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SUZHOU: A NEW TAKE ON TOURISM FOR A HISTORIC CITY

SHAPING HIGHER **EDUCATION IN CHINA**

2019 **ISSUE 1**

AN ANCIENT ROAD'S INFLUENCE ON **OUR WORLD TODAY**



FROM THE EXECUTIVE PRESIDENT

The core value of a university lies in its influence. Our students can influence the world; our research can influence human survival; our industry collaborations can influence the development of business, science and technology; our culture can influence the civilisation of society. Key to influence is building connections. We look forward to connecting with you in our new magazine, Open Minds.

As we prepare to open our future-focussed new campus -XJTLU Entrepreneur College (Taicang) - it is fitting that we also launch our new University magazine, Open Minds. As we explore new models for education, engaging with you - our community - is imperative, as we strive to build an education system that can meet the demands of the increasingly interconnected world we all share.

Our new campus in Taicang is an extension of an ongoing mission at XJTLU to investigate what a future university might look like. I see the future university as being deeply integrated into society, a centre of excellence that supports lifelong, interest-driven learning, innovation and entrepreneurship. This university will serve not only its staff, students and alumni but also the wider community. Only through collaboration can the wider education system be reshaped, and a new educational ecosystem created.

Core to the success of our new campus - or indeed any future educational institution - will be its ability to connect with society to drive innovation. At the heart of XJTLU Entrepreneur College (Taicang), and reflected in its design, is the concept of openness. The magnetshaped structure of the buildings, the connected learning mall and common centre of campus symbolise our welcoming attitude, sharing and symbiosis mechanism. We'd like to attract global resources, which will allow us to undertake new research, develop new technologies and cultivate new talent,

and in turn impact the world. A campus should be an ecosystem.

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We hope Open Minds will show you what can be achieved when a university doesn't exist in isolation from the community it serves. In this edition you will see how our researchers are contributing to a sustainable revolution in the construction industry. You can follow the varied path of one of our graduates, from Nigeria to China and onto the United Kingdom, as she learns the true meaning of the title of "global citizen." You can gain a new perspective on the Belt and Road Initiative, one of the one the most significant foreign policy schemes of our time.

Welcome to the first edition of Open Minds.



PROFESSOR YOUMIN XI Executive President of XJTLU Pro-Vice Chancellor of University of Liverpool

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SHAPING HIGHER EDUCATION IN CHINA



Against the backdrop of a rapidly evolving education industry and the introduction of a new national education policy, WILL VENN looks at the internationalisation of higher education in China.



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When the Communist Party of China (CPC) flagged internationalisation as part of its education modernisation agenda this year, almost 70 years had passed since the first group of 33 students travelled from eastern European countries to study in China back in 1950.

By 1996, 18 years on from China initiating its reform and opening-up policy in 1978, international student numbers in China had reached 41,000. Two decades later and that figure has jumped tenfold.

In 2019, a total of 492,185 international students from 196 countries and regions are pursuing their studies in 1,004 higher education institutions in China.

The huge rise in international student numbers in China mirrors a leap in domestic student growth, from 273,000 students entering higher education institutions in 1977 to almost 8 million students starting university this year. At the turn of the century those students could have entered one of around 1,000 higher education institutions. Today that choice extends to 3,000 colleges and universities.

Among those institutions is Xi'an-Jiaotong Liverpool University which was founded as a joint venture university between Xi'an Jiaotong University and the University of Liverpool in 2006, and whose success mirrors more widely what is happening across the Chinese higher education sector.

From its first intake of 164 students – 14 years ago – to a community of more than 17,000 learners today, XLTLU's growth has been rapid and visually signified by the extraordinary transformation of its campus in Suzhou, Jiangsu province.

International education is far from a one-way street; growth is reflective of both the numbers of students



entering China to study and the number of Chinese students who travel and study abroad, of whom 662,100 did just that in 2018.

Joint venture institutions can help meet this demand in being able to accommodate and inspire student learning at an international level, realising the aims of students can study abroad. At XJTLU undergraduate students can begin their studies in China and complete their degree in Liverpool. Students graduate with two degree: an XJTLU degree from the Chinese Ministry of Education and a globally recognised degree from the University of Liverpool.

Global connectivity and growth are not the only ways in which XJTLU can be considered a microcosm of countrywide change. How the University differentiates itself, philosophically, chimes with the CPC's aims of reforming education in China over the next two decades.

In February the CPC released two implementation plans to serve as blueprints for the modernisation and development of education in China, up to 2035.

Strategic objectives outlined include the building of world-class universities, opening education further to the world, promoting the mutual recognition of degrees and diplomas as well as educational cooperation under the Belt and Road Initiative.

Both conceptually and strategically, it's a model where student-centred learning, lifelong learning and global connectivity are granted greater prominence, with teaching that caters to the strengths of individual students being reflective of more Western style educational practices.

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XJTLU HAS DEVELOPED ITS **OWN DISTINCTIVE FIVE-STAR EDUCATION MODEL WHICH REFLECTS THE LATEST TRENDS** IN GLOBAL HIGHER EDUCATION, ABSORBING THE ESSENCES OF EASTERN AND WESTERN WISDOM, CULTURE, AND EDUCATION SYSTEMS.

global higher education, absorbing the essences of Eastern and Western wisdom, culture, and education systems." + AUTHOR WILL VENN + DATA SOURCE Ministry of Education en.moe.gov.cn

It's a model that has value, says XJTLU's Vice President for Student Affairs and Information, Professor Qiuling Chao. "There is value in teaching methods that create inspirational learning, cooperative learning and inquiry learning, where teachers encourage innovation and independent thinking," she says. "XJTLU has developed its own distinctive five-star education model which reflects the latest trends in



