice-Chancellor for Research and Knowledge Transfer

Fellowship opportunities at the University of Birmingham

The University of Birmingham is committed to attracting the brightest and best from around the world to develop their academic careers at Birmingham.

Short-term research opportunities at the University of Birmingham

Fulbright Distinguished Chair
Each academic year the University of Birmingham hosts a Fulbright Distinguished Chair, the most prestigious Fulbright award. This generous six-month secondment enables a prominent US professor to be based at the University of Birmingham, with access to all the University’s research collections, and will provide an opportunity to undertake research and build links in the UK. Deadline for applications for 2017/18 is 3 August 2016

Professorial Fellows
As part of its global search in key academic disciplines, the University of Birmingham is seeking to appoint outstanding senior academics with an exceptional track record and proven impact in order to further increase the volume of genuinely world-class research across the University. These professorial posts represent the second tranche of appointments. Further details available at: www.birmingham.ac.uk/fellows

Birmingham–Illinois Bridge Fellows

The ‘Birmingham–Illinois Partnership for Discovery, Engagement and Education’ (BRIDGE) is a unique partnership between the University of Birmingham and the University of Illinois at Urbana-Champaign. What makes the BRIDGE partnership so distinctive is that it is genuinely multi-disciplinary, with over 55 cross-faculty links spanning Biosciences, Economic and Physical Geography, Psychology, Neuroscience, Environmental Genomics, Railway Engineering, Maths, Mechanical Engineering, Chemistry, American and Canadian Studies, Classics, History of Art, African Studies, Cultural Heritage and Education.

Six Birmingham–Illinois BRIDGE Fellows in targeted research areas will commence in post in September 2016. The Fellows will be employed by the University of Birmingham for a three-year term and spend a minimum of one year conducting research at the University of Illinois at Urbana-Champaign. The Fellows will have protected research time throughout their three-year term. The research priority areas for these Fellowships are in:

- Ageing and Cognition
- Brain Trauma
- Computational Genomic Medicine
- Cultural Heritage, Tourism and Economic Development
- Diversity, Race and Education
- International High Speed Rail

For further details please visit: www.birminghamillinoisbridge.org/fellows

Birmingham Fellows: become an academic leader of tomorrow

Established in 2011, the Birmingham Fellows programme is designed to attract high potential, early-career researchers to consolidate our already outstanding research trajectory. The goal of the Birmingham Fellows programme is to cultivate the next generation of Birmingham academics, to enhance the University’s academic strengths, and to contribute to the University’s exciting agenda for teaching and learning.

The Birmingham Fellows will have five years with protected time for high-quality research. This will allow outstanding, high potential, early-career researchers of any age to establish themselves as rounded academics who will go on to make a full and excellent contribution to research, teaching and academic citizenship. To date we have appointed over 60 outstanding, high potential, early-career researchers as part of our sector-leading Birmingham Fellowship programme.

Applications for September 2017 entry will open in Spring 2017.

www.birmingham.ac.uk/fellows

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