

An Ambassador for Sino-German Connections

Dialogue

By Staff Reporters

In 2018, Lutz Gunther Pluemer, a German senior professor specializing in geographic information and AI, was invited to Chengdu to serve as foreign dean of the Faculty of Geosciences and Environmental Engineering at Southwest Jiaotong University.

Now, eight years later, at the age of 75, Pluemer, also a member of the Bavarian Academy of Sciences, regards Chengdu as his second home. During his time there, he has devoted himself to recruiting and nurturing talent, and to advancing academic development, all the while witnessing the city's rapid transformation. Through his personal experiences, he has shared the true story of Chengdu with the world, becoming an ambassador for people-to-people connections between China and Germany.

Recruiting top-tier experts from home and abroad to strengthen the university's faculty has been at the heart of Pluemer's work. Drawing on his years of professional experience, he has developed a precise and efficient model for attracting and retaining talent.

In talent recruitment, he uses high-quality research projects to expand communication channels and prioritizes recruiting promising young talent to invigorate disciplinary development. To retain talent, he focuses on their core needs and improves the support system comprehensively. This includes providing



Lutz Gunther Pluemer. (COURTESY PHOTO)

competitive compensation, state-of-the-art laboratory equipment and ample research funding, all of which establish efficient administrative processes.

These pragmatic measures have yielded remarkable results. Over the past eight years, Pluemer and his team have successfully recruited 10 full-time foreign faculty members. Through close collaboration between Chinese and foreign faculty members, innovative ideas continue to flourish, driving the development of disciplines forward. This has helped the Earth sciences discipline at the school achieve a significant breakthrough in its field, successfully ranking in the top one percent globally in the Essential Science Indicators rankings.

Cultivating new talent

Upholding the philosophy that "sci-

ence knows no borders, and talent thrives in fertile ground," Pluemer has dedicated himself to undergraduate education and the cultivation of internationally-oriented talent, nurturing China's rising stars in science and innovation. Since joining the faculty, he has introduced two fully English-taught specialized courses and actively developed Sino-Foreign cooperative education programs.

To date, among the five graduating classes of these programs, more than 50 students have enrolled into world-class institutions. Compared to his own internationally recognized research achievements, Pluemer finds even greater satisfaction in the growth and success of his students. After completing their studies, many of his students have

decided to return to Chengdu and put down roots at Southwest Jiaotong University, becoming a new force in the scientific and technological innovation of the Chengdu-Chongqing region, creating a tangible cycle of growing talent.

Telling the Chengdu story

Over the course of eight years, Pluemer has witnessed Chengdu's rapid development first-hand. The iterative upgrade of transportation between Chengdu and its neighboring city Chongqing has impressed him the most. When he first arrived in Chengdu in early 2018, traveling on the Chengdu-Chongqing High-Speed Railway was difficult and there was limited capacity. Today, however, the high-speed railway operates like a bus service: tickets can be purchased instantly via mobile phone, and the two cities can now be reached in just one hour. "While Germany's railways were once a model for China to follow, China's railways have now surpassed Germany's in terms of speed, punctuality and reliability," he said.

Chengdu's unique blend of innovation and everyday life, where tradition and modernity coexist, completely shattered Pluemer's preconceived notions on arrival. Now, to address misconceptions abroad, he has taken it upon himself to serve as an ambassador for the city, delivering lectures at several German universities and sharing true stories about Chengdu's inclusiveness, vitality and beauty based on his personal experiences. In this way, he is building a bridge of mutual understanding between Chengdu and the rest of the world.

Tech+Culture

Tech Preserves Ancient Fucha Tea Culture

By WANG Yuhan & BI Weizi

Recently, young people lined up at a trendy tea shop in Xi'an, northwest China's Shaanxi province, waiting for a selection of specialty drinks made with a base of Fucha (also known as Fu brick tea).

With a history spanning a millennium, Fucha is making a comeback in modern China, presenting itself through stylish new forms such as pure tea brews, fresh milk teas and fruit-infused blends. From being the "Black Gold" carried on the backs of ancient Silk Road camels, to becoming the milk tea held in the hands of trendy youth, the key to this transformative journey lies in technological empowerment, industrial restructuring and the dynamic, living preservation of culture.