PROFESSOR QIULING CHAO Vice President for Student Affairs and Information



The number of Chinese students starting university in 2019



The number of Chinese students who studied abroad in 2018



The number of countries international

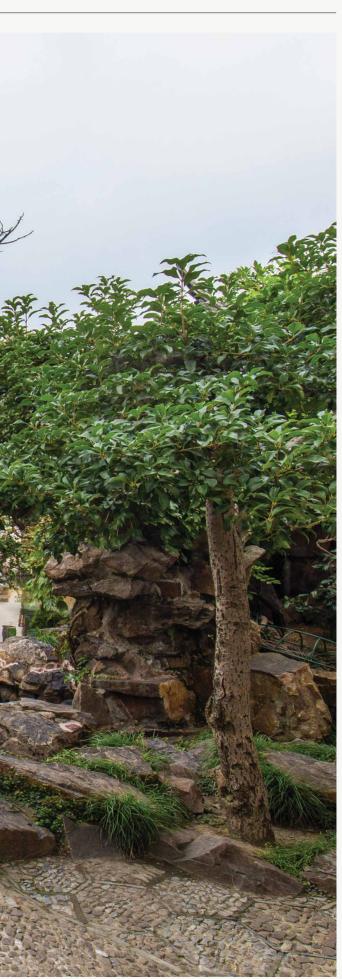
The number of higher education institutions in China

students in China come from

SUZHOU: A NEW TAKE ON TOURISM FOR HISTORIC CIT



Every year, more than 100 million tourists descend on Suzhou, largely to appreciate the city's famed classical gardens. TAMARA KAUP explores the effects of this booming tourism trade on the region and its inhabitants, and how the constant influx of tourists can be sustainable for visitor and resident alike.





The 2,500-year-old city of Suzhou in Jiangsu province has attracted visitors for hundreds, if not thousands, of years. An ancient Chinese proverb refers to Suzhou as heaven on earth. Marco Polo even made a visit in the 13th century and compared Suzhou's canal-laced topography to his home city of Venice.

Visitors have long been drawn to the city's rich history of cultural expression, including silk production – a key factor in the city's economic development over centuries; Kunqu Opera, known as the mother of Chinese opera; and Su embroidery, one of the most famous embroidery styles in China.

Today most tourists come for Suzhou's famous classical gardens – nine of which are UNESCO World Heritage sites – that were originally developed for their private owners in the 11th-19th centuries and opened to the public in the mid-20th century. Many visitors also take side trips to nearby ancient water towns to get a sense of life lived riverside for centuries and to view picturesque stone bridges and meandering streets.

According to the official website the People's Government of Suzhou and Jiangsu Province, more than 109 million tourists from mainland China alone visited Suzhou last year.

That's a lot of tourists, when you consider that number is more than the population of Italy and Spain combined. And the number is growing sixto-seven percent year-on-year according to the local government's research.

The large number of tourists, who are by-and-large Chinese, is helped by the high ratings the national Chinese government has awarded local attractions, says Dr Linjia Zhang of Xi'an Jiaotong-Liverpool University's International Business School Suzhou.

The tourism economics researcher explains that attractions in China are rated on a scale from 1A to 5A, with 5A the highest rating. Jiangsu Province has 23 5A sites, more than any other province in China, and Suzhou itself has six.

"These ratings are managed by China's Ministry of Culture and Tourism, and are based on factors like quality, cultural impact, and national recognition, along with, in some cases, significance in Chinese Communist history," he says. "Chinese people use these ratings as a guide for planning trips – we prefer 5A sites. Generally speaking, they are more famous, more interesting and worth the visit."

While Suzhou already brings in a hefty number of visitors, Dr Zhang says potential exists to attract even more. To continue the city's development as a premier tourist destination while ensuring the livability of its 10-million-odd population, he suggests expanding tourism options beyond the main sites.

"In the case of Suzhou, tourism could be expanded by creating something new or improving the marketing of what already exists," he says.

"Right now, when you ask people from northern China why Suzhou is famous, they will say its gardens. No one really knows what else makes Suzhou attractive but we know the city has so much more to offer.

"For example, the local opera is quite interesting, but not a lot of people outside of the local area know about it."

According to Dr Zhang, attractions could also improve the visitor experience by providing more information about the culture and history associated with a site so that tourists can understand what they are seeing in context.

He highlights the famed Humble



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In the case of Suzhou, tourism could be expanded by creating something new or improving the marketing of what already exists.

Right now, when you ask people from northern China why Suzhou is famous, they will say its gardens. No one really knows what else makes Suzhou attractive but we know the city has so much more to offer.



Administrator's Garden in Suzhou as one attraction which has done just that, bringing cutting-edge technology to the ancient site to enhance the tourist experience.

Through a Virtual Reality (VR) experience programme, visitors to the classical garden can imagine what life there was like 500 years ago as they try out a virtual sedan chair and see the garden change over four seasons through VR glasses.

While developing new tourist sites or improving the visitor experience could boost tourist numbers to the city, Dr Zhang is quick to caution that tourism doesn't necessarily have a positive impact on a destination's economic growth.

IN OUR FIELD WORK IN SUZHOU, WE FOUND THAT IN THE FAMOUS PINGJIANG ROAD **AREA OF SUZHOU – ONCE A** MODEL FOR BALANCING THE **NEEDS OF TOURISTS WITH THE COMMUNITY – THE LOCAL VEGETABLE MARKET RECENTLY DISAPPEARED AND A TEMPLE** WAS TURNED INTO A FANCY TEA **HOUSE FOR TOURISTS.**

"WHEN OVER-TOURISM OCCURS, THE TOURIST EXPERIENCE CAN **ALSO BECOME LESS AUTHENTIC. IN ANOTHER FAMOUS CITY IN** CHINA, NEW 'TRADITIONAL' **CUSTOMS WERE INVENTED JUST TO ENTERTAIN TOURISTS.**

" Tourism can improve employment, contribute to salary creation and infrastructure development, and boost the quantity and quality of local goods and services." he says.

"It may, however, result in money leaving an area for expenditures like advertising and can have a negative impact on the living and working environment of local people."

