



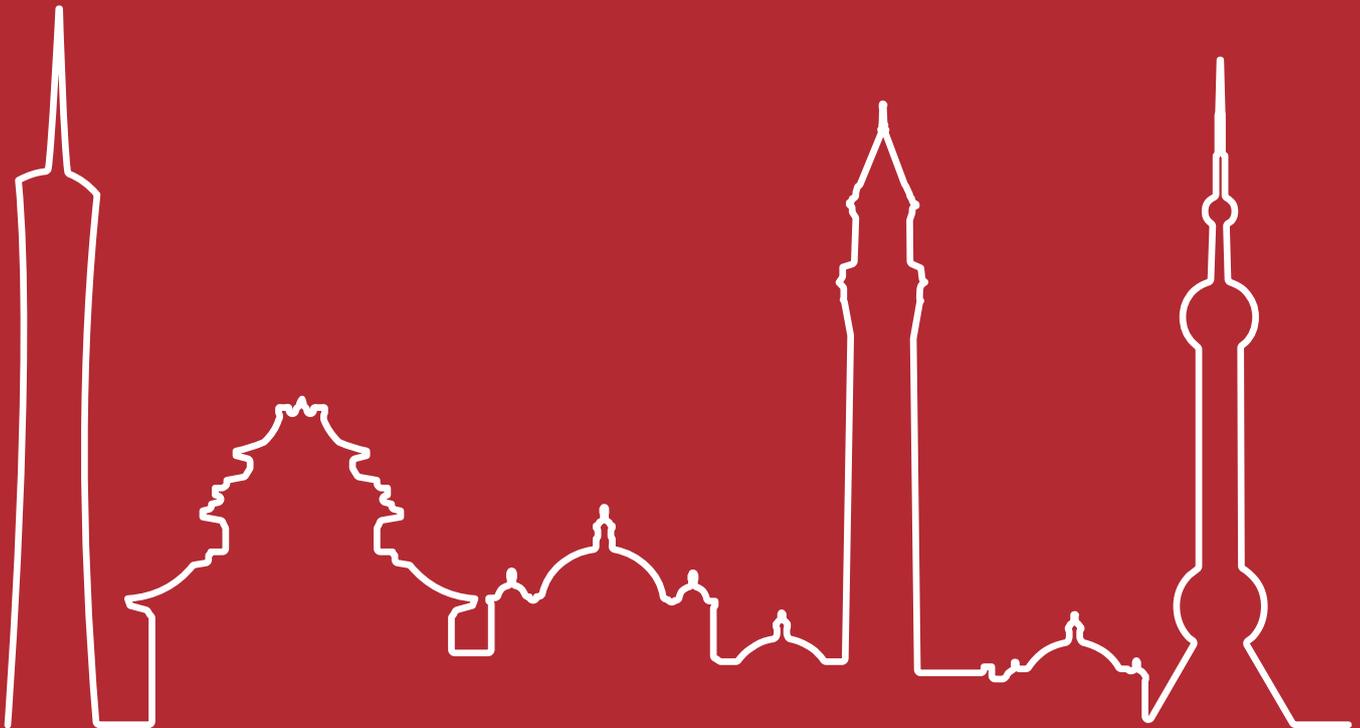
UNIVERSITY OF  
BIRMINGHAM

CHINA INSTITUTE

# UNIVERSITY OF BIRMINGHAM CHINA INSTITUTE

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# ANNUAL REPORT



2019



# WELCOME

On behalf of the University of Birmingham China Institute I am delighted to introduce our inaugural annual report, which covers the calendar year 2019, as well as providing a backdrop to our engagements in China to date.

The China Institute is a hub for Chinese interests at the University of Birmingham. Our goal is to bring together people, ideas, funding and academic excellence to help create opportunities for those keen to discover and engage with what China has to offer to our diverse university community.

We are proud of our valuable partnerships that have allowed us to forge successful interactions between some of the best minds in Birmingham and China, to empower progressive and impactful developments in education and research. We have a number of longstanding engagements including links with regional governments, higher education institutions, businesses and civic society in fields such as health, transport, engineering, energy and the environment.