Tech deciphers the 'Golden Flower' code

Fucha flourished during the Song Dynasty and reached its zenith during the Ming and Qing dynasties; traveling along the ancient Silk Road, it was exported to over 40 countries and regions, earning it the name "The Black Gold of the Silk Road." Its very soul lies in the "Golden Flower" — scientifically known as *Eurotium cristatum* — a beneficial probiotic microorganism. In the late 1950s, due to shifts in tea industry policies, Fucha production migrated southward, and the traditional tea-making techniques of Jingyang — its historic birthplace — came perilously close to being lost forever.

The first step in the revitalization of Fucha was deciphering the "Golden Flower" code. In 2017, the Jingyang Fucha R&D Center, affiliated with Northwest A&F University, was officially established in Fucha town. The research team transformed the traditional "flowering" process — which previously relied entirely on the whims of nature — into a rigorous scientific protocol involving microbial isolation, purification and propagation.

Subsequently, platforms dedicated to germplasm resource conservation, microbial strain screening, and intelligent processing were successively established. The traditional 14-step production sequence was refined into 128 quantifiable, standardized procedures. With the commissioning of intelligent tea-pressing equipment, sterile fermentation workshops and smart automated warehousing

systems, the Fucha industry has said goodbye to its former old, weather-dependent production model.

These tech breakthroughs have fundamentally reshaped the industry's landscape. Currently, Fucha manufacturing enterprises within the Xixian New District generate an annual output value of 1.2 billion RMB, driving the comprehensive output value of the entire Fucha industrial chain in Xi'an to exceed 2.7 billion RMB.

Fucha culture — a living heritage

Fucha town serves as a microcosm of the integration between industry and culture. Spanning 2,200 mu (approximately 146.7 hectares), this National 4A-level scenic area welcomes over four million visitors annually. The China Fucha Culture Museum recounts the storied past and vibrant present of Fucha, having hosted over 500,000 visitors since its opening. Fucha town has been recognized as a national demonstration base for rural tourism entrepreneurship.

In April this year, the Funeng Laboratory, an interdisciplinary platform established in collaboration with multiple universities, partnered with a domestic innovative tea beverage brand and launched four new Fucha products simultaneously — including pure tea, milk tea and fruit tea varieties, dragging the tea out of history and into modern tea shops.

"In the past, young people might have gone their entire lives without ever actively prying apart a brick of tea; yet now, the very milk tea they consume regularly carries the genetic essence of Fucha. Once their interest is piqued, they naturally seek to understand the cultural history behind it — this is what constitutes a living heritage," remarked Dang Qilei, head of the Qinchuangyuan Fucha Culture Innovation Center.

From the China-Central Asia Summit to the Moscow Tea Expo, Fucha tea has made frequent appearances on the international stage. Chen Chong, deputy general manager of the Xixian New District Fucha Town Cultural Industry Group, said: "Fucha is more than just a beverage; it is a vessel for culture. We will continue to leverage technology to revitalize its deep-rooted heritage and utilize diverse product offerings to connect with the youth market, ensuring that the fragrance of Fucha wafts across the globe and its legacy endures for generations to come."



Two tea makers carefully sort Fucha leaves at a Fucha workshop in Xianyang, Shaanxi province. (PHOTO: XINHUA)

Is a 'Super El Niño' on the Way?

Science Outreach

By Staff Reporters

Comments like "This year and next may be the hottest on record" and "A super El Niño may be approaching" have currently been doing the rounds online, generating endless debate. In response to these pressing climate issues, several meteorological experts have dived in to offer professional analyses, in order to clarify forecasting anomalies and explain potential climate risks.

Regarding the probability and intensity of an El Niño event, a warming of the ocean surface, or above-average sea surface temperatures, Zheng Fei, a researcher at the Institute of Atmospheric Physics of the Chinese Academy

of Sciences, said that forecast data indicates a high probability — over 70 percent — of a moderate-strength El Niño occurring in 2026, while the probability of it developing into a super El Niño is only about 10 percent. The notion of a "super El Niño" currently circulating online lacks scientific basis, and it is too early to declare this year the hottest on record, Zheng said. However, the risk of extreme weather events has significantly increased.

Currently, forecasts from various global meteorological agencies regarding the timing of El Niño's onset vary considerably, with the predicted timeframe ranging from April to September. Zheng explained that these discrepancies are not due to flaws in the prediction models but rather the influence of the "Spring Predictability Barrier," when the models struggle to make accurate forecasts. In the spring, air-sea interactions in the tropical Pacific are relatively weak, and physical relationships,

such as temperature and wind patterns, are less defined. Additionally, differences in modeling approaches, emphasis on physical processes, and sensitivity to initial conditions among various agencies mean that prediction errors are amplified as the forecast horizon lengthens. This leads to discrepancies in results.