Examining the impact tourism has on local communities and finding ways to mitigate potential negative effects is an area of focus for researcher Dr Christian Nolf from the Department of Urban Planning and Design at XJTLU.

The urban designer and planner has used Suzhou as a case study to consider the impact of tourism on local communities, with his findings echoing the recommendations made by Dr Zhang.

"Famous cities run the risk of 'over-tourism' – this has occurred in some cities in Europe, where all shops become souvenir shops and all houses are turned into guest houses," Dr Nolf says.

"In our field work in Suzhou, we found that in the famous Pingjiang Road area of Suzhou - once a model for balancing the needs of tourists with the community - the local vegetable market recently disappeared and a temple was turned into a fancy tea house for tourists.

"When over-tourism occurs, the tourist experience can also become less authentic. In another famous city in



China, new 'traditional' customs were invented just to entertain tourists.

"To counteract over-tourism and reduce the negative effects on locals, the recommended strategy is to disperse tourism in space and in time.

"This means developing alternative attractions so that people are not concentrated in a few mainstream destinations - instead they are exploring other parts of the city."

This also means spreading tourist visits out over time so that not everyone is coming in the peak season or going to attractions at the same time of day. In Suzhou most people come to visit in May and October based on nice weather and national holidays but Dr Nolf says alternate events related to Suzhou's culture could be created to attract tourists in the off-season.

Dr Nolf and his colleagues' research on these tourism dispersal tactics has also been applied to towns and villages located around Suzhou.

In a series of recent studios and workshops, he and colleagues have been working with the local governments of villages and water towns in Jiangsu and neighboring Zhejiang province, out of which nineteen have joined forces to apply for a UNESCO World Heritage site designation.

"We are trying to contribute to the development of a vision for how these water towns could work together in a way that would both manage tourism and preserve the site's authenticity," Dr Nolf says.

"Instead of the usual model where tourists are bused into the historic town centers, we are developing strategies that invite visitors to stay for a whole week in the region, not only exploring the water towns, but also visiting the interesting villages between them and appreciating the ancient landscape.

"This would not only disperse the tourists in time and space but also put the water towns in their historical context and benefit the areas in-between the towns which traditionally don't get tourists."

Another way to spread out tourists considers the interests of tourists with different profiles – a recommendation Dr Zhang also notes as important in tourism marketing regardless of the destination.

"We propose the creation of a phone app using GPS and social media that could develop individualised

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	itineraries for tourists," Dr Nolf says.
	"These itineraries would take into consideration different tourists' interests and the season when they are travelling. Based on these characteristics and tourist profile preferences, we imagined three differen routes a young backpacker, a family with children and senior couple might take to visit the old town of Suzhou
	"While the backpacker's itinerary might focus on musi and food, the family's route could include a playground and art gallery while a senior couple's might include a fan-making workshop and afternoon tea at a local park."
,	Both XJTLU researchers agree that Suzhou will continu to draw large numbers of tourists, but changes are

needed to optimise how attractions are presented and marketed and to balance the needs of tourists and the local communities.

- + AUTHOR Tamara Kaup
- + RESEARCH ASSISTANCE Yuanxin Yang
- + PHOTOS Zhuang Fang, Shutterstock









DR CHRISTIAN NOLF Associate Professor in

the Department of Urban Planning and Design

FIND YOUR INNER LITERATI

IN SUZHOU'S GARDENS

Suzhou is famed for its classical gardens, built centuries ago so the literati scholars of the time could enjoy nature without leaving home.

According to Dr Yiping Dong of Xi'an Jiaotong-Liverpool University's Department of Architecture and Design, the gardens were designed to call to mind traditional Chinese landscape paintings of mountains, lakes and rivers.

"In the gardens, rocks represent mountains, while ponds, streams and small waterfalls represent lakes and rivers. Trees and other plants are carefully selected," she says. "Everything, including the scholars' living halls and other buildings, is arranged as part of the gardens' designs."

A casual visit to a garden can easily yield photos of lush greenery, delicate bridges, picturesque ponds, curving roofs and fascinating rock structures. But how can one appreciate the gardens beyond the joys of adding gorgeous snaps to your social media feed?

Researchers from XJTLU share their tips on how to experience Suzhou's gardens like the literati hundreds of years ago.

1 STOP AND SMELL THE FLOWERS

"The Distant Fragrance Hall of the Humble Administrator's Garden concentrates the fragrance of the lotus flowers that grow in the summer in the pond in front of the hall."

– Dr Dong

2 GET A NEW PERSPECTIVE

"Door frames bring garden scenery to your eyes, and every window provides unique views. A pagoda that seems part of the garden's scenery may actually be outside the garden, which makes the garden appear larger than it is."

– Dr Dong

STEP INTO A TRADITIONAL CHINESE LANDSCAPE PAINTING

"Outside a building, you may find special steps made from lake rock. When you stand on the steps, you can imagine you are on a mountain looking out at the water and mountain scenery."

– Dr Dong

ENJOY GARDENS IN DIFFERENT SEASONS

"Every season provides a different experience. In the spring, you can see blossoms; in the summer, lotus flowers; in the autumn, colourful leaves; in the winter, you might see a little snow."

– Yaqin Zuo, PhD student, XJTLU Department of Architecture and Design

GO WITH THE FLOW

"The gardens' design represents a concept in Chinese philosophy that everything in the universe is constantly in movement – the design leads you from view to view. A veranda opens to a full view of a pond, then a pavilion on the other side attracts you to visit it. From the pavilion you see a bridge that leads you to scenery on the other side."

– Zuo







YAQIN ZUO PhD student in the Department of Architecture and Design



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AN ANCIENT ROAD'S INFLUENCE ON THE SHAPE OF OUR WORLD TODAY



The historical narrative of the Silk Road is playing a central role in the development of one of the most significant foreign policy schemes of our time. ROSANNA GALVIN explores how China is rolling out the Belt and Road Initiative and its potential impact on the countries along its path.



