



UNIVERSITY OF
BIRMINGHAM

Job reference: 81237

A large, black and white photograph of a grand building with several domes, likely a university hall or library. The building is made of brick and has many windows. A large tree is in the foreground, and a car is parked on the right. A dark green horizontal bar is overlaid on the middle of the image, containing the text.

Reader or Professor of Respiratory Science
Institute of Inflammation and Ageing



COLLEGE OF MEDICAL
AND DENTAL SCIENCES

Introduction

The University

We have a long and proud history of firsts at the University of Birmingham; we were the first – and are now one of the largest – civic universities in the UK. We were also the first UK university to, amongst other things:

- be built on a campus model
- establish a Faculty of Commerce
- incorporate a Medical School
- welcome women to take medical degrees

More recently, we were the first university to establish a fully comprehensive secondary school, and when we opened our new campus in Dubai, we were the first Russell Group and Global Top 100 University to do so.

Our heritage as the original 'redbrick' is combined with one of the most compelling and ambitious agendas in Higher Education. Quite simply, at Birmingham we make things happen. Birmingham is a leading member of the Russell Group and a founder member of the Universitas 21 global network of research universities.

Home to world-class researchers, we count 11 Nobel Laureates among our staff and alumni, including three prizes awarded in 2016 for Physics and Chemistry. We have been integral to some of the greatest scientific discoveries of recent times, such as the Higgs Boson and Gravitational Waves, and are pioneering new approaches to tackling some of the biggest global challenges facing society; from antibiotic resistance and maternal health to conflict resolution and access to education.

With more than 7,500 staff, 34,000 students and 300,000 alumni across the globe, we think, recruit, and compete worldwide. Ranked in the top 100 universities globally and the top 20 in all domestic league tables, the quality of what we do at Birmingham is widely recognised. We were awarded Gold in the 2017 Teaching Excellence Framework and in the most recent Research Excellence Framework (REF2014), more than 80 per cent of our research was rated as internationally excellent or world-leading. In 2014, *the Times and Sunday Times* named us **University of the Year** in recognition of our bold, ambitious strategy and innovative approach to the challenges facing the sector. In 2016, they named us **University of the Year for Graduate Employment** – recognising our sector-leading employability programmes and outstanding rates of graduate employment.

Thinking differently is in our DNA. Led by our Vice-Chancellor, Professor Sir David Eastwood, the University is structured for swift decision-making, enabling us to capitalise on our academic range and financial strength as well as the opportunities that emerge in the fast-changing global HE environment. Many of our initiatives, such as our 'Birmingham Fellows' programme, which has so far seen over 150 of the world's best early career academics join us, our widening participation activities, and our unconditional offers strategy for exceptional students, have been much emulated within the sector.

Investing for the future

At Birmingham, we have a clear vision, ambitious leadership, world-leading academic strengths, and a secure financial base. Our plans for the future are underpinned by long-established financial probity. With an annual turnover exceeding £650 million, we use our financial strength to invest in the intellectual and physical future of the University, enabling us to plan with confidence and to continue to invest in the facilities and services that are required for high-quality research and an outstanding student learning experience. This judicious planning has enabled us to deliver a capital development programme. Some £300 million has been invested in the Birmingham campus over the past three years and our staff, students and wider community are already benefiting from a number of signature buildings, including a best-in-class library, a major sports centre, a dedicated postgraduate centre, outstanding new student accommodation, and a state-of-the-art student services hub.

We have now embarked on a further capital investment that will exceed £600 million over the next five years. Development is moving apace to establish a stunning Green Heart parkland area at the centre of our campus, a Collaborative Teaching Laboratory, a Hotel and Conference Park, Life Sciences Park, and many other facilities to benefit our academic and student communities. These developments also benefit the wider Birmingham community, with school children from across the city learning to swim in our pool and 50,000 people to date visiting our recently reopened Lapworth Museum of Geology. As an anchor institution in the city, we contribute £3.5 billion a year to our region's economy. The University of Birmingham School is part of this civic vision, providing an outstanding academic education for the city's young people and serving as a centre of teacher education in the region.

A convenor of debate

The University also plays an important role in shaping the national political agenda. We count two UK former Prime Ministers among our past Chancellors, and continue to welcome MPs, Ministers, and Prime Ministers to our campus. We regularly host political debates and events, bringing together people from across the political spectrum to debate the biggest issues, indeed as one political commentator put it: *'The magnificent Great Hall of the University of Birmingham has established itself as one of Britain's great cathedrals dedicated to our political devotions.'*

Our research helps to shape the national political agenda too. The ground-breaking Birmingham Policy Commissions bring together key figures from the public, private, and third sectors with our academics to generate new thinking on contemporary issues of global, national and civic concern. Commissions to date have included reports on the shape and nature of local public services in a 'big society', the future of nuclear energy in the UK, the security impact of drones, Healthy Ageing, Mental Health, and Cold Energy.

Exceptional research

The University is one of the UK's most successful institutions in terms of attracting research funding. We have a portfolio of 2,515 live projects with an award value to the University of £709 million. Our research record speaks for itself; the total value of research funding won by the University in 2016/2017 was £170m, and we are looking to double our research income by 2026. More than 80 per cent of all research outputs submitted by Birmingham to the latest UK-wide research quality survey (REF 2014) were rated as internationally excellent or world leading. These results also showed that 87 per cent of submitted research case studies were judged to have global impact further confirming our position among the world's top universities for research in a broad range of areas, from Psychology, History, and Education to Chemical Engineering. We also enjoy robust industrial partnerships.

Outstanding students

We have been encouraging bold, independent thinking and providing exceptional academic programmes that stretch and challenge for more than a century. We are proud of our excellent teaching which has been recognised in both the University's recent outstanding performance in the Quality Assurance Association's (QAA) Higher Education Review and our Gold rating in the 2016/17 Teaching Excellence Framework (TEF).

We understand that every student is individual with a unique learning style, and have invested in the latest learning facilities and technologies. As a result, we attract students with the finest academic credentials. Year on year, applications for our undergraduate places are growing rapidly and more impressively than they are nationally or for comparable universities – in 2017 we have received almost 90,000 applications for our programmes. This year, we will welcome approximately 12,000 undergraduate and postgraduate students at home and abroad. We are committed to delivering a first-class experience for our students in every aspect of their university life.

