

THE BUZZ FROM CHINA'S WEST



There is a buzz about the 'Lanzhou University phenomenon', among China's higher education community. Situated in the hinterland of northwest China, where economic development lags behind the rest of the country, Lanzhou University (LZU) shines as an outlier in several university rankings for research output. How has it thrived so markedly, without all the advantages of its national counterparts?

"We have cultivated a healthy academic spirit," says Yan Chunhua, the LZU president. "LZU faculty and students are diligent, pragmatic and enterprising," he continues. "Also, we have found our niche areas for growing in the west."

Rooted in the Gansu Law and Politics School established in the late Qing Dynasty in 1909, LZU is a national key university under direct administration of the Chinese Ministry of Education. With a mission to boost economic and cultural development and cultivate talents and skills to meet regional needs, the university has become pivotal in China's blueprint for its development in the country's west. It was selected to be part of Project 211 and Project 985, the two national initiatives dedicated to elevating research and talent cultivation capacity of high-level Chinese universities. In 2017, LZU moved into the national 'double first-class' initiative, beginning a new chapter in its growth.

► A niche position for research programmes

Out of more than 1,500 universities in China, LZU is consistently ranked among the top 30 in output, and has a strong tradition in fundamental science. It has 12 disciplines ranked among the global top 1%, according to the latest Essential Science Indicators (ESI) subject area rankings, of which, the chemistry programme is ranked among the global top 0.1%.



Research programmes at LZU are also geared towards addressing regional and national issues of strategic importance. In China's exploration of the Moon, LZU researchers were behind a crucial technology in the soft landing of the Chang'e 4 lander on its far side, a world-first. They led the development of the gamma shutdown sensor, which enabled accurate control of the height between the shutdown sensor and the lunar surface. In addition, LZU is a central player in China's gravitational wave projects underpinned by its strength in theoretical

physics. It is also establishing a centre of gravitational study as part of China's grand plan to detect gravitational waves from space.

The university is also involved in China's Meridian Project, a mega project of space weather monitoring to better understand the space environment above China's territory. To safeguard satellite operation, LZU collaborated with the National Space Science Center of the Chinese Academy of Sciences (CAS) in building a space environment monitoring station in the city

of Lanzhou. Studies based on data collected from the station will support satellite communication and navigation to ensure aviation and aerospace safety. They will also improve natural disaster prevention systems and relief mechanisms, as well as ecological conservation.

To provide technological support for regional development, LZU researchers are engaged with practical research. Ecologists at LZU take part in joint Qinghai-Tibetan science exploration trips and turned their

biomedicine, LZU chemists simplified the process for preparing carbamazepine, an anticonvulsant drug, lowering the cost of production and reducing the toxicity level of the drug. Another study on peptide drugs has led to a new technology to synthesize non-protein amino acids, which is used in the development of two peptide drugs, having brought significant economic and social benefits.

The merger of Lanzhou Medical College in 2004 has strengthened LZU's clinical research capacity, leading to breakthroughs in medical technologies. An example is a telemedicine platform that offers multidisciplinary team (MDT) consultation and large-scale, emergency medical aid in regional natural disasters – notably earthquakes and landslides.

Focusing on the Belt and Road initiative, LZU humanities and social science researchers have conducted thorough and distinctive studies to serve the national strategy and regional economic development. They lead the world in Dunhuang studies and Silk Road civilization studies.

Their studies on northwest China's ethnic groups and society, as well as on border security also stand out. Particularly, studies on anti-terrorism theories play a significant role in international security collaboration. With unique studies on regional economic development, they established rural revitalization models that have contributed remarkably to poverty alleviation. Research achievements based on LZU findings are continually emerging.

► High-quality education

Putting faculty members and students at the centre of planning, the university is pushing its teaching reform agenda for better talent incubation.

LZU is one of the 19 Chinese universities to pilot a plan of cultivating top-notch students in fundamental science. In 2010, it established the Cuiying Honors College dedicated to the plan, recruiting from the university the best students in primary research, who would later become leading experts in relevant fields. The college recruits students in mathematics, physics, chemistry, biology, and humanities and offers personalized instruction that focus on students' critical thinking, application, and collaboration capabilities. Some students are already emerging as active players in academia.

Since its founding, LZU has cultivated

more than 370,000 talented professionals, including renowned scholars, entrepreneurs, and government leaders. Since 1999, 17 LZU alumni have become members of CAS or Chinese Academy of Engineering (CAE). LZU graduates are sought after by employers for their diligence, solid academic backgrounds, and enterprising spirit.

To become a world-class university, LZU will follow its motto to "constantly improve and blaze its own trail." The 'LZU phenomenon' will grow. ■

LZU at a glance

- Comprehensive academic programmes, covering **12** disciplines, offering **103** undergraduate programmes
- Currently enrolls **19,826** undergraduates, **10,452** master's students, and **2,442** doctoral students
- Among LZU's faculty members, there are **17** CAS or CAE members, **18** 'Changjiang Scholars', **23** recipients of the National Science Fund for Distinguished Young Scholars
- From 2008 to 2017, LZU researchers have won **700-plus** national, ministerial and provincial research awards, and published **13,000-plus** SCI papers, with average citation ranked **26th** among Chinese universities,
- Houses **6** national-level talent training bases, **7** national teaching demonstration centres, **2** national talent training model innovation pilot sites
- Established ties with **196** universities and research institutions from **42** countries and regions; in the recent five years, has sent **3,700** students for international exchange and trained more than **2,000** students from visiting countries