Through stark mountains and green valleys, past icy rivers and across barren deserts, hundreds of paths connecting Asia to Europe weave through some of the world's most unforgiving landscape in land-locked central Asia. Together, this myriad of trails people travelled for centuries to buy and sell commodities across the region make up the historic Silk Road trade route.

Today that ancient road is seeing a very modern revival as a pivotal physical and symbolic element of China's ambitious, large-scale foreign policy scheme, the Belt and Road Initiative (BRI). Announced in 2013 by the President of the People's Republic of China, Xi Jinping, the initiative spans 70 countries with a vision to develop transportation corridors on both land and sea that link Asia, Europe and Africa.

Six years on from its launch, the Chinese government has to date signed 173 cooperation agreements with 125 countries and 29 international organisations.

Largely thanks to the rich resources and developing countries with emerging markets that lie along the route, China is not the first country to develop the route in a more formal capacity. It is, however, the first one to have this degree of success, according to Associate Professor Alessandra Cappelletti of Xi'an Jiaotong-Liverpool University.

"While other countries have attempted to harness the potential, as far as I'm aware the BRI is the first foreign policy scheme of its kind that has been so effective," she says. An expert in cultural diplomacy based in the University's Department of International Relations, Dr Cappelletti notes that while the ambitious project is rooted in a historical narrative, it can teach the world something about modern China.

"The BRI demonstrates the confidence China now has as it establishes itself on the global stage," she says.

"This is a statement that as a government, as a society, as a political system, China is confident and ready to launch a project of this scale with a belief that it will succeed.

"The initiative also says a lot about culture and society in China – that as a country they are ready to put themselves out there to the international community and potentially open themselves up to criticism because they are confident in their own identity as a nation."

Dr Guohui Wang, who heads up XJTLU's think-tank, the XIPU Institution, agrees the initiative reveals much about contemporary China, which has experienced unprecedented economic growth in recent decades.

"The initiative reflects China's changing social, political and economic conditions in a new era of its development," Dr Wang says.

"After 40 years of reform and opening up, China is no longer a country just focussed on its own domestic development. As the world's second largest economy, China is seeking to promote orderly and free flow of economic factors, efficient allocation of resources and deep integration of international markets.

"The BRI also demonstrates China's strong commitment to building a global community of shared benefits and a shared future. In a way, China is keen to share its experience and development achievements with other countries." According to Dr Cappelletti, a key reason China has succeeded where other countries failed is its effective use of the Silk Road narrative, which highlights the diversity and history along the route to promote the BRI.

"What China has done well is present a compelling narrative, establishing itself as the starting point of the Silk Road, as well as a destination that other countries should seek out," she says.

"While historically this may not be accurate – we know that the ancient road had many routes – it's a powerful story that resonates with the region."

Dr Cappelletti says a core element of the Silk Road narrative is the idea that through the BRI, people across the region can rebuild the connections and a period of 'greatness' that existed in the past.

"While the initiative does centre on the physical development of the route – building the infrastructure to connect these countries – China also places a high priority on establishing cultural connections," she says.

"This cultural element is important because of the diversity of the population and ideas in the regions along the trade routes."

The pros and cons of the initiative for the countries along the route have been the focus of much attention in international media, with some critics arguing the BRI could be a 'debt trap' for developing countries.

A recent study by the World Bank, designed to provide countries with an independent analysis of the risks and opportunities in Belt and Road transport corridors, reveals a far more positive picture. The comprehensive report states that if implemented fully, the initiative could lift 32 million people out of moderate poverty – those who live on less than US\$3.20 a day.

The report also says the initiative could raise global trade by up to 6.2 percent, and up to 9.7 percent for corridor economies, as well as increasing global income by as much 2.9 percent.

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Dr Nimesh Salike from XJTLU's International Business School Suzhou agrees with this analysis, stating many countries have a lot to gain from the initiative. In the countries in Southeast Asia, for example, he says developing economic connections with China is a winwin scenario.

- "As we move to the next phase of the BRI, dozens of
 projects and economic corridors are set to be developed
 across the Southeast Asian region, bringing with them
 substantial Chinese investment," he says.
 - "If done collaboratively, the BRI will give the region a significant economic boost and potentially help lift the standard of living in some of the more developing countries in Southeast Asia.
 - "To truly reap the economic benefits BRI offers, developing trust is essential. For that, it may seem sensible to include more local stakeholders from the respective countries in the projects."
 - Dr Dragan Pavlićević, based in XJTLU's Department of China Studies argues that the debt-trap narrative is not helpful in understanding the BRI, and states it is best viewed as economy-driven policy, not a geopolitical initiative.
 - "What is often missing in the debt-trap narrative is a better-informed discussion of China's interests when it comes to BRI and, more specifically, loan giving," he says.
 - "Rather than creating leverage for political influence, BRI and loan giving are better understood as a subsidy programme for China's economy. The function of China's lending is to help Chinese enterprises access foreign markets and by doing so ensure new sources for the growth of China's economy.
 - "Debt that doesn't produce returns but accumulates losses is not viable long term for China, either."

In April this year, nearly 5,000 participants from more than 150 countries around the world converged in Beijing for the 2nd Belt and Road Forum, generating more than US\$64 billion worth of deals as many countries committed to collaborative projects with China. "In that sense, the BRI Forum 2019 consolidates China's position as a key actor and leader in a global context," he says.

"Whatever the reservations and concerns there might be about BRI and despite a number of important international actors such as the United States, India, and the European Union refusing to endorse BRI, it is clear that China today — in stark contrast to the period even immediately before the launch of BRI in 2013 — is recognised in all corners of the globe as an actor that has to be reckoned and engaged with."

Just as trade routes for centuries have influenced the shape of the world and the balance of power, the revival of this ancient path - the Silk Road - through China's BRI has the potential to impact all the countries it touches with ripple effects that could touch every corner of the globe.