Global outlook

Ranked 84th in the QS World University Rankings 2018, the University has a significant international presence. The University was one of the founding partners of, and remains highly active in, the Universitas 21 global network of research intensive universities (www.universitas21.com). Our global outlook has two main components. In research, the University has a focused approach with an emphasis on key country partnerships. In China, we have developed a broad range of activities, including a signature collaboration with the Guangzhou Municipal Government, and well developed research collaborations in many parts of the country; we also have a dedicated China Institute to further these partnerships. In Brazil, the Universities of Birmingham and Nottingham are working together in a unique collaboration to develop a network of strategic partnerships with Brazilian universities, as well as the oil and gas industry. In North America, the University has a major collaboration with the University of Illinois at Urbana Champaign underpinned by a flourishing network of faculty-to-faculty relationships. In Australia, we have a growing partnership with the University of Melbourne, and in India, our partnerships continue to develop and have been strengthened by our Chancellor, Indian-born entrepreneur and CrossBench Peer Lord Billimoria of Chelsea.

In international education, we have more than 1,500 students being taught on Distance Learning programmes; over 200,000 learners have taken one of our Major Open Online Courses (MOOC), with 60% of these overseas students; and we deliver University of Birmingham degree programmes in Singapore and China. We also have partnership agreements with many of the world's leading universities, and offer a range of different educational collaborations, including joint PhDs with the University of Melbourne, numerous '2+2' degree programmes, and a developing suite of Master's courses delivered in conjunction with partners around the world. The University currently has some 7,000 international students. As a University with a global mindset, we have offices in New Delhi, Brussels, Shanghai, and Guangzhou. We are also developing a campus in Dubai, which opened its doors to students in September 2018. More information about our strategic global engagements and international research focus can be found on our website (www.birmingham.ac.uk/International/global-engagement/index.aspx)

Sport

Sport is integral to life at Birmingham and we are regularly ranked in the top five in the UK for the quality of student sport and are proud to count 2008, 2012 and 2016 Olympians and Paralympians amongst our current students and alumni. Our new sports development includes the city of Birmingham's first 50-metre swimming pool – an asset not only for our students and staff but for the wider community. We hosted the fastest man on earth in 2012 when the Jamaican Amateur Athletic Association chose the University as the venue for their pre-Olympic training camp and they were back again in 2017 as they prepared for the World Athletics Championships in London. We worked closely with partners regionally and nationally to secure the 2022 Commonwealth Games in Birmingham and are delighted to have been chosen as the venue for both Hockey and Squash.

Structure

The University structure comprises of five Colleges – College of Life and Environmental Sciences, College of Medical and Dental Sciences, College of Engineering and Physical Sciences, College of Social Sciences, and College of Arts and Law – each with a distinctive identity and areas of renown.

Science, Technology, Engineering and Medicine

The University of Birmingham is renowned across the STEM disciplines. Across the breadth of life and environmental sciences, we discover, apply and translate science, forging major advances in human and environmental health. Our pioneering research and education play a leading role in addressing the most significant human and environmental questions of the present, past and future. From exercise, biomedicine and mental health to climate change, food security, and resilience, we combine original thinking and real-world experience with clear focus and rigour.

Our world-leading collaborative research areas include:

- **Environmental Sciences**
- **Microbiology and Infection**
- **Centre of Precision Rehabilitation for Spinal Pain**
- **Centre for Human Brain Health**
- **Institute for Mental Health**
- **Water Sciences**
- **Birmingham Institute of Forest Research (BIFoR)**

In Engineering and Physical Sciences, we boast outstanding academic and research credentials, including Chemical Engineering and Railway Engineering, in which we were recognised with two Queen's Anniversary Prizes. In Physics, we received investment of £80 million to develop Quantum Technologies. Our substantive links with industry include a £60 million investment from Rolls-Royce and the Higher Education Funding Council for England (HEFCE) to develop the world-leading High Temperature Research Centre, a £60 million investment for the Energy Research Accelerator, and most recently £92 million from government and industry to establish a UK railway research partnership.

Global challenges

Given the challenges that societies from across the globe are facing, there has never been a more important time to understand the mechanisms that underpin these interactions. We are currently leading international collaborative projects that are specifically addressing areas such as:

- Healthy Environments
- Food and Sustainable Agriculture
- Water Security
- Clean Energy
- Conflict and Humanitarian Action
- Foundations for Economic Development (including infrastructure)
- Resilient Systems
- Mass Migration
- Antibiotic Resistance
- Sustainable Cities

Social Sciences

Social Sciences has an active research, knowledge transfer and consultancy culture, grounded in the academic framework of social sciences and always focused on issues of public concern. Interdisciplinary by nature, our work has local, national, and global impact and is focused around a number of specialist research institutes including the Institute for Conflict, Cooperation and Security, Institute for Research into Superdiversity, the Centre on Household Assets and Savings Management (CHASM), and the Jubilee Centre for Character and Virtues, which is based within our outstanding School of Education.

We have also developed a broad range of initiatives, focused on enhancing, supporting, and developing public sector services across the city and nationally. The Public Service Academy (PSA) brings together the University's teaching, research, consultancy and knowledge transfer expertise in public services. Working with a range of key public service partners, including Birmingham City Council, our work is focused on key themes including cohesion, health and well-being and localisation. Our Health Services Management Centre provides a combination of research, teaching, professional development, and consultancy to health and social care agencies and has established a unique reputation as a 'critical friend' of the healthcare community. The Institute of Local Government Studies (INLOGOV) is the leading UK centre for the study of local public service management, policy, and governance. With more than 40 years of experience working within local

government and the public sector, it shapes the very latest thinking for public servants. Our Business School is one of only a handful of the world's business schools to hold the gold standard of 'triple-crown' accreditation from the **AACSB** (Association to Advance Collegiate Schools of Business), **AMBA** (Association of MBAs) and **EQUIS** (European Quality Improvement System). It is also consistently ranked in global ranking tables.