In October, a number of our partnerships were showcased to our Vice-Chancellor, Professor Sir David Eastwood, as he joined a delegation from across the University to visit Birmingham's sister cities of Nanjing and Guangzhou. During this visit, we renewed our cooperation agreement with the Guangzhou Municipal Government and engaged

in strategic discussion with the Nanjing Municipal Government. In Nanjing, we launched a number of exciting new projects with our strategic partners, Southeast University and Jiangsu Industrial Technology Research Institute, and welcomed the next phase of our relationship with Phoenix Publishing and Media Group. The visit also saw the launch of an independent report on the Economic and Social Impacts resulting from the eight-year collaboration between the University of Birmingham and the Guangzhou Municipal Government.

Other highlights included our annual Chinese New Year concert, led by world-class pianist Di Xiao, and in November we were delighted to welcome Professor Sir David Hendry, Professor of Climate Econometrics at the University of Oxford to deliver our annual Li Siguang Lecture: 'Climate Change in the Long Run'.

The China Institute is proud of its progressive and impactful collaborations, and we look forward to the next year, as we continue to forge lasting connections between some of the best minds in Birmingham and China.

**Professor Jon Frampton**

Director of the China Institute, Deputy Pro-Vice-Chancellor (China)



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# 2019 YEAR IN REVIEW

9,526 

**Weibo followers**  
(as of end of December 2019)

8,525 

**WeChat followers**  
(as of end of December 2019)

1,158 

**Twitter followers**  
(as of 13 January 2020)

500+ 

**incoming visitors**  
for China events

2 

**major events**  
on campus

2 

**joint research**  
centres established

>5,000 

**Chinese students**  
studying at the University  
of Birmingham  
(as of January 2020)

704 

**joint publications between**  
Birmingham and Chinese  
institutions in 2019 – an  
increase of 6.5% on 2018

£3.1 million

**External research income**  
(for academic year 2018-19)

# ECONOMIC IMPACT STUDY



In 2019, we commissioned London Economic to carry out an impact study of the economic and social impact of the University of Birmingham on the city of Guangzhou, which we launched at an event in Guangzhou in October 2019.

[www.birmingham.ac.uk/Documents/international/Guangzhou/19973-Guangzhou-Impact-Report-AW-Low-Res.pdf](http://www.birmingham.ac.uk/Documents/international/Guangzhou/19973-Guangzhou-Impact-Report-AW-Low-Res.pdf)

“I’m delighted with the results (of the report) and that we are able to measure this not only in financial terms, but in terms of the benefit to the lives of the people of the city. We look forward to many more years working together with the Guangzhou Municipal Government to meet challenges and facilitate closer relations between our cities.”

Professor Sir David Eastwood,  
Vice-Chancellor and Principal,  
University of Birmingham

The total annual financial impact associated with the University’s education and research collaborations and from activity supporting these initiatives in Guangzhou is ¥327 million (£36.9 million).

“The report’s findings are a testimony not only to the strong partnership between the University of Birmingham and the city of Guangzhou, but also the commitment shown by both parties to ensure that the fruits of their collaboration are shared as widely as possible.”

Dame Barbara Janet Woodward,  
British Ambassador to China



# STRATEGIC CITY PARTNERSHIPS

## STRATEGIC PARTNERSHIP WITH THE CITY OF GUANGZHOU

As a global civic University, we decided almost ten years ago that Birmingham's sister city of Guangzhou was the ideal place for us to base ourselves in order to work collaboratively with local partners and the city government. The University of Birmingham maintains a permanent office that coordinates research activity, manages relationships with stakeholders, and explores new education initiatives.



## GUANGZHOU MUNICIPAL GOVERNMENT FUNDING

The University of Birmingham has benefitted from participating in funding schemes available from the Guangzhou Municipal Government, that have enabled our researchers to collaborate with Guangzhou-based experts to deliver more than 40 collaborative research projects since 2012, and to attract research funding totalling ¥175 million (£20 million).