Of additional interest is that against the backdrop of global warming, El Niño will amplify the effects of extreme weather. Li Kexin, a doctoral student at the Institute of Atmospheric Physics, said El Niño releases ocean heat, creating natural warming. Combined with long-term warming caused by human activities, this makes heat waves occur earlier, become more intense, and last longer. This climate impact exhibits distinct phased characteristics. In the summer following El Niño formation, global heat waves increase significantly.

Based on this forecast, if El Niño

forms as expected in the second half of 2026, northern China may experience an exceptionally prolonged heat wave in the summer of 2027, requiring advance preparation. At the same time, El Niño will increase the frequency and intensity of extreme weather events, such as heat waves and heavy rainfall, making the climate increasingly unstable.

In light of this new climate reality, Zheng outlined a series of countermeasures.

Key meteorological factors, such as sea surface temperatures and monsoons, require detailed monitoring and rolling forecasts. In addition, water resource allocation needs to be coordinated to ensure a complementary water supply between wet and dry seasons through reservoir clusters. Comprehensive inspections are also required to identify potential risks of urban flooding, flash floods and geological disasters.

Sound Miracles of the Temple of Heaven

Traditional Eastern Wisdom

By BI Weizi

Three ancient, awe-inspiring acoustic phenomena built into the sacred altars of the Temple of Heaven complex in Beijing are renowned in history as the "sound miracles." These architectural marvels were built with precise geometry, smooth masonry and strategically positioned structures to reflect and amplify sound so that they could form what the ancients believed a direct channel of communication between the emperors and the heavenly powers.

The Echo Wall is a circular enclosure surrounding the Imperial Vault of Heaven, a 16th-century circular wooden

hall where the sacred memorial tablets used by the emperors during heaven-worship rituals were stored. It is 3.72 meters high with a diameter of 61.5 meters. If two people stand on its opposite ends, press an ear against the wall and whisper softly, they can be heard clearly, as if they were standing right next to each other.

This marvel is a perfect synergy of materials, craftsmanship and geometry.

The wall is constructed using Chengjiang bricks sourced from Linqing, Shandong province in east China, characterized by high density and low porosity with a uniform, hard texture. They are perfect sound reflectors.

Geometrically, the Echo Wall's nearly perfect circular structure demonstrates the law of sound reflection, with sound waves continuously gliding along the smooth, curved surface. Due to the

uniform curvature of the circumference, the loss of acoustic energy is minimal, creating a propagation path analogous to that found in modern fiber optics or whispering-gallery models.

Along the walkway leading to the main hall of the Imperial Vault of Heaven are the Three Echo Stones, placed precisely at the geometric center of the circular courtyard. If someone claps or speaks, sound waves radiate outward and after multiple reflections off the surrounding walls and side halls, they produce three distinct, clear echoes. The varying paths taken by the sound waves create minute time lags, which the human ear hears as a series of resonant echoes.

The Circular Mound Altar was the central venue for the Winter Solstice ritual of worshipping Heaven. At its core lies the circular Heart of Heaven Stone,

the spot where the emperor would stand to offer his sacrificial prayers. Sound waves emanating from the stone radiate outward in all directions, instantly reflected by the surrounding balustrades of white marble.

These reflected sounds reach the listener almost simultaneously with the original voice, resulting in a phenomenon known as phase superposition, which significantly amplifies the volume, creating a sacred atmosphere in which "heavenly voices seem to linger."

Through ingenious techniques, material selection, polishing and precise positioning, the ancient builders achieved a harmonious synthesis of function, aesthetics and culture, transforming the Temple of Heaven into a three-dimensional testament to acoustics, mathematics, geometry, astronomy and philosophy.

China Releases White Paper on Global Governance

From page 1

Success will also hinge on major countries bearing a sense of responsibility, and on all nations uniting and cooperating to address deficits in peace and development. All countries should firmly uphold the international system with the UN at its core, safeguard the international order based on international law, and uphold the basic norms governing international relations underpinned by the purposes and principles of the UN Charter, instead of reinventing the wheel, according

to the white paper.

Apart from the preface and conclusion, the white paper has five parts: "The World Today Faces Severe and Complex Challenges," "The Global Governance Initiative Responds to Challenges of Our Times," "China's Contribution to Promoting Global Governance," "Guiding the Direction of Change Towards a Bright Future," and "Moving Forward Hand in Hand at a Critical Juncture in History."

Source: XINHUA