Arts and humanities

The University's arts and humanities researchers are among the very best in the UK, highlighting our world-class research programme. Philosophy, History, Classics, Theology and Religion, and West African Studies are among the top ranked departments in the country and recognised for bringing significant benefits to society.

The Arts and Humanities, and University life in general, are enhanced by a rich set of cultural assets that include the Shakespeare Institute in Stratford-upon-Avon, which has direct working links with the Royal Shakespeare Company; the Ironbridge Institute in Shropshire, and the Barber Institute of Fine Arts – our own art gallery that houses works by many of the greatest artists in the western tradition. The Edgbaston campus also includes Winterbourne House and Garden, a unique Edwardian heritage attraction that is home to more than 6,000 plant species from around the world. Our cultural profile was significantly enhanced with the opening of the Bramall Music Building in 2013. This houses the Elgar Concert Hall, named after our first Professor of Music, Sir Edward Elgar, and is a striking venue that complements our global reputation in music, attracting some of the most talented musicians from across the world to study here.

The city of Birmingham

The city of Birmingham has undergone a major transformation in the last decade and regularly features as a top place to visit – in fact it was the only place in the UK listed in the Rough Guide's Top 10 places in the world to visit in 2015. In a recent *Sunday Times/Zoopla* report 'Best Places to live in Britain' three areas of Birmingham all made the top 50 best places to live in Britain, with the suburb of Moseley being voted the overall winner.

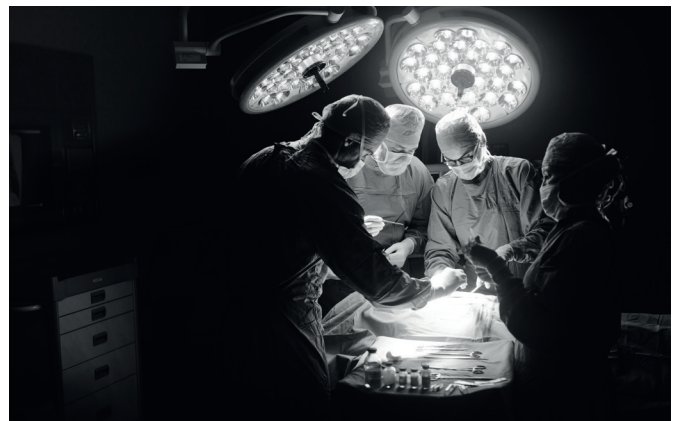
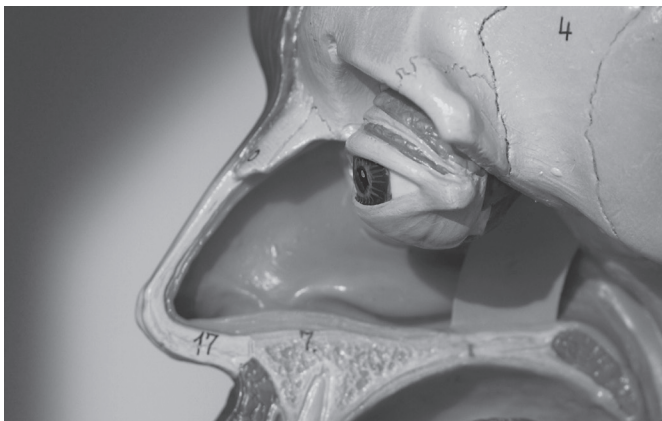
A city of historical interest and contemporary vision, Birmingham has a rich and diverse community that creates a vibrant, multicultural, and exciting place to live and work.

The city is home to the internationally renowned Birmingham Royal Ballet and one of the world's greatest concert venues: Symphony Hall. The City Museum and Art Gallery houses the world's finest collection of Pre-Raphaelite paintings, alongside a major collection of Old Masters, Modern and Contemporary pictures, while the iconic Bullring is one of the largest dedicated shopping facilities in Europe. Sports and recreation are also well served; the city offers international Test cricket, top-flight football, international championship golf and tennis, and top-class rugby. As a multicultural city, Birmingham is also renowned for the breadth of its cuisine and has more Michelin starred restaurants than any other English city outside London.

Birmingham is within an hour's drive of Stratford-upon-Avon and the Cotswolds. From Birmingham International Airport, more than 50 different airlines operate scheduled services to 100 destinations worldwide. The University has its own dedicated railway station, while 50 million passengers a year use Birmingham New Street Station, and the city will be a major hub for the high-speed rail network. London is 80 minutes away by shuttle service, with trains every 20 minutes.

Reader or Professor of Respiratory Science
Institute of Inflammation and Ageing
About the college

2/3



College overview and structure

The **College of Medical and Dental Sciences (MDS)** is the largest of the University's five Colleges with over 1,700 members of staff ensuring teaching and research excellence across a wide range of pre-clinical and clinical disciplines.

The College is structured into eight Institutes:

- **Institute of Applied Health Research**
- **Institute of Cancer and Genomic Sciences**
- **Institute of Cardiovascular Sciences**
- **Institute of Clinical Sciences**
- **Institute of Immunology and Immunotherapy**
- **Institute of Inflammation and Ageing**
- **Institute of Metabolism and Systems Research**
- **Institute of Microbiology and Infection**

Our Institutes are focused academic units in identified areas of high-performing research and teaching excellence, each with an ambitious strategy and empowered leadership. We draw together outstanding academic, clinical and professional services staff around coherent and highly collaborative themes.

Professional services

A diverse range of committed and high-performing professional services staff, managed through integrated College-wide teams, underpin and provide support to the establishment, development and delivery of all aspects of the College's activity. They support academic staff and students and provide core functions and support services in addition to delivering specialist technical services.

The model of central management with localised focus and delivery provides flexible, high-quality support according to academic need. The teams operate in close and effective partnership with colleagues across campus and in the NHS.

College location

The principal base of the College is part of the main campus of the University in Edgbaston, co-located with Queen Elizabeth Hospital Birmingham, and with a number of other key buildings both on and off-campus, including the Birmingham Dental Hospital and School of Dentistry at Pebble Mill, just a mile from the central campus.

Other NHS Trust partners are also on the same campus, including Birmingham Women's Hospital and the Barberry Hospital.