In 2017–18, we secured ¥26 million (£3 million) of funding for running projects with local partners. We received the majority of this input – ¥22 million (£2.5 million) – from Guangzhou Municipal Government funding streams, with the remaining 13% coming from other sources. This funding allowed research aimed at delivering economic and social impact across a number of disciplines:

- In 2017–18, research into medicine and health care accounted for ¥10.5 million (£1.2 million) or 41% of the total. Research into advanced engineering and materials attracted ¥10.1 million (£1.1 million) or 39% of the total and ¥4 million (£480,000) or 16% was associated with ongoing transport research.
- Econometric research finds that research and development activities significantly and positively contribute to economic growth. Using this benchmark, we determined that our collaborative research activities in Guangzhou in 2017–18 were worth ¥32 million (£4 million) to the economy.
- It is estimated that every ¥1 million (£100,000) invested in research partnerships with the University of Birmingham generated a return of ¥2 million (£239,000) for the local economy.

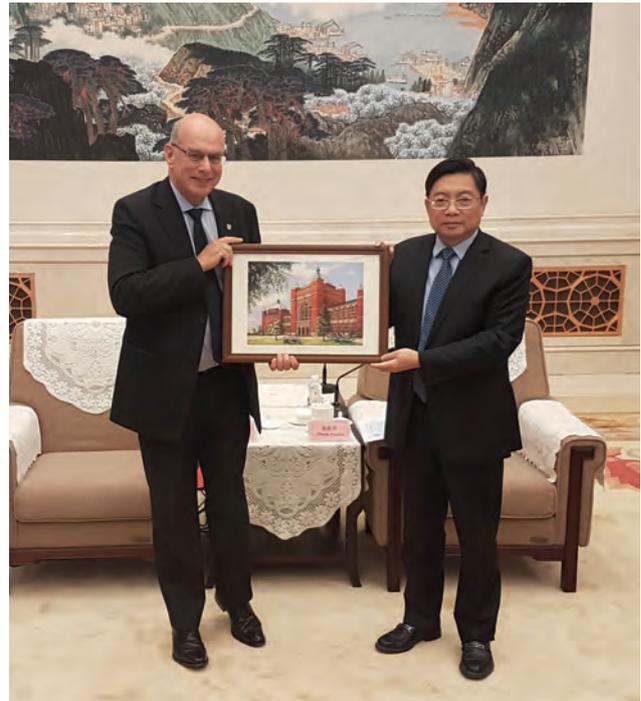


## STRATEGIC PARTNERSHIP WITH THE CITY OF NANJING

As a sister city to Birmingham, the city of Nanjing is a key strategic region for our engagements in China, as part of our 'Twin sister cities strategy' which also incorporates the city of Guangzhou.

We have signed an agreement with Nanjing Municipal Government to work together on a range of research, innovation and cultural projects, and we have both hosted and visited the Nanjing Party Secretary, the latter as part of our Vice-Chancellor's visit to China in October 2019.

We have strong relationships with a number of key institutions in Nanjing and the surrounding region, such as Southeast University, Jiangsu Industrial Research Technology Institute and Phoenix Publishing and Media Group, and our engagements span areas as diverse as Shakespeare, History of Medicine, Big Data, Biomedical Devices and AI, to name but a few.



# VICE-CHANCELLOR-LED DELEGATION

In October 2019, our Vice-Chancellor, Professor Sir David Eastwood, led a delegation to Birmingham's sister cities Nanjing and Guangzhou. During this visit we were delighted to showcase a number of our key partnerships in these cities including Southeast University, JITRI, Phoenix Publishing and Media Group, Nanjing Municipal Government, Jinan University, Guangzhou Municipal Government and several others.

Whilst in Nanjing, we continued to consolidate our relationship with the Nanjing Municipal Government, meeting with the Nanjing Party Secretary Zhang Jinhua, and discussing a wide range of our engagements to date in Nanjing. We were pleased to sign a number of new contracts with our partners at Jiangsu Industrial Technology Research Institute (JITRI) that will allow research to take place to help solve the technology and industry demands in Jiangsu Province, and also with Southeast University to launch our Joint Research Centre in Data Science in Biomedical Research. Our time in Nanjing was concluded by a visit to Phoenix Publishing and Media Group, where we extended our collaboration around Shakespeare by announcing the official start of editing and publishing work for 'Modern Critics of Shakespeare' among other exciting activities. During this latter visit, we also launched our Joint Research Centre on the Social History of Medicine.