When considering how this policy will go down in the history books, Dr Cappelletti doesn't hesitate to acknowledge its potential significance:

"This could be really defining. The BRI could change the geography of power and the geopolitical landscape of our time.'



WHILE THE INITIATIVE DOES **CENTRE ON THE PHYSICAL DEVELOPMENT OF THE ROUTE – BUILDING THE INFRASTRUCTURE TO CONNECT THESE COUNTRIES** - CHINA ALSO PLACES A HIGH **PRIORITY ON ESTABLISHING CULTURAL CONNECTIONS.**

THIS CULTURAL ELEMENT IS IMPORTANT BECAUSE OF THE DIVERSITY OF THE POPULATION AND IDEAS IN THE REGIONS ALONG THE TRADE ROUTES.

- + AUTHOR Rosanna Galvin
- + ILLUSTRATIONS Yingyi Zhang



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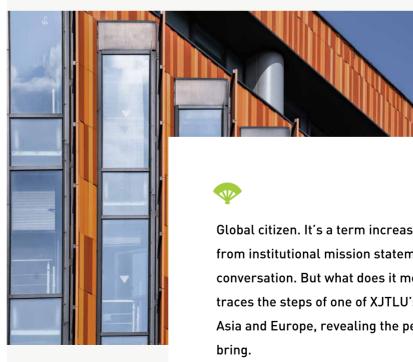
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Executive Director of the

WHEN THE **JOURNEY BECOMES THE DESTINATION** ITSELF





Global citizen. It's a term increasingly common in all kinds of settings from institutional mission statements, government policies and dinner table conversation. But what does it mean to be a global citizen? WILL VENN traces the steps of one of XJTLU's graduates in a story that traverses Africa, Asia and Europe, revealing the personal value the title global citizen can

"The world into which you're graduating will be increasingly multi-cultural, multi-national and multiethnic. Everything you have learnt here makes you eligible global citizens and will continue benefiting you in the future."

These are the words Professor Janet Beer, vicechancellor of the University of Liverpool, used to address the graduating class of 2019 at Xi'an Jiaotong-Liverpool University in Suzhou this year.

It's an exciting sentiment, but what exactly is an 'eligible global citizen' and why is that designation important or even relevant?

One of those global graduates from XJTLU is Chinaemerem Uju Onyishi, who delivered her own address at this year's graduation at the University of Liverpool, chosen to represent the School of Life Sciences. She used the opportunity to highlight her own educational journey from Nigeria to China to the United Kingdom.

Uju's story begins as a family summer holiday to China in 2010 which led to a migration to the country, from her home country of Nigeria. A residence visa was granted, as Uju's father built links with the automobile industry, creating opportunities for work and for his family to remain in the China to set up a new life.

"Staying in China was a chance for my siblings and I to learn Mandarin. Additionally, at that time, most Nigerians studying abroad went to the UK or the United States, so going to China was breaking away from the norm and an opportunity to learn a whole new language," Uju says.

"The biggest challenge I faced was learning the language. In my first few months there, I vividly remember getting frustrated that I couldn't have conversations with the people. Learning to write was the most difficult since Mandarin does not utilise an alphabet; instead I had to memorize characters.

"The biggest impression the move to Beijing had on me

was the amount of cultures I was exposed to. Nigeria is a country filled with people from different tribes, but we are all still Nigerians. So going to China, I thought I was only going to interact with Chinese people and learn about Chinese culture.

"However, I got to meet people from so many different countries at such a young age and learn about and from them."

The impact of that international exposure was to pay dividends in a variety of ways as Uju completed high school and sought to continue her studies in a way that would enable her to travel and live in a different country.

"That first migration had such a positive impact on my life. I got to meet and learn from people from so many different countries, and since XJTLU provided me with the opportunity to travel to the UK, I simply had to take it," she says.

"My parents have always said that education goes beyond the classroom and travel is one example of that. Schools have a curriculum they stick to, so you don't get exposed to the history and culture of a large part of the world. By travelling you explore other parts of the world and take your education outside the classroom."

Travel as a mode of education is an axiom neatly phrased by American author, Henry Miller, who said: "One's destination is never a place but rather a new way of looking at things". For Uju this rings true in several ways.

"The amount of lessons you gain from simply meeting and interacting with people from different backgrounds is incredible. It allows you to work on your communication skills and it breaks down any stereotypes you have about certain groups of people," she says.

"I am now able to put faces to names of countries you might hear about in the news or learn about in geography class and that aids in my understanding of the complexity of global issues."



I AM NOW ABLE TO PUT FACES **TO NAMES OF COUNTRIES YOU MIGHT HEAR ABOUT IN THE NEWS OR LEARN ABOUT IN GEOGRAPHY CLASS AND THAT AIDS IN MY UNDERSTANDING OF THE COMPLEXITY OF GLOBAL ISSUES.**

Personal growth and development, and learning to overcome the anxieties associated with such migrations was another lesson learned. Uju recalls father explaining to her, as she travelled to the UK, leaving behind her family and friends in China, tha "greatness requires sacrifice".

"My international experiences have significantly developed my self-confidence and self-reliance," she s

"Knowing that I can adapt to life in a new city, countr and continent makes me confident in my ability to tak any issues or obstacles thrown at me throughout life

Another practical advantage international study had for Uju was in mapping out her career. In Nigeria sh was unaware that a career in research was an option someone who had an interest in life sciences.

"It was not until the 10th grade that a conversation with my biology teacher in Beijing exposed me to the prospects of a career in research," she says.

"From developing an interest in science in Nigeria, discovering a wide range of biology-related career options aside from medicine in China, and falling i love with the genetics of infectious diseases in the U each country I have lived in has contributed to refin my career goals."

Uju describes the educational path that she has take as being "increasingly common".

More than 80 percent of XJTLU graduates continue to further their studies in universities around the work including the Universities of Oxford, Cambridge, Imperial College London, Chicago, Columbia and Cornell in the US. Among them will be Uju, who will start a PhD in the lab of Dr Robin May at the University of Birmingham.