University of Birmingham Life Sciences Strategy

The Life Sciences Strategy (LSS) was developed following detailed engagement both internally and externally. The LSS identifies priorities in areas relevant to human health for the University as an outstanding, distinctive centre for Life Sciences research and education, including clinical and biomedical sciences and human biology.

The LSS is focused on building multidisciplinary research and teaching activities across the whole campus. It will help to deliver the region's ambition to establish Birmingham as one of the UK's pre-eminent locations for the Life Sciences sector delivering improved healthcare, economic growth and making the UK the best place to invest in life sciences research.

Integral to the delivery of the LSS is Birmingham Health Partners (BHP), a strategic alliance between the University and two major NHS hospital trusts; the Shelford Group member University Hospitals Birmingham NHS Foundation Trust and Birmingham Women's and Children's NHS Foundation Trust. BHP's mission is to harness research strengths in the University and NHS to deliver better treatments and care to patients.

Research

With over 1,100 academic staff and around £80 million new research funding per year, MDS represents a major international centre for biomedical and health research.

Our overall research objective is to develop and promote excellence in basic and clinical science with an ultimate goal of delivering improvements in human health. We take pride in a truly translational pipeline, delivering cutting edge clinical trials and patient studies, underpinned by cell and molecular biology research on both model organisms and humans.

Our research is supported by peer-reviewed multi-million-pound funding from a broad range of funders, including UK Research and Innovation, medical research charities such as

Wellcome, Cancer Research UK, Bloodwise, Versus Arthritis and the British Heart Foundation as well as the National Institute for Health Research and the European Union.

This is complemented by strategically important support from other government bodies (such as Birmingham City Council, the Greater Birmingham and Solihull Local Enterprise Partnership, the Department for Business, Energy & Industrial Strategy, the Department of Health, the Office for Life Sciences) and increasing funding from industrial partners including large pharmaceutical companies (eg, GSK and Roche) and SMEs (eg, Vital Therapies).

- The University of Birmingham was ranked in the top 75 universities worldwide for Clinical Medicine in 2018 by the Academic Ranking of World Universities, also known as the Shanghai Ranking.
- It was ranked in the top 100 universities by the QS World University Rankings 2019 for Medicine

With an average field weighted citation impact of 2.30 for medical and dental sciences our research is truly world-leading and over 25% of our publications appear in the top 10% cited papers worldwide. Our collaborative ethos and the multi- and inter-disciplinary nature of our research are highlighted by the fact that over 75% of our publications are developed in collaboration with national and international partners.

Our Institutes

Our Institutes are responsible for driving the further development and delivery of priority themes identified in the LSS and the **College's Strategic Framework**. They are championing interdisciplinary collaboration across the University's Colleges and in partnership with our regional NHS Trusts. Each Institute contributes to our translational pipeline, supporting fundamental research excellence through to clinical and applied health programmes.

This strategy ensures that our research delivers real impact in health and wealth generation and that our educational programmes are informed by our research strengths. Co-location and core focal points for each of the Institutes ensure cohesion, while at the same time promoting cross-Institute working and collaboration.

This is further enabled through access to key College and/or cross-campus-managed facilities and resources and the provision of high quality professional services support including core academic, technical and specialist administration in support of teaching and research delivery.

The **Institute of Applied Health Research** is focused in two broad areas: primary care and population health research, and healthcare evaluation and methodology.

There is expertise in the main community focused clinical disciplines of public health, primary care and occupational medicine. Methodological expertise encompasses biostatistics, health economics, clinical trials, evidence synthesis, patient reported outcomes, epidemiology, health psychology and qualitative research.

The Birmingham Clinical Trials Unit (BCTU) is internationally renowned and delivers both specific discipline related research and provides an exceptional collaborative framework for developing and delivering translational outputs from the University's wider research portfolio.

The Institute also hosts the £2 million NIHR Global Health Research Group on Global COPD in Primary Care, which is aimed at improving healthcare for patients with lung diseases around the world.

The Centre for Patient Reported Outcome Research optimises the use of patient reported outcomes in clinical trials and routine care, to improve service delivery, enhance patient care and outcomes and ensure that the patient perspective is at the heart of health research and NHS decision-making.

The Institute also hosts researchers aligned to the NIHR Research Design Service West Midlands, the NIHR Collaboration for Leadership in Applied Health Research and Care and the NIHR Clinical Research Network.

The **Institute of Cancer and Genomic Sciences** represents our major academic strengths in fundamental cancer research, particularly in clinical cancer genomics and bioinformatics, genome biology, viral oncology, stem cell biology, haematology, surgery (colorectal, head and neck, gynaecological and neurology) as well as cancer clinical trials.

The latter of these is driven through our **Cancer Research UK Clinical Trials Unit (CRCTU)**, which is the national lead for paediatric cancer trials. We also host the CRUK Birmingham Centre, receiving £5 million in 2017 to enable new treatment approaches to be developed and made available to patients, with a focus on personalised medicine to meet individual patient needs.

Additional key infrastructure includes the Birmingham Centre for Genome Biology, the cross-College Centre for Computational Biology and an NIHR-CRUK Experimental Cancer Medicine Centre (ECMC). The success of our

academic haematology has provided a model for the development of the Bloodwise-funded Trials Acceleration Programme (TAP).

We also lead the Centre for Rare Disease Studies and are the academic partner of the West Midlands Genomic Medicine Centre (WM GMC), the largest GMC in the UK and linking all 18 regional NHS Trusts with academic leadership based within this Institute.

The Institute also hosts the recently awarded £7 million NIHR Global Health Research Unit on Global Surgery, which will establish sustainable international research hubs across a range of low and middle income countries.

Our **Institute of Cardiovascular Sciences** is focused around two key themes: vascular inflammation, thrombosis and angiogenesis, and clinical and integrative cardiovascular sciences. Major awards centre on the regulation of platelet and leukocyte responses in vascular diseases, and the pathogenesis of cardiac diseases particularly atrial fibrillation.

With a BHF Chair and a number of senior BHF Fellows, this is a cluster of collaborative activity that champions interdisciplinary working through partnerships, such as the Engineering and Physical Sciences Research Council (EPSRC) Physical Sciences for Health integrated Centre for Doctoral Training and the NIHR Surgical Reconstruction and Microbiology Research Centre (SRMRC).