Whilst in Guangzhou, we renewed our cooperation agreement with the Guangzhou Municipal Government, and our Vice-Chancellor, together with Vice Mayor Wang Dong participated in a symbolic tree-planting ceremony at our Joint Education Institute with Jinan University, where we also signed a Memorandum of Understanding to extend our educational links into postgraduate studies. The visit also saw the launch of an independent report on the economic and social impacts resulting from the eight-year collaboration between the University of Birmingham and the Guangzhou Municipal Government.

[www.birmingham.ac.uk/Documents/international/Guangzhou/19973-Guangzhou-Impact-Report-AW-Low-Res.pdf](http://www.birmingham.ac.uk/Documents/international/Guangzhou/19973-Guangzhou-Impact-Report-AW-Low-Res.pdf)



# BUILDING ON OUR ACTIVITIES IN SOUTH CHINA



## GREATER BAY AREA

The University of Birmingham is actively engaging in the Guangdong-Hong Kong-Macau Greater Bay Area, which forms part of the Chinese government's ambitious economic development plan. Our range of established partnerships and activity in Guangzhou, our developing collaborations in Shenzhen and extensive alumni engagements in Hong Kong position us well to engage with China's plans to harness the strength of this region, particularly in areas such as engineering and rail, energy solutions and health care.



## UNIVERSITY OF BIRMINGHAM HONG KONG FOUNDATION

2020 will see the launch of the University of Birmingham Hong Kong Foundation, which will support research and educational programmes that will benefit Hong Kong SAR and mainland China. The Foundation has been welcomed by our most senior and noteworthy alumni in Hong Kong, who have pledged over HKD \$5 million in initial philanthropic funding that the Board of Directors can distribute to relevant programmes at the University. Over the course of 2019, the Board met informally twice to discuss governance issues, ahead of beginning formal distribution meetings this year.



The Board comprises four senior alumni who are donors to the Foundation themselves and three representatives from the University. Conrad Wong, Vice-Chairman, Yau Lee Holdings Ltd (MEng Foundation Engineering, 1988) will Chair and is joined by Guy Look, Chief Financial Officer and Executive Director, Sa Sa Holdings Ltd (BCom, 1979); Wendy Wong, General Manager and Head of International Division, Bank of East Asia (MBA 1988) and Anna Lin, CEO, GS1 Hong Kong (MBA, 1988). Professor Robin Mason, Pro-Vice-Chancellor (International), will be joined by Claire O'Sullivan and Craig Edwards from Development and Alumni Relations, as the University's representatives on the Board.

# EDUCATION

## UNIVERSITY OF BIRMINGHAM JOINT EDUCATION INSTITUTE WITH JINAN UNIVERSITY

In September 2017, the University of Birmingham and Jinan University established an innovative Joint Institute, which welcomed its first cohort of 111 students onto four Bachelors degree programmes. As the Joint Institute reaches full scale in 2023, 300 students will graduate each year. The Mathematics-based programmes allow Chinese students to experience both international and local teaching methods; providing graduates with degrees from both institutions.

Degrees are offered in Economics, Information Computing Science, Pure Mathematics, and Statistics, each with a strong core of Applied Mathematics. In addition to improved skills, graduating from the University of Birmingham has a positive impact on students' self-esteem with 90% of Chinese learners expressing that their learning experience with the University of Birmingham had improved their self-esteem and quality of life. The Joint Institute is bringing some of the best and brightest from across China to study in Guangzhou, and helping to develop talent and skills in the region, with 57% of these students coming from Guangdong.



It is quite a revolutionary measure to allow foreign educational methods to come into China. We, the students who choose to join Sino-foreign cooperative education, are pioneers. We involve ourselves in finding the balance between the Chinese and English education systems. More importantly, we have global vision and the ability to achieve cross-cultural communication. Teachers and students are working together to localise the western education system. Although there may be challenges, we are moving towards brilliant prospects.

*Liu Yuxi, Joint Institute student*



## ARTICULATION AND ENTRY AGREEMENTS

We have a significant network of partnerships with over 40 high-quality institutions in China spanning a range of disciplines as diverse as Engineering, Business, Environmental Sciences, and Philosophy, which allow students to study for part of their time in China, and part of their time in the UK at both undergraduate and postgraduate level. In addition to these agreements, we also welcome students from our partnerships and beyond onto the Birmingham International Summer School programmes.