	"My project aims to map out human-to-human
	variation in the innate immune response to life-
her	threatening fungal pathogens," she says.
.t	"Ultimately I dream of an infectious disease research
	institute in Nigeria that will show that African talent
	can make a substantial contribution to the global fight
	against infectious diseases.
ays.	
	"My first-hand experience on the impact of an
ry	exposure to biological research has also motivated me
ckle	to volunteer at public engagement events run by the
"	University of Liverpool.
.d	"I cannot help but share my enthusiasm for science
e	with children in an attempt to eliminate the ignorance
1 for	I, myself, did not know I had."
	If success really is defined more by the journey taken
	rather than the destination reached, then Uju best
e	exemplifies what a true global graduate is, continuing
	her journey and inspiring the next generation wherever
	she goes.
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+ AUTHOR WILL VENN

+ PHOTOS supplied by Chinaemerem Uju Onyishi

The contrast between the 4.4 gigatons of concrete produced across 100 years in the US with the 6.4 gigatons that China produced between 2011-2013 was highlighted by Canadian scientist Vaclav Smil, backe by data from industry publication, the *International Cement Review*.

Given the speed of urbanisation that has taken place in China over the past 40 years such a figure appears plausible. Just consider the blink-of-an-eye skyscrape development of Shanghai's financial district in Pudor or the soon-to-be opened Beijing Daxing Internationa airport, constructed with 1.6 cubic metres of concrete

With the production of such vast amounts of concrete, in China and around the world, comes a carbon footpri of such size that environmental sustainability and energy efficiency have become centre stage priorities in the construction and operation of buildings.

It's these priorities that are driving the Chinese government's goals for green building construction ar renovation, which stipulate 50 percent of all new urba buildings are required to be certified green buildings.

Scientists and engineers are increasingly working together to find means to ensure the way we build in th future is both sustainable and economically viable. At Xi'an Jiaotong-Liverpool University, researchers from around the world came together for the 2nd Internation Conference on Sustainable Buildings and Structures in October this year, to share the latest research outcomes and engineering practices towards the development of sustainable buildings and structures.

Conference host and Programme Director of the MSc Sustainable Construction in the Department of Civil Engineering at XJTLU, Dr Isaac Galobardes, explains some of the research that his team have been pioneering in collaboration with industry partners, aimed at improving sustainable practices in the grey field of concrete.

"Sustainability in the construction industry is about reducing CO2 emissions, and concrete is one of the most unsustainable materials we have. It's the most used material in construction – just the production of cement is four per cent of the total CO2 emissions on the planet," Dr Galobardes says.

"We've been looking at the development of selfcompacting concrete. This type of concrete can then be poured and used in the precast industry; producing construction elements in a factory that can then be transported, a bit like Lego.

BUILDING UP TO THE SUSTAINABLE REVOLUTION OF THE 21ST CENTURY



Here's a concrete fact: Since 2003, China has poured more cement in a three-year period than the United States managed to in the entire 20th century. WILL VENN talks to XJTLU researchers about how we can ensure sustainability stands at the heart of future urban development.



	"We can reduce waste through the factory production
	of prefabricated materials. This demonstrates one way
	in which we can be more sustainable even though we're
ed	still working with concrete."
	Another example of sustainable practice can be found in
	the use of layered fibre-reinforced concrete using recycled
	aggregate – crushed concrete from demolished buildings.
r	"One of my main projects involves working with
ng	international chemical company Sika AG to develop
1	a new generation of eco-friendly, self-compacting
.	concretes and new internal curing agents for this
	material," Dr Galobardes says.
,	
int	"We are trying to use some of their products to
	minimise the content of cement in this type of concrete.
n	Instead of working with 500-600 kilos per cubic metre
	we can go to 300, or 250 – this is a big reduction."
	Sustainability extends beyond high rise buildings
nd	down to the bustling city streets below, and it's down
an	here in the paving slabs that a material known as
	travertine could help.
	Flooding in urban areas can occur when excess
ne	rainwater increases runoff in environments that are
	hampered by insufficient drainage.
nal	To minimise the damaging effects of flooding, XJTLU
1	researchers are looking at travertine as an alternative
s	pavement material for urban areas, because of its
	capacity to reduce flooding by 50 percent, while
	purifying storm water at the same time.

Initial experiments indicate this material, a form of limestone commonly used for kitchen benchtops and tiling in homes, has the potential to reduce storm water runoff by assisting it to infiltrate to the ground, and in the process remove a number of heavy metal pollutants from the water.



Lead researcher and PhD student Hamidreza Rahimi, who is doing his research in water and hydraulics under the supervisory of Dr Xiaonan Tang, says better water management is a key factor in enabling cities to become more sustainable.

"Urban water management needs to be improved to adapt to rapidly growing urbanisation, which involves both the management of wastewater, and the groundwater and rainwater," he says.

"Recovering rainwater by collecting runoff is now becoming a water management strategy for sustainable cities, which is increasingly used in many countries."

Environmental sustainability has been described as: the rate of renewable resource harvest, pollution creation, and non-renewable resource depletion that can be continued "indefinitely" – not just at the building stage.

Therefore, as an on-going concern, Dr Galobardes points to new technologies such as Building Information Modelling (BIM) as a way to help ensure buildings, once constructed, become operationally sustainable during their lifespans.

BIM enables collaborative input from architects, engineers and construction professionals in the creation of a digital representation of a building. This shared knowledge allows for better informed decisions to be made about a particular building's maintenance and operation.

"Many construction companies are trying to become greener and get Leadership in Energy and Environmental Design (LEED) certification for their buildings," Dr Galobardes says.

"This certification shows the level at which a building is green and sustainable and it includes stages from design and construction, to operations and maintenance." Dr Galobardes points to the 128-story megastructure that is Shanghai Tower - the world's second tallest building, designed by Gensler - as an example of one of the most advanced sustainable buildings internationally that has achieved LEED certification.