The Institute is leading the joint Universities of Birmingham-Nottingham research centre, the Centre for Membrane Proteins and Receptors (COMPARE), which is developing novel methods for visualising and studying membrane proteins with a particular focus on cardiovascular disease, and also the Midlands Cardiovascular Research Network.

The **Institute of Clinical Sciences** consists of a number of Schools dedicated to the delivery of research and education, including:

- **Birmingham Medical School**
- **School of Pharmacy**
- **School of Nursing**
- **School of Biomedical Sciences**
- **School of Dentistry**

Benefitting from a highly interdisciplinary approach, it works closely with all other College Institutes to ensure delivery of teaching excellence and high quality research outputs. Some of the main focusses of research within the Institute include:

- **Dentistry** – Research in the School of Dentistry is focussed

into two overarching themes: clinical and experimental oral sciences and regenerative and rehabilitative science.

The School of Dentistry was ranked 13th in the 2019 QS World University Rankings and 11th in the Complete University Guide 2020

- **Nursing** – Research is organised in three themes: risk, violence and abuse, end of life care, and organisation and delivery of services. The School of Nursing was ranked 7th in the Complete University Guide 2020. Our Nursing programme was ranked 10th in the Guardian University Guide 2020.
- **Pharmacy** – The principal pharmacy research themes are multi-disciplinary in the areas of drug discovery and development, pharmaceutical formulation and delivery, and clinical pharmacy practice. Pharmacy was ranked 11th in the Complete University Guide 2020. Our Pharmacy programme was ranked 10th in the Guardian University Guide 2020.

The **Institute of Immunology and Immunotherapy** builds on the longstanding tradition of research in immunology at the University.

The Institute hosts the £12 million NIHR Birmingham Biomedical Research Centre (BRC), which provides improved therapies for a range of inflammatory conditions affecting gut, liver, joint and muscle tissues, and the internal Centre for Liver and Gastrointestinal Research.

The CRUK Birmingham Centre, jointly hosted with the Institute of Cancer and Genomic Sciences, brings together scientists and clinicians to catalyse fundamental discovery science in cancer and novel therapeutic developments originating from this research.

Our Clinical Immunology Service supports a range of national cancer trials, and led a £7.3 million MRC Clinical Infrastructure award to provide 'deep' immunophenotyping of patients.

The Institute also hosts the £2.2 million Bacterial Vaccines (BactiVac) network, which accelerates the development of vaccines against bacterial infections relevant to low and middle-income countries. It is the first network of its kind to focus specifically on bacterial infections.

Our **Institute of Inflammation and Ageing** benefits from a highly collaborative leadership team focused on translational outputs, based within a dedicated wing of the Queen Elizabeth Hospital Birmingham.

The strength of the Institute's vision is represented by a number of major national awards, as well as our key role in the NIHR Translational Research Collaboration (TRC) in joint and related inflammatory diseases:

- MRC-Arthritis Research UK Centre for Musculoskeletal Ageing Research (with Nottingham University)
- Rheumatoid Arthritis Pathogenesis Centre of Excellence (with the Universities of Glasgow and Newcastle)
- Arthritis Research UK Experimental Arthritis Treatment Centre
- NIHR Surgical Reconstruction and Microbiology Research Centre (SRMRC)
- NIHR Trauma Management MedTech Co-operative
- The Scar Free Foundation Centre for Conflict Wound Research
- The Scar Free Foundation Birmingham Burns Research Centre

The Institute leads themes within the NIHR Birmingham BRC; the inflammatory joint disease and inflammatory sarcopaenia themes are led by researchers in the Institute and lead programmes to better understand a range of debilitating inflammatory diseases for patients in Birmingham and beyond.

A £7 million investment from the Kennedy Trust for Rheumatology Research has also supported a new partnership with the University of Oxford to accelerate the development and testing of new therapies for patients with arthritis – the Arthritis Therapy Acceleration Programme.

The **Institute of Metabolism and Systems Research** offers a highly multi-disciplinary collaborative environment that combines leading excellence in metabolism, endocrinology and reproduction research with world class expertise in metabolome analysis, live cell imaging, model-based and human in vivo physiology and computational systems science approaches.

The Institute drives strategic leadership for the University of Birmingham Metabolomics Core, which comprises a unique cluster of capacity and expertise for metabolome analysis, delivered by the Phenome Centre Birmingham (£7.3 million MRC Clinical Infrastructure award), the Steroid Metabolome Analysis Core, the Metabolic Tracer Analysis Core and the Henry Wellcome Biomedical Nuclear Magnetic Resonance Facility.

Institute researchers drive key components of COMPARE, developing novel methods for visualising membrane proteins for prevention and treatment of disease.

The Institute's science is translated into health facilitated by a number of translational centres, including the Centre for Endocrinology, Diabetes and Metabolism, the Centre for Women's and Newborn Health and the £5 million Tommy's National Centre for Miscarriage Research, alongside key contributions to the MRC-ARUK Centre for Musculoskeletal Ageing and the NIHR Birmingham BRC.

The **Institute of Microbiology and Infection** draws together one of the largest groups of academic expertise in this area nationally and internationally. The Institute's staff are expert microbiologists, immunologists, biochemists and chemists, with technical expertise in next generation sequencing, genomics, proteomics, molecular and structural biology, biotechnology and modelling.

Diverse research programmes encompass fundamental science of model organisms to the biochemical and biophysical analysis of microbial components to translational research on key pathogens of medical and veterinary importance. Major interests include pathogenomics, chromosome architecture and gene regulation, plasmids and mobile DNA, physiology and adaptive response, cell wall structure and membrane proteins, pathogenesis and host-pathogen interactions, infection and host-immune response, antibiotic and antimicrobial resistance and environmental biotechnology.

The Institute is supported by two Wellcome-funded PhD programmes, the NIHR SRMRC, the MRC Cloud Infrastructure for Microbial Bioinformatics and the Biotechnology and Biological Sciences Research Centre (BBSRC)-supported MicrobesNG, a national platform for microbial genome sequencing and strain repository.

