

CELEBRATING A DECADE OF INNOVATIVE PARTNERSHIPS WITH CHINA



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In 2004, The University of Nottingham became the first foreign University to establish a campus in China, in the city of Ningbo, based south of Shanghai on the East China Sea. Developed on grounds occupying 144 acres, the establishment of the University of Nottingham Ningbo China (UNNC), with the full support of the Chinese government, marked an historic moment in the opening up of Chinese Higher Education and its development of the knowledge-based economy. It also signalled an increase in the level of collaboration between Chinese businesses and the UK.

Ten years on, and UNNC now admits more than 1200 of the most talented young people of their generation each year, from provinces and municipalities across China. More than 6,300 students at undergraduate, masters and PhD level are now based at our Ningbo campus. UNNC graduates have

transferable skills, a creative and critical outlook and a sense of team spirit and are sought after by major employers around the globe. All students who have graduated from UNNC since 2004 have found jobs or moved on to postgraduate studies at top international universities within six months of passing their final exams.

Pushing the boundaries of science

At the end of last year, during the Prime Minister's visit to China, we announced our most ambitious project yet in Ningbo, a £25 million cooperative agreement between the Ningbo Municipal Government, the University of Nottingham Ningbo China and Zhejiang Wanli Education Group to form the first International Academy for Marine Economy and Technology (IAMET).

The marine economy is one of China's key strategic development areas and the IAMET will be based at a purpose-built facility at the

Ningbo campus. It will work with companies around the world in areas such as port services and logistics, marine advanced materials, natural products and environmental management. The Academy will also have a dedicated team of international academic leaders and research and business engagement staff, and will draw on the input and advice of independent world-leading academic and industry experts to deliver innovative and internationally competitive programmes.

There are a number of other notable areas of scientific research in which academics at the University of Nottingham Ningbo China (UNNC) are pushing forward the boundaries of science. Engineering researchers are working very closely with the Additive Manufacturing and 3D Printing Research Group in the UK to develop the next-generation, multimaterial and multifunctional additive manufacturing and 3D printing technologies with a focus on end-use functionalised

3D structures and components. In 2013, UNNC organised a highly influential conference in Ningbo to explore how 3D printing has developed and its potential for improving the efficiency of manufacturing in the city.

Energy is another important area of expertise at UNNC. Our Centre for Sustainable Energy Technologies, based in Ningbo which opened in 2008, will provide solutions to problems arising from sustainability issues relating to the environment, energy, engineering and technology. For example, our researchers have recently invented a material that can retain and release heat according to the specific requirements of a building. The material, known as novel non-deformed energy storage phase change material (PCM), is a major scientific breakthrough with long-term environmental benefits. Cheap to manufacture, PCM will dramatically reduce bills and cut a building's energy use by up to 35%.



The first cohort of graduates from the Sondrel integrated circuit design programme in 2013

The award of the Nobel Prize to Nottingham academic Sir Peter Mansfield for his work in MRI and the groundbreaking research within the University's Sir Peter Mansfield Magnetic Resonance Centre, means that The University of Nottingham is internationally recognised for its expertise in MRI. Consequently, UNNC has also identified MRI as an area for its own strategic development, with an unrivalled opportunity to become a significant player in MRI education and training in China.

Training the brightest researchers

We are also supporting scientific research at UNNC through doctoral training. In 2011, The University of Nottingham and the Ningbo Municipal People's Government signed a Memorandum of Understanding to pave the way for more cooperation in international scientific and technological development. Four topics were identified, including the digital economy, marine technology, energy and environmental protection, and manufacturing.

Funded by The University of Nottingham, the University of Nottingham Ningbo China, the Engineering and Physical Science Research Council and Ningbo Municipal Government, the £17m International Doctoral Innovation Centre (IDIC) will train 100 of the brightest PhD researchers over the next six years to become leaders in the fields of energy and digital technologies.

The four-year PhD programme, split between the University's campuses in China and the UK, exposes students to research, industry and entrepreneurship on an international scale. The unique model of the Centre integrates a number of co-dependent strands, Doctoral Training Centre, Innovation-led Research and Accelerator Fund

to achieve an exciting new environment for world-leading research.

The city of Ningbo has also granted around £1m in funding to UNNC for an ambitious project to produce at least 25 manufacturing engineers and 25 patents for new technologies over five years. UNNC researchers will work with at least 50 companies in Ningbo to invent low-carbon technologies and develop new business models that reconfigure the manufacturing sector in the city to enhance profitability and sustainability and minimise environmental harm.

A significant number of Chinese high fliers have also been working with us through the Chevening Young Leaders programme. Organised on behalf of the Foreign and Commonwealth Office and the All-China Youth Federation, the course is tailor-made for leaders of the future, helping to develop high-calibre people to take on senior political and industrial posts later in their careers.

Building new academic partnerships

Our work in China extends far beyond Ningbo. In 2012 we established a new joint venture in conjunction with the East China University of Science and Technology. The Shanghai Nottingham Advanced Academy (SNAA) is a joint collaboration in the fields of life sciences, green technology, aerospace, and global food security – all of which are key strengths of The University of Nottingham and the East China University of Science and Technology (ECUST).

One of our most exciting collaborative projects with a Chinese university has just been launched in Guangzhou – the Guangdong Nottingham Advanced Finance Institute

(GNAFI). A partnership with Guangdong University of Finance, the Institute will provide advanced training to senior managers from industry, commerce, financial institutes and government organisations and will train up to 2,000 Chinese financial specialists each year to support the thriving financial centre in Guangzhou.

In addition to the work with Guangdong University of Finance, we have also established many research collaborations with other Chinese Universities, including Fudan, Shanghai Jiaotong, China Agricultural University and Zhejiang University.

Another example of the breadth of our collaborative work is the Sino-UK Geospatial Engineering Centre. This is a project jointly supported by The University of Nottingham and the Chinese Academy of Surveying and Mapping, the research arm of China's National Administration of Surveying, Mapping and Geoinformation (NASG). The Sino-UK Geospatial Centre operates in both Beijing and in Nottingham. The centre offers Executive Training for Chinese leaders working in surveying and mapping companies, in areas such as technology, management and business.

Doing business with China

We are helping British companies obtain the skills they need, and, in the first partnership of its kind, the University has been working with British company Sondrel, an Integrated Circuit design services consultancy for the semiconductor industry, to offer three-month training programmes at UNNC. The first two cohorts, each of around twenty students, who completed the course earlier this year were all offered jobs by the sponsor.

In addition, we are also working

extensively with many Chinese businesses. In recent years, we have established research and training collaborations with the likes of the aerospace giant, AVIC; the automobile manufacturers FAW and Changan; the railway company China South Rolling Stock (CSR); China Resources Group, and many other major companies.

However, it is not just the bigger businesses that are benefiting from our China connections. For instance, through our Brewing Science department, we have been helping a number of microbrewers in the East Midlands to develop beers for the Chinese market, and with the support of partners such as UKTI and British Craft Beers, they are now exporting to merchants in China. In addition, we also enable SMEs to make links more generally with Chinese businesses and officials through activities such as our On Location dinner, which is held in Shanghai, and via the many Sino-UK events we organise in Nottingham.



L-R Dr Li Jun, President of FAW's R&D Centre with Professor Chris Rudd, Pro Vice Chancellor of The University of Nottingham

As our partnerships with business, academia and government extend across China, and as our Ningbo campus matures, The University of Nottingham is increasingly able to help British companies make vital links with China and we are looking forward to building many more partnerships in the future.