The Tower's glass 'skin' admits maximum light reducing energy use for heating and cooling as the building's double façade helps insulate the tower. Wind turbines power the Tower's lighting, and it is estimated that the Tower's sustainable strategies offset its carbon footprint by 25,000 metric tons per year.

Shanghai Tower is but a shining beacon though in an industry still hampered by a conservative approach when it comes to designing for sustainable functionality.

"Economic factors and considerations over safety regulations dominate design and construction - there is still quite a conservative approach to creating buildings that can operate in a sustainable, environmental way," Dr Galobardes says.

But it's an approach that's expected to give way to a change that will be as impactful as the Industrial Revolution, according to XJTLU's Dr Konstantinos Papadikis, head of the department of Civil Engineering.

"The concepts of sustainable development and green engineering are equivalent to what in the 18th century and 19th century was the Industrial Revolution," Dr Papadikis says.

"These days due to factors such as environmental limitations and scarcity of resources, the whole business-as-usual approach to construction has to change as the industry needs to be aligned with current research and national directives.

"The research-driven sustainable development movement should be aligned with national directives that dictate how enterprises and industries have to behave in the 21st century."

THE CONCEPTS OF SUSTAINABLE DEVELOPMENT AND GREEN ENGINEERING ARE EQUIVALENT TO WHAT IN THE 18TH CENTURY AND 19TH CENTURY WAS THE INDUSTRIAL REVOLUTION. THESE DAYS DUE TO FACTORS SUCH AS ENVIRONMENTAL LIMITATIONS AND SCARCITY OF RESOURCES, THE WHOLE BUSINESS-AS-USUAL APPROACH TO CONSTRUCTION HAS TO CHANGE AS THE INDUSTRY NEEDS TO BE ALIGNED WITH CURRENT RESEARCH AND NATIONAL DIRECTIVES.

THE 128-STORY MEGASTRUCTURE THAT IS SHANGHAI TOWER

- THE WORLD'S SECOND TALLEST BUILDING, DESIGNED BY GENSLER

- AN EXAMPLE OF ONE OF THE MOST ADVANCED SUSTAINABLE BUILDINGS ON THE PLANET.



+ PHOTOS SHUTTERSTOCK



• DR ISAAC GALOBARDES Lecturer in the Department of Civil Engineering



+ DR KONSTANTINOS PAPADIKIS Head of the Department

of Civil Engineering



 HAMIDREZA RAHIMI
 PhD candidate in the Department of Civil
 Engineering

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NEWS IN BRIEF

RESEARCH:

STUDY FINDS SECONDARY FORESTS **CAN BE AS SPECIES-RICH AS MATURE** FORESTS

EXPLORE RESEARCH HIGHLIGHTS, NEW INDUSTRY **COLLABORATIONS, RECENT APPOINTMENTS AND OTHER** STORIES FROM ACROSS THE UNIVERSITY.

In a world where the negative effects of climate change dominate headlines, a new study led by Xi'an Jiaotong-Liverpool University offers a message of hope - the species richness in key groups of organisms in long-term protected secondary and plantation forests can match that of mature forests.

Lead researcher Dr Yi Zou from XJTLU's Department of Health and Environmental Sciences says the study puts to rest claims all plantation and secondary forests are simply 'green deserts' with no ecological value.

"While nothing compares to primary forests, our findings show that biodiversity, which is vital to all aspects of life – from the air we breathe to our food sources - can be recovered through newly regenerated forests," he said.



GRANT SUCCESS: XJTLU RESEARCHERS SECURE NATIONAL NATURAL SCIENCE **FOUNDATION OF CHINA FUNDING**

You've just hired a Didi car. You get in the back, and off you go. But there's no driver in the front and no purr of a combustion engine. The car is not only electric, but also self-driven.

Research led by Dr Lixian Qian of the University's International Business School Suzhou could answer whether this scenario might soon become reality after securing a grant to explore trends in electric cars, services involving cars that are shared and automated driving in China.

Dr Qian is one of 11 researchers from XJTLU who received National Natural Science Foundation of China funding, which was announced in August.



Thousands of students, staff, Suzhou residents and other visitors attended the inaugural Xi'an Jiaotong-Liverpool University International Day Festival on 20 October.

"Suzhou is a modern, global city. The 2019 XJTLU International Day Festival provided an opportunity for local residents here to experience cross-cultural exchanges, and helps deepen interactions and collaboration between universities, local communities and the wider world," said Dr Xin Bi, deputy director of the Centre for Knowledge and Information at XJTLU.



Construction of Xi'an Jiaotong-Liverpool University's new Entrepreneur College (Taicang) officially kicked off with a groundbreaking ceremony on April 29.

A collaboration between XJTLU and the Taicang Municipal Government, the College will deliver six new degree programmes using the University's innovative education model - Syntegrative Education. XJTLU and the Taicang Municipal Government signed an agreement in March 2018 to establish the College in Taicang. The College is expected to open in 2021.



EVENTS:

BRINGING THE WORLD TO CAMPUS

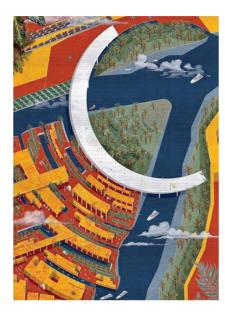
NEWS:

GROUND BREAKS ON XJTLU'S NEW ENTREPRENEUR **COLLEGE IN TAICANG**

NEWS IN BRIEF

RENOWNED **ARCHITECT BRINGS** HUMAN FOCUS, COLOURFUL **TECHNIQUES TO XJTLU**

Students had the chance to learn from the winner of the 2018 Pritzker Architecture Prize - sometimes called "architecture's Nobel" – during a workshop held on campus in June. This image (right) is just one of the works produced by XJTLU architecture students after being guided in an interactive video lecture from worldrenowned architect Balkrishna V. Doshi and receiving hands-on instruction from Rajeev Kathpalia.