## CHINESE STUDENTS AT THE UNIVERSITY OF BIRMINGHAM

We welcome a large number of Chinese students to the University each year, and in September 2019 over 5,000 Chinese students were studying at the University of Birmingham (across all levels). The University of Birmingham was the first elite UK Russell Group university to announce that it would accept the 'Gaokao' exam for high-flying Chinese students wishing to join its undergraduate courses in 2019, alongside existing UK and international qualifications.



## GP TRAINING

The University's Institute of Applied Health has joined Guangzhou Municipal Health Commission and the First Affiliated Hospital of Sun Yat-sen University to jointly launch the Guangzhou-Birmingham General Practitioners (Family Doctors) Initiative.

The three-year project aims to provide training for general practitioners (GPs) to improve the service capacity of community health centres in Guangzhou and promote healthcare quality in the Guangdong-Hong Kong-Macau Greater Bay Area.

The initiative is helping deliver China's £85 billion health reform plan, which includes the training of 300,000 general practitioners by 2020 to lighten the load on China's overburdened hospitals. Birmingham has trained over 4,000 doctors and 1,000 GP trainers and established a highly ranked GP training centre in Guangzhou.

# KEY RESEARCH PROJECTS AND PARTNERS

## CHIRPY DRAGON

### How can we help solve childhood obesity?

By working with the Guangzhou Centre for Disease Control, our academics have delivered a groundbreaking partnership with schools and families known as the CHIRPY DRAGON project.

The four-year obesity reduction programme involved more than 61,000 children, aged six to seven, at 43 primary schools. Established in January 2014, it aimed to improve the health of Guangzhou children by:

- Improving understanding of childhood obesity
- Improving the nutritional quality of school lunches
- Increasing children's physical activity level outside school
- Increasing children's physical activity level in school



## ADVANCED MANUFACTURING

### How can we help future-proof manufacturing?

Building on the longstanding research partnership with Guangdong Academy of Science (the largest research-focused academy in the Guangdong Province), a joint Advanced Manufacturing and Innovation Centre has been set up in Guangzhou to facilitate technology transfer in manufacturing technologies, such as 3D printing, machinery and material processing.



## RAILWAY RESEARCH

Our rail experts are helping to keep journeys safe and comfortable for the 8.3 million people who use Guangzhou's metro system every day.

The urban rail network connects people across Guangzhou with work and leisure, and is the third largest in China. With 13 new lines under construction over the next decade, its 478km of track will swell to 823km across 27 lines.

The Birmingham Centre for Railway Research and Education (BCRRE) is the largest university-based centre for railway research and education in Europe. Working with the Guangzhou Metro Corporation (GMC) since 2013, our experts are collaborating on three major research projects:

- Using our Multi-Train Simulator to analyse the power supply to trains and how storing energy produced by braking can combine with timetable improvements, ensure railway equipment and processes work together efficiently to create electricity savings for the city of up to ¥7 million (£800,000)
- Developing new ways of monitoring and maintaining track switching equipment and predicting future failures, thereby reducing closures due to equipment failure
- Using an online monitoring system to achieve real-time feedback of conductor shoe status, which will promote accuracy and efficiency in operation as well as robust management of the conductor shoe, thereby supporting the safe and reliable operation of power supply system to the train



## SOLVING TECHNOLOGY INDUSTRY DEMANDS IN JIANGSU

We have an agreement with Jiangsu Industrial Technology Research Institute (JITRI) to undertake research to address technology and industry demands in the Jiangsu Province. Key projects include:

