

Finding Meaningful Life in China

Dialogue

By LONG Yun & BI Weizi

"I do like being a scientist, exploring the sci-tech world with endless possibilities," Czech scientist Dr. Pavel Neuzil told *Science and Technology Daily*.

In 2015, those endless possibilities eventually took his academic odyssey to China, where he serves as a distinguished professor in the School of Mechanical Engineering at Northwestern Polytechnical University (NPU) in Xi'an, northwest China's Shaanxi province. In the process, he has built up a bond of affection with the people and the country.

Conducting trailblazing research
Neuzil's research endeavors extend beyond the academic community, also aiming to bring tangible benefits to society. His work in developing Digital PCR technology for prenatal diagnostics stands as a vivid example of his commitment to public welfare. By offering simpler and more efficient methods for detecting genetic abnormalities in unborn children, Neuzil strives to lower the incidents of conditions such as Trisomy 18 and 21, commonly known as Edwards syndrome and Down syndrome, respectively.

Neuzil joined NPU keen to do further research after he found China provided a flourishing academic landscape. Speaking highly of Chinese universities, he attributed their rapid academic progress to the conducive research environment.

Reflecting on his own experience at



Professor Pavel Neuzil. (COURTESY PHOTO)

NPU, Neuzil appreciated the support he has been receiving from the university, with a functional laboratory established within a year of his arrival.

Moreover, he finds himself particularly drawn to the diversity of the working environment, where collaboration with Chinese colleagues provides a source of pleasure. "Professor Neuzil is a pragmatic and down-to-earth scientist, who diligently dedicates himself to his work and lives a modest lifestyle," say his colleagues at NPU.

Guiding the next generation
Despite his reserved character, Neuzil's dedication to his work is evident in his interactions with students, who express sincere gratitude for his guidance. "Essentially, I guide my students to the door, but they take the steps to walk through it on their own.

They are determined individuals with aspirations, and I merely assist them in realizing their goals," he said.

In his classes, Neuzil highlights the value of curiosity in propelling his students' careers forward. Drawing from his own experience, he advises researchers to remain open-minded and receptive to learning from their peers, emphasizing the importance of collaboration and knowledge-sharing. Additionally, he attaches great importance to problem-solving skills and seeking guidance when faced with challenges, cautioning against repeating mistakes without seeking assistance.

Whether it is guiding his students toward academic success, or enjoying outdoor activities in nature, Neuzil instills a sense of dedication and perseverance in them. This helps foster a mutual-

ly beneficial relationship. He considers the holistic growth of his students as one of his "greatest accomplishments" in China.

He also commended the diligence and passion shown by Chinese students, recognizing China's efficient talent cultivation system as instrumental in providing young individuals with abundant opportunities.

Exploring cultural harmony
Neuzil's journey has taken him across the globe, but it's in China where he feels a profound connection. Xi'an, known for its deep-rooted history, resonates with him. "I am a conservative person, and I like history," he said, finding comfort in the city's ancient character. Shaanxi province's tranquil atmosphere also appeals to him, offering a peaceful escape from the busy city life where he enjoys exploring the Qinling mountains.

Immersing himself in China's vibrant culture, Neuzil cherishes his encounters with locals from all walks of life. His time in China has been marked by admiration for its people and traditions, transcending cultural differences. Despite these distinctions, he finds inner peace in the enduring Confucian values ingrained in Chinese society.

Driven by the "Chinese spirit of helping one another," he has taken part in a number of volunteer activities in China, finding fulfillment in lending a helping hand where he can, and he is deeply touched by the gratitude of those he assists.

This article is also contributed by NPU.

Letters | Green China

A Young Ghanaian's Journey for Greener World

By YIN Wei

They say good things come to those who work hard and persevere. This is certainly true in the case of Jeffrey Dankwa Ampah.

Hailing from the Republic of Ghana, Ampah's academic journey has led him from humble beginnings to currently being a doctoral candidate majoring in Power Machinery and Engineering at Tianjin University (TJU), located in northern China.

From his master's program to his current ongoing doctoral pursuit, Ampah has published nearly 50 high-level academic papers in the field of renewable energy and climate change, 13 as first author or co-first author. His works have been cited more than 1,000 times on Google Scholar, showcasing his influence and impact within the academic community.

Professor Liu Haifeng from TJU's School of Mechanical Engineering, who is mentoring Ampah for his doctoral studies, thinks highly of the young man. "Jeffrey is a talented and dedicated researcher. He has demonstrated extraordinary innovative thinking ability and commitment to work and research."

Looking back, Ampah traces the origin of his life aspirations to a childhood wish that has lingered in his mind for years.

A childhood wish materializes
When he was in primary school, the young Ampah became increasingly frustrated by the frequent power outages at home and school. "Back then in my country, electricity was expensive and unstable. During one of those blackout moments, as a young inquisitive kid, I looked up at the blazing sun and wondered when my country would start generating electricity from the sun as other countries were already doing, since it is free, clean, and inexhaustible."

This burgeoning thought later evolved into a big dream, as he elected to study renewable energy engineering when he entered the University of Energy and Natural Resources (UENR) in Ghana for his bachelor's degree.