Education

Each year the College trains more than 400 medical students, including a Graduate Entry cohort. Nearly one third of our medical students intercalate on a choice of programmes after the second, third or fourth year of their course. We also train 71 dental students, 23 biomedical materials science students, 160 biomedical science students, 160 nursing students, 70 pharmacy students and 60 physician associate students.

There are also approximately 700 postgraduate taught students and 500 postgraduate research students in the College, managed by a cross-College Graduate School. The College has excellent library and reference facilities, including the Barnes library and Doug Ellis Learning Hub, which complement the wider facilities available to students on campus.

The Institute of Clinical Sciences provides a clear focus for integrating our education and training programmes, co-ordinating all teaching, student engagement and related activity across the College to deliver a high quality student experience. The Institute also supports increased recognition of the value of education and teaching contribution through an enhanced emphasis on pedagogy.

We are committed to providing students from all backgrounds with the opportunity to discover education and research in biomedical sciences and healthcare. We deliver a range of widening participation activities to bring students onto campus allowing them to explore what it is like to be a student at our University while giving them an insight into the courses they could study here and the pioneering research underpinning them; almost 3,500 students have received support from our extensive widening participation activities over the last 10 years and around 15% of our medicine intake is now from under represented backgrounds.

Our employability rates within the College are excellent, with some notable alumni in influential positions all around the world.

Highlights from the 2018 National Student Survey included:

- 98% of our Pharmacy students said they were satisfied with the teaching on the course
- 95% of our Nursing students said they were satisfied with the teaching on the course
- 91% of our Biomedical Science students said they were satisfied with the teaching on the course

Working in partnership

Our partnership working with regional NHS Trusts is very strong, as exemplified by **Birmingham Health Partners (BHP)**, an exciting collaborative platform between the University, University Hospitals Birmingham NHS Foundation Trust and Birmingham Women's and Children's NHS Foundation Trust.

BHP has an outstanding healthcare infrastructure based on a campus that encompasses renowned hospitals, world-class multi-disciplinary research facilities, clinical and industry-focused space and a range of flagship national centres of excellence. Globally Birmingham is one of the few cities that can deliver such comprehensive co-located expertise.

The co-location of the partners allows BHP to deliver an integrated approach to research and healthcare innovation; working together to shape the future of healthcare to benefit our communities and change lives.

BHP leads one of six new sites across the UK created to address challenging healthcare issues through use of data science, funded by £30 million from Health Data Research UK. The University of Birmingham and University Hospitals Birmingham NHS Foundation Trust form part of the Midlands site, together with the Universities of Leicester, Nottingham and Warwick.

Research and facilities

The **Advanced Therapies Facility**, incorporating the Cell Therapy Suite, Human Biomaterials Resource Centre and Microbiome Treatment Centre, works with a large number of NHS Trusts in the region and acts as the hub for collaborative initiatives such as the 100,000 Genomes Project WM GMC.

The WM GMC draws upon our unique population demographic through a collaboration of 18 NHS Trusts co-ordinated by our partnership with the West Midlands Academic Health Science Network (WMAHSN). The WMAHSN brings together NHS commissioners, providers of NHS services, industry, academia and representatives of the people of the West Midlands to support the spread and adoption of innovation across the region.

The £9 million **Midlands and Wales Advanced Therapy Treatment Centre (MW-ATTC)**, formed in March 2019, is a health consortium jointly led by the NIHR Birmingham BRC and NHS Wales to ensure more patients benefit from a new generation of breakthrough therapies.

Collaborative projects and opportunities

We also partner with many other Universities both in the UK and overseas on collaborative research projects and split site PhD opportunities. These collaborations maximise our research outputs, and provide PhD students with opportunities to broaden their knowledge and skills across multiple world leading institutions; projects with international partners include a large number of Horizon 2020 awards and specialist strategic collaborations with partners, including Universitas 21 and Sun Yat Sen University, China.

NHS Trusts and practices

In addition to the NHS Trusts in our immediate vicinity, the College works closely with many of the teaching hospitals, clinical commissioning groups (CCGs) and training practices across the West Midlands. Students are encouraged to broaden their knowledge and experience by working across a wide range of organisations and experiencing the varied cultures and demographics of the West Midlands.

We have particularly strong research links with Sandwell and West Birmingham Hospitals NHS Trust, which hosts much of our clinical academic work in rheumatology, ophthalmology and cardiology.

Cross-campus collaboration

Our cross-campus collaborations within the University are vital, to share expertise and knowledge across disciplines, as well as facilities, equipment and resources. We have strong relationships with all other University Colleges, most notably with the College of Life and Environmental Sciences in connection with the Life Sciences Strategy as outlined above.

Other strong links are with the Business School, within the College of Social Sciences for education delivery, and with the College of Engineering and Physical Sciences for both teaching and research activity where programmes in biomaterials, regenerative medicine and biomathematics are particularly exciting. We are also looking to forge stronger links with the College of Arts and Law in areas that include medicolegal and medical ethics and the use of the arts to engage and treat patients.

Clinical academic roles

Appointment to a clinical academic role will require the appropriate level of honorary contract to be held with the NHS or other partner body. The organisation awarding an honorary contract will expect the pre-employment checks such as DBS, occupational health clearance and right to work to have been undertaken by the University before awarding an honorary contract.

Facilities

The University continues to invest in resources and research facilities to ensure that our academic staff and researchers are able to pursue their research and educational ideas in an outstanding and facilitatory environment. Cross-College enabling technologies platforms support and strengthen our research in key areas including sequencing, mass spectrometry, whole organism and cell imaging, cell sorting and flow cytometry and NMR based metabolomics and structural biology. This is supplemented within the College by our protein expression, genome editing and intra-vital imaging facilities.

Our research facilities

Medical School building and Institute of Biomedical Research

Within the Medical School building teaching facilities include the 450-seat Leonard Deacon lecture theatre and the 398-seat Arthur Thompson hall, dedicated practical teaching spaces for pharmacy, anatomy and clinical skills and a prosectorium incorporating 10 ventilated tables and high tech AV teaching aids.

The Med Café and Wolfson Common Room provide our students, staff and visitors ample space to interact in a less formal environment while still providing facilities to promote group working.