- A project established by Professor Zhibing Zhang worth approximately £750,000 over three years to develop innovative equipment that will help researchers test the strength of microparticles, working with the Institute of Robotics and Intelligent Equipment. Subsequent to this project being awarded, Professor Zhang secured further funding from JITRI for a split-site PhD student to work on this project.
- A project established by Dr Richard Williams with the Institute of Biomedical Devices (Suzhou), worth approximately £470,000 over two years on the industrial application of his team's patented technology in the application of the field of bone repair.
- A project developed by Professor Andrew Peet and Professor Yu Sun with the Southeast University – Nanjing Institute of Biomaterials and Medical Devices, worth approximately £470,000 on Brain Science and Tumour AI.
- A project by Dr Yongjing Wang with the Institute for Advanced Vehicle Technology on Circular Manufacturing of EV batteries using 4.0 collaborative robots.
- A tri-partite project undertaken by Birmingham Energy Institute with JITRI and Fraunhofer Institute for Environmental, Safety, and Energy Technology, worth £2.7 million in cash and in-kind contributions, focusing on the industrialisation of energy, waste and recycling, creating a research and innovation bridge between the UK, Germany and China.





## GREEN ECONOMY AND SUSTAINABLE DEVELOPMENT

In 2018, we launched a Joint Research Institute with Nankai University on Green Economy and Sustainable Development, which brings together science and social science research; setting the global policy agenda by combining understanding of how individuals and the economy respond to environmental policy, with scientific research identifying problems and how they might be solved.



## BIG DATA

In the era of Big Data, we are working with several partners on data science in health care and how this can be applied in the context of various patient cohorts that we have established in China. In 2018, we opened a Joint Research Institute in the West China Hospital in Chengdu that aims to explore rare diseases through integration of patient and genomics data, and in the Guangzhou Women and Children's Medical Center that will utilise our 30,000-strong 'Birth Cohort' for studies on how inherited and environmental factors contribute to disease.

In 2019, we opened a Joint Research Centre with Southeast University for Data Science in Biomedical Research, which will provide a world-class academic, research and training environment to help to solve major health problems facing China and the wider world.

## TRANSLATIONAL MEDICINE

We work with colleagues in the Guangzhou Institutes of Biomedicine and Health on a range of projects in our Joint Centre for Translational Medicine Research. Notably, we have discovered novel potential new drugs for the treatment of tuberculosis, a disease that has re-emerged in recent years and is a particular problem in China.



## SHAKESPEARE

Since 2016 we have been collaborating with Nanjing University and Phoenix Publishing and Media Group in a groundbreaking engagement – the Shakespeare Centre, China – which sees the University's world-renowned Shakespeare Institute reach out to millions of Chinese people to increase access to, and understanding of, Shakespeare.

In October 2019, the Shakespeare Centre China launched the first translations of 24 major Shakespeare plays. We also announced the official start of editing and publishing work for 'Modern Critics of Shakespeare' – a collection of research into the Bard – as well as preparation and organisation work for Youlin Yorke Cup Students' Shakespeare (China) Festival.

## SOCIAL HISTORY OF MEDICINE

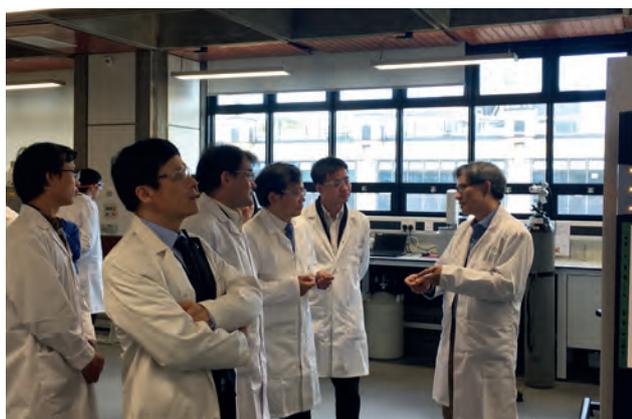
Also In 2019, working with Nanjing University and Phoenix Publishing and Media Group, we launched our Joint Research Centre on the Social History of Medicine, which will promote a new, more inclusive approach to the history of medicine, exploring medical and social questions. It seeks to bring the latest, cutting-edge social history of medicine research to a much larger audience, both outside medical departments, and to interested groups outside the University, and will help to train a new generation of social historians of medicine.





## AIR POLLUTION

The University of Birmingham leads a UK-China partnership that is conducting a long-term project based in Beijing to monitor air pollution with the aim to define why this region suffers from serious pollution at particular times in the year, examining how local factors contribute to the particular chemistry behind these events.