RIGHT: Urban Connector STUDENTS: Menghan Lu, Qianru Li, Kefei Qiao, Dongjie Ma, Jiazheng Liu

New Industry Partnerships

THE SINO-GERMAN INTERNATIONAL STANDARD RESEARCH CENTRE, a partnership between the University and TÜV NORD Group, was founded at an International Innovation Forum at XJTLU in September 2019. TÜV NORD Group, based in Germany, provides technology and safety services that include third-party certifications to a global client base.

A Memorandum of Understanding between the University and the JIANGSU INDUSTRIAL TECHNOLOGY RESEARCH INSTITUTE will help fast track the process of bringing research results out of the lab and into the real world. JITRI is a new scientific research institution that aims to bridge the gap between science and technology and accelerate research commercialisation.

The University signed a strategic agreement with INNOVENT BIOLOGICS (SUZHOU) CO., LTD. in July 2019 to expand their cooperation in the field of biomedicine. Dr Qinwei Zhou, chief operating officer of Innovent Biologics, said Innovent will help XJTLU commercialise achievements in the laboratory by providing the right platforms and resources from the domestic bio-pharmaceutical industry.

A CHINA PANGOLIN RESEARCH CENTRE will be established thanks to a collaboration between XJTLU and the China Biodiversity Conservation and Green Development Foundation. Based at the University, the Centre will endeavour to protect the pangolin, one of the most endangered animals on the planet, through research.

CRITICAL THINKING AND EFFECTIVE COMMUNICATION ARE THE MOST IMPORTANT SOFT SKILLS A BUSINESS SCHOOL CAN TEACH. STUDENTS MUST LEARN HOW TO SEEK INFORMATION FROM MULTIPLE SOURCES AND HOW TO MAKE UP THEIR OWN MINDS - THEY CANNOT RELY ON ANYONE TO TELL THEM WHAT TO THINK.

+ PROFESSOR JÖRG BLEY

New Dean of International Business School Suzhou, Professor Jörg Bley, who began his role in September 2019. He believes business schools and higher education institutions more broadly must do more than provide their students with facts and figures.

A GLOBAL EXPERIENCE IN HIGHER EDUCATION HAS THE CAPACITY TO BUILD ROBUST AND RESILIENT GRADUATES WHO ARE MORE CAPABLE OF COPING WITH DIVERSE WORKPLACES. A FUNDAMENTAL ASPECT OF MY ROLE AS DEAN WILL BE TO PREPARE STUDENTS TO OPERATE WITH CULTURAL SENSITIVITY IN THE PROFESSIONAL WORLD.

+ PROFESSOR IGEA TROIANI

Dean of International Affairs, Professor Igea Troiani, who began her role in September 2019. She brings her own global experience to the new position, having worked in China, the United Kingdom, Australia and Germany.

XJTLU IS A TREMENDOUS SUCCESS STORY, AND THE PARTNERSHIP PRESENTS A WEALTH OF **OPPORTUNITIES FOR BOTH UNIVERSITIES TO FURTHER THEIR RESEARCH AND OFFER LIFE-CHANGING EXPERIENCES TO STUDENTS.**

+ PROFESSOR JEFFREY BLACKFORD

Dean for XJTLU at the University of Liverpool, **Professor Jeffrey Blackford**, who was recently appointed to strengthen research collaboration between the two universities and promote educational opportunities for the benefit of both UK and China-based students.

APPOINTMENTS







AROUND CAMPUS



From traditional Korean rice cake tastings to painting Chinese kites, the International Campus Cultural Bazaar held on South Campus had something for everyone.





Control Con welcome new recruits at the 2019 Fresher's Fair.



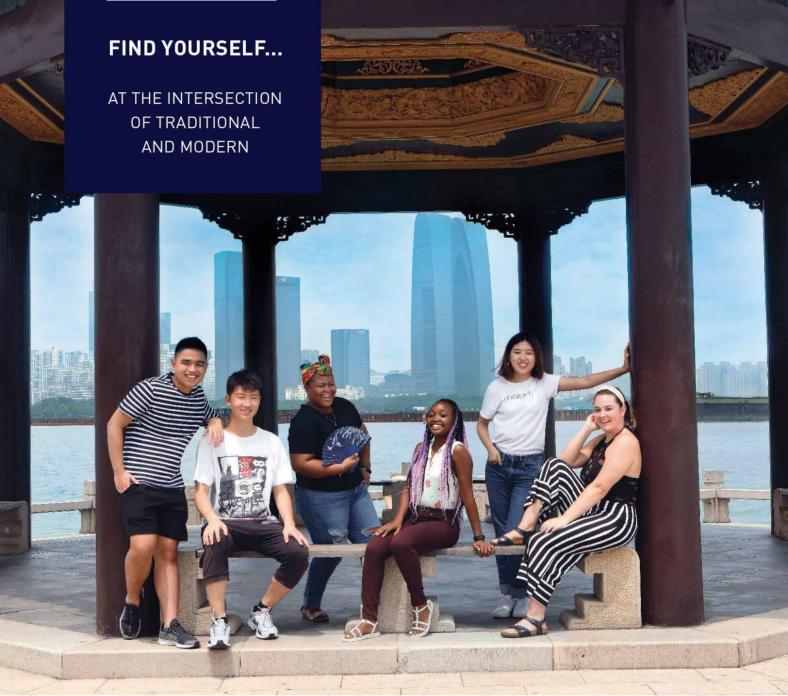
fast-paced business China' summer school programme.

> Students in Urban Planning and Design, Architecture and Design and the School of Film and TV Arts took on the challenge of envisioning a revitalised Suzhou in an interdisciplinary workshop.



XJTLU

OF TRADITIONAL



Study at XJTLU in Suzhou... a beautiful, safe, modern, affordable city just 25 minutes from Shanghai.

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