Our research laboratories are accommodated across several buildings with a large concentration of these in the Institute of Biomedical Research complex where they are arranged to promote collaborative working with access to the Advanced Therapies Facility and the NIHR Birmingham Clinical Research Facility.

Institute of Translational Medicine

The £24 million **Institute of Translational Medicine (ITM)**, which sits between the College and University Hospitals Birmingham NHS Foundation Trusts, was co-funded by the former Department for Business, Innovation and Skills and BHP.

It is an innovative development bringing together world class clinicians, scientists and clinical trials teams to accelerate access to new diagnostics, drugs and medical devices thereby enabling patients to benefit more rapidly from breakthrough therapies and technologies.

The ITM incorporates the BHP Centre for Rare Diseases, the NIHR Trauma Healthcare Technology Co-operative, the Medical Devices Testing and Evaluation Centre led by the College of Engineering and Physical Sciences, a new early-phase trials team and a commercial hub to host pharmaceutical companies and SMEs.

It provides excellent facilities for interaction between different specialities; informatics, the ARUK-MRC West Midlands stratified medicine facility, the Centre for Patient Reported Outcomes, biomarkers analysis, and clinical trials design all have a strong presence along with the NIHR Birmingham BRC, CRUK Birmingham Centre and the NIHR SRMRC.

Further facilities

The **Phenome Centre Birmingham** is a large metabolic phenotyping facility led by internationally-recognised metabolomics and clinical experts at the University in collaboration with BHP. It has been established as part of a UK Stratified Medicine initiative led by the MRC to develop capacity and capability to perform large-scale metabolic phenotyping of the human population for stratified medicine. The Centre, along with additional facilities, including the ITM laboratory, were funded through the University's £7.2 million MRC Enhancing UK's Clinical Research Capabilities and Technologies award and Wolfson, bringing technology and infrastructure to design and deliver novel precision medicine trials.

The **BioHub Birmingham** is also co-located on campus within the Birmingham Research Park. This £6.8 million facility offers fully serviced laboratory and office space for growing Life Sciences businesses. Just 500 metres from the ITM, it supports a growing portfolio of medical spin-out companies from the University and other local growing businesses.

2015 saw the opening of the new £50 million **Birmingham Dental Hospital and School of Dentistry**. The hospital and school, at Pebble Mill, is the first integrated, stand-alone dental hospital and dental school to be built in the UK for almost 40 years and provides a superb facility for dental research, teaching and practice.

Investment into the University estate continues across campus, with an ambitious programme of development underway, including targeted investment to further develop and maintain the College teaching and research estate.

Finally, the College is also taking a leading role in establishing a new **Birmingham Life Sciences Park (BLSP)** adjacent to the University. BLSP will build on BHP's vision to deliver research that matters as part of an exciting regional and national life

sciences strategy. It will bring together outstanding researchers, clinicians, policy makers and industry to rapidly translate scientific and clinical insights into patient benefit and economic growth. It will reinforce Birmingham's ability to support innovative and pioneering partnerships that build on the strong existing collaborations.

Our outstanding facilities and strong ethos of partnership working, combined with multi-disciplinary academic excellence across the University and a diverse regional population of over five million mean that Birmingham is ideally placed to occupy a world-leading position in the rapidly evolving Life Sciences sector.

Equality and diversity

Promoting equality and diversity is at the heart of the College's strategic vision and an issue that the College Board takes very seriously. The College's equality and diversity leadership team drives and embeds behavioural and cultural change throughout the College.

This is carried out through promoting staff and student diversity activities, signposting staff and students to appropriate policies and services, exploring equality related barriers that may hinder any member of staff or student being successful, providing scrutiny for policy and strategy development and implementation, and providing an advocacy role as and when required for implementation of policy and delivery of plans.

The College was awarded an Athena SWAN Bronze award in October 2018 in recognition of progress made in furthering the recruitment, retention and progression of female academic staff. The College has delivered a comprehensive and innovative range of activities, refreshed and changed policies and taken practical steps to improve the working environment. The College is piloting provision of technical support for clinical trainees during maternity leave. A fund is also available to help with childcare costs during conferences and a budget is set aside annually to fund SWAN events. Staff can access a range of leadership opportunities and are offered grant workshops and fellowship interview practice. Events and developments are listed online and a **video** outlines how SWAN activities can help colleagues in the College.

To find out more about our research, education and outstanding facilities, please visit our website:
www.birmingham.ac.uk/mds.

Reader or Professor of Respiratory Science
Institute of Inflammation and Ageing

Job description

3/3



Job description

Job outline

- Full-time
- Duration of post – Open
- Post is open to Internal and External candidates
- Reader/Professor Grade 9/Grade 10
- Salary – Competitive package for an outstanding candidate
- Informal Enquiries – Professor Janet Lord (j.m.lord@bham.ac.uk) or Professor David Thickett (d.thickett@bham.ac.uk)

The Institute of Inflammation and Ageing benefits from a highly collaborative leadership team focused on translational outputs, based within a dedicated wing of the Queen Elizabeth hospital Birmingham. The strength of the Institute's research is represented by a number of major national awards, including the MRC-Arthritis Research UK Centre for Musculoskeletal Ageing Research (with Nottingham University); Arthritis Research UK Centre of Excellence in the Pathogenesis of RA (with the Universities of Glasgow and Newcastle); Arthritis Research UK Experimental Arthritis Treatment Centre; NIHR SRMRC Trauma Research Centre; NIHR Healthcare Technology Cooperative (Trauma); the Scar Free Foundation Burns Research Centre, as well as our key role in the NIHR Translational Research Partnership on joint and related inflammatory disease and the NIHR BRC in Inflammation.

The NIHR Birmingham BRC was established in 2017 with £12 million funding. The inflammatory joint disease and inflammatory sarcopaenia themes are led by researchers in the Institute. The NIHR Birmingham BRC will support a five-year programme to better understand a range of debilitating inflammatory diseases for patients in Birmingham and beyond. A £7 million investment from the Kennedy Trust for Rheumatology Research also supports a new partnership with the University of Oxford to accelerate the development and testing of new therapies for inflammatory arthritis.