## ENERGY

The Birmingham Energy Institute (BEI) is the focal point for the University of Birmingham, and its national and international partners to create change in the way we deliver, consume, and think about energy. In addition to the collaboration between the BEI, JITRI and Fraunhofer noted earlier in this report, we have many collaborations in the area of energy research, including with the State Grid Corporation of China focusing on energy storage and distribution, with the China Nuclear Grid, and with other partners including the China Railroad and Rolling Stock Corporation.

## SPLIT-LOCATION PHDS

In 2016, the University signed an agreement with the Southern University of Science and Technology (SUSTech), to allow students to study at the University of Birmingham via a split-location model in areas including Computer Science, Engineering, Chemistry and Environmental Sciences. To date, 36 students have studied at Birmingham through this model. In 2019, we also signed an agreement with JITRI to allow for a student to study via this model on research to test the strength of microparticles with Professor Zhibing Zhang.



# CULTURE AND EVENTS

## CHINESE NEW YEAR

A highlight of our cultural calendar is our annual Chinese New Year concert, a free concert hosted in our beautiful Bramall music building. Guests from within the institution, the local community and even further afield join us for a spellbinding evening of music, hosted and curated by world-class pianist Di Xiao. The concert held in 2019 featured Jiaxin Lloyd-Webber and BBC Young Musician of the Year, Lauren Zhang.



## LI SIGUANG LECTURE

One of our first Chinese graduates was the celebrated academic Li Siguang, who studied in the University's School of Mining. He received his BSc in 1917 and his MSc in 1918. He was later awarded a doctorate from the University of Birmingham, having spent several years researching geology in China. Li Siguang went on to become a Professor at Peking University, and then progressed to become an academician and Vice-President of the Chinese Academy of Sciences, along with other prestigious positions such as Minister for Geology and President of the Chinese Society for Science and Technology. We have named our annual lecture after him to honour his close link to the University of Birmingham and his outstanding scientific contributions in the field of geology.

2019's lecture saw Professor Sir David Hendry (pictured), Professor of Climate Econometrics at the University of Oxford, deliver a lecture entitled 'Climate Change in the Long Run', which explored how humanity has accelerated global warming and illustrated how climatologists, volcanologists, dendrochronologists, meteorologists, geophysicists, and health scientists are working together to tackle climate change and its consequences.

# MEDIA AND DIGITAL COMMUNICATIONS



We promote the work that we do in China through a variety of channels, including a range of media outlets, Twitter and official Chinese social media channels WeChat and Weibo.

In terms of international media coverage, for the period August 2018–July 2019, the University of Birmingham had 101,22 media 'hits', with a reach (potential views) of 4,032.95 million, and an Advertising Value Equivalent of £76.2 million.<sup>1</sup> Our Twitter account has 1,158<sup>2</sup> followers, and is aimed more at stakeholders outside of China (as Twitter is not accessible in China).

The University of Birmingham also has official Weibo and WeChat accounts, which are targeted at Chinese viewers, both those in China, and Chinese stakeholders (eg, students and staff) based in the UK.

Our Weibo account has 9,526<sup>3</sup> followers and our WeChat account has 8,525 followers<sup>4</sup>, and this is growing month on month. Weibo and WeChat stories which receive the most engagements (reposts, comments, likes for Weibo and views for WeChat), tend to focus on the campus and city of Birmingham. As an example, the most viewed article on WeChat over the last 12 months<sup>5</sup> was an article focusing on our Green Heart Festival, which received 3,552 views. The second most viewed article highlighted our QS world ranking, demonstrating that there is a clear appetite for ranking-related articles, alongside the more general campus and city articles.

<sup>1</sup> Coverage monitored by the International Communications Manager using the media monitoring services Precise, Meltwater and the internet, as well as a knowledge of specific placed articles.

<sup>2</sup> As of 13 December 2019

<sup>3</sup> As of 13 December 2019

<sup>4</sup> As of 13 December 2019

<sup>5</sup> As of November 2019

## CONTACT

For more information about the China Institute, or for further details on any of the projects and engagements referenced in this document, please contact Nina Morris, China Institute Officer [uobchina@contacts.bham.ac.uk](mailto:uobchina@contacts.bham.ac.uk)

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