

Northwest University researchers are protecting the ecological balance of the Yellow River region, while investigating efficient utilization of natural resources.

# A CENTRE OF EXCELLENCE IN NORTHWEST CHINA

RENOWNED FOR ITS RESEARCH IN GEOLOGY AND ARCHAEOLOGY, Northwest University stands out as a crucial presence in this historic region.

**Situated in Xi'an**, China's ancient capital and the eastern terminus of the Silk Road, research at Northwest University is enhanced by the city's rich cultural heritage. It has a reputation as one of China's top state universities.

As the oldest higher education institution in the northwest, the university's history can be traced back to two institutions — Shaanxi Imperial College and Peking



**LIHONG GUO**  
President of Northwest University

Imperial College — in the late Qing Dynasty, 120 years ago. Since its beginning, the university has attracted many distinguished scholars, nurtured generations of academic leaders and had many significant achievements.

"Our motto is 'Fairness, Sincerity, Diligence and Simplicity'," says Lihong Guo, Northwest University's president. "This is rooted in traditional Chinese culture and propels us to better the nation, integrate ideas from around the world, and help develop northwestern China."

## SIGNIFICANT ACHIEVEMENTS

Located close to the Qinling Mountains, Yellow River, Loess Plateau and the starting point of the ancient Silk Road, the university has developed

its strengths in the study of geology, natural resources, history, culture and civilizations across northwestern China, Central Asia and Western Asia.

**NORTHWEST UNIVERSITY HAS DEVELOPED ITS STRENGTHS IN THE STUDY OF GEOLOGY, NATURAL RESOURCES, HISTORY, CULTURE AND CIVILIZATIONS.**

"We have cultivated more than half of China's archaeologists and experts in the preservation of cultural relics," Guo notes. "And our research findings from digs have been included in a

published list of the 'Top 10 New Archaeological Discoveries in China' on four occasions."

Northwest paleontologists have made major fossil discoveries, providing insights on the Cambrian explosion which saw the rapid emergence of many modern groupings of organisms more than 500 million years ago.

The liberal arts and history departments have been focused on traditional Chinese culture, including the history of the Zhou, Qin, Han and Tang Dynasties, and have developed major academic theories on topics related to Chinese intellectual history.

While exploring and preserving relics of the past, the university has also integrated basic and applied research with development strategies

for the region, and China as a whole. For example, the geology department has been working on basin-mountain systems and Earth dynamics to inform the government's national energy strategy. The researchers have undertaken a 150-million-yuan (US\$22.5m) research project for Chinese petrochemical company Sinopec, looking for oil and gas.

The urban and environmental sciences department is striving to protect the ecology of the Yellow River region and the Wei River Basin while investigating efficient utilization of natural resources for sustainable development.

The economics and management department has conducted in-depth research to address issues surrounding economic and social reform in northwestern China, and has cultivated many economists to advise on the government's economic policies for China's development.

The life sciences department has been carrying out long-term research on biodiversity in the region. Researchers have revealed the adaptive mechanisms of complex primate societies and proposed a theory on the protection of rare and endangered plants and animals. In collaboration with researchers from the information technology department, they have developed a facial recognition technique to identify individual monkeys, tracking and observing their activities.

Researchers in the chemical engineering department have worked with industry and developed a technique to mass produce collagen-based biomaterials, now sold for medical use in China and elsewhere.

The university also has a focus on interdisciplinary collaboration. By integrating research in history, archaeology, liberal arts, computer science, geology and chemistry, it has established the Belt and

Road Joint Laboratory on China-Central Asia Human and Environment to conduct research on the relationship between cultural heritage and environmental change along the Silk Road. By combining geology, environment, biology and physics, it has established the State Key Laboratory of Continental Dynamics and several other institutes to protect natural resources in the Qinling Mountains region, while advancing local development.

## INTERNATIONAL COLLABORATION

Northwest University has built its greatest strengths in 11 disciplines, covering liberal arts, the sciences and engineering. According to the Essential Science Indicators (ESI), the university has 10 disciplines ranked among top 1% globally. It has established the first research school in China to train talent in the field of carbon neutrality, while studying carbon capture, utilization and storage (CCUS).

These results and initiatives have elevated the university in world rankings. It has 33 members of the Chinese Academy of Sciences and the Chinese Academy of Engineering among its faculty and graduates, and 10 researchers from international institutions. In recent years, the university has been seeking extensive collaboration with leading academics and research institutions at home and abroad. It has carried out more than 240 collaborative projects with nearly 100 institutions in more than 20 countries.

The university has also initiated the establishment of a university alliance along the 'Belt and Road' — an initiative from China to build a trade and infrastructure network connecting Asia with Europe and Africa, a China-Japan university alliance for humanities exchanges and the Silk Road

## NORTHWEST UNIVERSITY BY THE NUMBERS

### GLOBAL RANKINGS

**254<sup>th</sup>**

in the Nature Index 2022 Institution Ranking

**43<sup>rd</sup>**

in the 2022 QS ranking of Chinese Mainland Universities

### DISCIPLINES IN ESI'S

**1%**

Global Top

- Earth Science
- Chemistry
- Materials Science
- Engineering
- Clinical Medicine
- Pharmacology and Toxicology
- Agricultural Science
- Plant and Animal Science
- Environment/Ecology
- Biology and Biochemistry

### RESEARCH OUTPUT BY SUBJECT IN THE NATURE INDEX (1 DECEMBER 2020-30 NOVEMBER 2021)

<b>175</b>	<b>66</b>	<b>80</b>	<b>24</b>	<b>17</b>
Total articles	Physical Sciences	Chemistry	Earth & Environmental Sciences	Life Sciences

Note: \* Articles in the Nature Index ([www.natureindex.com](http://www.natureindex.com)) may appear in more than one subject category

### FACULTY

**3,000+**  
Total staff

**1,900+**  
Research staff

### STUDENTS

**1,500+**  
Doctoral students

**13,000+**  
Undergraduates

**10,200+**  
Postgraduates

**600+**  
International students

cultural heritage preservation and inheritance alliance to boost cultural exchange.

Another major push in line with the university's development goals is its plan for internationalization. It aims to train more global academics through student exchange and visiting-scholar programmes. Currently, the university is cooperating with major institutions such as University College London, the University of Queensland in Brisbane, and the University of California, Berkeley, to launch a dual-undergraduate-degree programme, and a global elite programme to train top talent. It's also running an undergraduate-degree

programme of electronic information science and technology with the University of Essex, and has established an educational institution of cultural heritage and arts with the University of Salento.

"Northwest University is ready to embark on our next journey," says Guo "We will be more vibrant, efficient and open, with the goal of becoming an internationally renowned research university." ■



+86 29 883 03511  
oip@nwu.edu.cn  
<https://english.nwu.edu.cn/>