Within the Institute resides the Birmingham Acute Care Research group (BACR), which brings together researchers in Respiratory medicine, Acute medicine, peri-operative medicine, critical care and paediatric intensive care. The goal of the BACR group is to further develop Birmingham as a nationally and internationally recognized centre of clinical trial excellence in acute care research with a life course approach spanning paediatric and geriatrics. The BACR members have extensive expertise in conducting translational research, systematic reviews and phase I, II and III clinical trials and hold

monthly research updates. The BACR group have undertaken observational and clinical trials of simvastatin in sepsis, pneumonia and abdominal surgery. There is expertise in critical care and peri-operative medicine related studies (BALTI-I, II and Prevention and VINDALOO) as well as in healthy volunteer studies to understand the impact of ageing on respiratory health.

The Institute of Inflammation and Ageing wishes to appoint a non-clinical Chair of Respiratory Science to support its 5 year strategy to increase research capacity in the Respiratory team, with the ultimate aim being to prepare it for inclusion in the BRC renewal in 2022. We intend to fill the post with a senior non-clinical researcher with a strong translational CV and in particular bioinformatics experience, to meet skills gaps in our Institute and the BRC. An applicant with expertise in epigenetics and/or drug discovery and pharmacology would be well suited to our needs.

This post would also support the fundamental science development of the newly formed Acute Care Research group which aligns to NIHR priorities for research. This appointment would add significant value to many of the research themes within our institute, the BRC and within the College of Medical and Dental Sciences as a whole.

Our strategic aim with this appointment is therefore to further develop the senior scientist academic within respiratory medicine and the BACR who will contribute to multidisciplinary working within the Institute and ensure inflammatory respiratory disease research is included as a theme in the next round of BRC applications.

This is an important strategic post for the Institute and will come with a competitive salary and start up package.

Job description

Main responsibilities

Research

The substantive appointment will support the core themes of the IIA. The post-holder will be expected to:

- Pursue a personal research programme consistent with the Institute, College and University's research priorities
- Build the research profile of the College and University through active engagement with relevant external stakeholders including research councils, learning bodies and professional bodies
- Plan and undertake high-quality research cognisant of relevant metrics for international reputation and scholarly merit.
- Publish research outputs in peer reviewed journals of international standing suitable for inclusion in REF, of 4* or 3* quality
- Generate research income through successful applications to major funding bodies including Research Councils
- Contribute to the planning, teaching, examining and marking of undergraduate and postgraduate modules including: supervise and manage research projects, supervise and manage Masters and Doctoral students both within the Institute and externally
- Apply knowledge in a way which develops new intellectual understanding
- Oversee a portfolio of knowledge/transfer activities which facilitate the construction of networks among both scholarly and end-user communities in this area of activity
- Provide expert advice to staff and students within the discipline and beyond as appropriate
- Develop links with external contacts in the UK and internationally to enhance the scholarly reputation of the University
- Collaborate in research initiatives in and beyond the University

Teaching and Learning

- Provide academic leadership and contribute to teaching, learning and assessment on undergraduate and postgraduate programmes and CPD in the College and University
- Cooperate with colleagues in the continuous review and development of modules and programmes in terms of content, delivery and assessment
- Be responsible for the design and content of areas of teaching and learning associated with the Institute subject area within the College and University's undergraduate and postgraduate programmes
- Provide academic support and advice to undergraduate and postgraduate students
- Promote the use of a range of methods and techniques in teaching, learning and assessment

Management and Administration

- Be involved with the management of the Institute subject area and to carry out other specific College and University roles and functions as may be reasonably required
- Contribute to the recruitment of students to degree, CPD and research programmes in the College and University when appropriate
- Take part in and, where appropriate, to act as Chair of one or more College or University committees
- Make a major contribution to selected administrative activities within the University (eg, appeals panels, working groups)
- Advise on the personal development of colleagues or students and engage in personal training programmes consistent with the needs/ aspirations of an individual, or the Institute
- Participate in the administration and/or management of research and/or teaching across the Institute or College
- Lead and manage teams to devise and implement a new and/or revised process (eg, new programme or a recruitment drive)
- Contribute to widening participation, outreach, public engagement, dissemination of scholarships, staff/student recruitment drives, public understanding of the discipline
- Undertake any such duty as may be reasonably requested and necessarily commensurate with the nature and grade of the post

Candidate Profile

- Have a highly developed knowledge of the principles, theory and practices associated with Respiratory Science and bioinformatics such that they are able to evidence a previous sustained and continuing record of high quality publications and significant grant capture in these areas
- Have demonstrable experience with research techniques and models that would complement the IIA research activity is highly desirable
- Display a record of translating their research activities into high quality, innovative teaching and learning activities
- Have made a significant contribution nationally or internationally to the discipline, for example through journal editorial activity, administrative roles in a relevant academic or corporate body

Job description

Person specification

- A higher degree such as a PhD in a relevant field
- A strong and proven background in the area of Respiratory Science / Disease with clear evidence of developing and implementing novel research strategies
- An established record of attracting and securing external high value funding
- An international reputation for excellence in research and teaching demonstrated through an outstanding publication record in high impact journals and suitable teaching performance indicators
- Extensive experience of fostering academic collaboration across disciplinary boundaries and with industry
- Experience of working within and leading internal and external research networks
- Extensive experience of undergraduate and postgraduate teaching and supervision to doctoral level
- A variety of methods for teaching and advising individuals and groups of undergraduate, postgraduate and/or CPD students
- Planning and reviewing personal teaching approaches and acting as a mentor to encourage others to do the same
- Making substantial contributions to the delivery and design of teaching programmes
- Undertaking the full range of responsibilities in relation to student supervision, marking and examining
- Acting as a personal tutor for academic and pastoral issues and experience mentoring research activity of junior staff
- Engagement with external bodies to enhance national or international standing of the discipline
- Commitment to the promotion of equal opportunities
- Identification of developing new areas of research and teaching
- Ability to solve problems creatively and effectively and strategic planning with effective implementation and evaluation
- Engagement in knowledge-transfer activities

Appointment process and how to apply

Applicants are invited to submit their application online to us, via www.hr.bham.ac.uk/jobs
Please quote reference number **81237**