In 2019, two years after he completed his undergraduate studies and served as a teaching assistant at UENR, he decided to further his study in renewable energy abroad and chose China as his destination.

"I have long noticed that as a major economic power, China has made remarkable advancements in the development of renewable energy sources," said Ampah, adding that between 2005 and 2010, China constructed 39 percent of the world's new renewable energy capacity. "It [China] has showcased a major country's commitment to combating climate change and transitioning towards a

more sustainable future." He was thrilled with the prospect of meeting like-minded people in Chinese universities.

Ampah shared his experience of finding the ideal university to achieve his aspirations. Putting together school rankings, recommendations from friends, major preferences, and campus environment, he ultimately chose Tianjin University.

"TJU is one of the most prestigious Chinese universities. And the campus environment is amazing. The pictures I saw on the university homepage captured my heart immediately," he said.

A dedicated researcher
Associate Professor Jin Chao took Ampah into her research group during his master's program. In her eyes, Ampah is a very dedicated researcher, fully committed to work and study.

For his master's program, Ampah's research primarily focused on the development and optimization of biofuels, particularly low-carbon alcohols for environmentally friendly use in marine engines. He published four high-level research papers as either the first or corresponding author through collaboration with Professor Liu Haifeng from the Department of Energy at the School of Mechanical Engineering, who later became his mentor for doctoral studies.

Ampah's work on clean and low-carbon alternative fuels for marine use has attracted significant international attention. The International Maritime Organization (IMO) technical officials and library directors have since contacted Ampah to obtain full texts of his publications.

However, he owes his academic success to the excellent environment the university provides. "My tutors are both very responsible and inspiring. They provide insightful guidance to my research." He also admitted that the personal traits he observed in most of his lab peers have significantly influenced his work ethic and approaches.

"I firmly believe that China's remarkable growth as a nation is fundamentally rooted in attributes such as discipline, commitment, patriotism, hard work, and humility that are easy to find in most of my lab friends." He was convinced that these very traits can contribute to one's development.

He never forgets his initial intention and pays close attention to the development of his homeland. After completing his MSc studies and while awaiting the start of his doctoral program, Ampah undertook research focused on modeling hybrid energy systems for decarbonization efforts in both Ghana and China.

The author is a staff working at TJU.

Fermentation Art of Dark Tea

Traditional Eastern Wisdom

By ZONG Shihan

Dark tea is named for its dark brown color, which results from the use of coarse aged tea leaves and the long period of pile-fermentation during processing. Different from the oxidation of

oolong tea and black tea, the post-fermentation of dark tea is a unique process of piling with microbial participation.

The production process of dark tea involves fixation, rolling, piling and drying. Among them, piling is a unique feature of dark tea. It requires stacking tea leaves and adding water appropriately to encourage the rapid growth and multiplication of microorganisms on the tea leaves at a specific temperature. This

process can last from a few hours to several months, endowing dark tea with its unique non-bitter, non-astringent taste and mellow flavor.

The long production process and the waiting time for piling of dark tea demonstrate respect for time. Unlike other teas, the quality of dark tea is not valued for its freshness but for its aging, as it becomes more fragrant over time.

In history, dark tea was a great com-

panion for people living in China's border areas to drink and counteract the greasiness from food. It traveled from inland areas, along the Ancient Tea Horse Road, traversing thousands of miles, to reach China's northwest and southeast border areas. Later, dark tea was exported to Central Asia, Russia and Europe, creating a glorious history of the Sino-Russian Tea Road, also known as the 10 Thousand Li (5,000 kilometers) of Tea Road.

feel unwell or if the condition becomes serious, seek medical attention immediately. If the wind and sand storms are particularly strong, wear windproof goggles when outdoors.

In sandy and dusty weather, the concentration of respirable particles in the air increases significantly. Bacteria and viruses are absorbed on the surface of these particles and can enter the human airways and alveoli, increasing the risk of respiratory diseases such as pneumonia and emphysema.

Try to avoid direct contact with sand and dust on your skin when you are outdoors. Even when you are indoors, protective measures are still essential. A humidifier can be used to maintain proper indoor humidity.

How to Cope in Sand and Dust Storms

Science Outreach

By Staff Reporters

Recently, sand and dust storms have occurred in parts of northern and northwestern China. An often asked question is why this phenomenon tends to occur in spring, and how can people protect themselves against it?

Sandy and dusty weather, or windstorms, typically occur when strong winds blow across dry areas without vegetation cover, explained Wu Chenglai, an associate researcher at the Institute of Atmospheric Physics, Chinese Academy of Sciences. When the wind hits the earth, it breaks up the layer of dust on the ground and lifts the light, tiny dust particles into the air. Eventually, the dust and wind combine to form huge clouds that roll across the landscape.

In addition, there is less precipita-

tion in spring and it is difficult to suppress sand and dust, which provides the material conditions for sand and dust to occur, said Wu, adding that during this season, cold air activity in the north is frequent and windy weather is common, which can easily loosen the soil or sand on the surface, causing sand and duststorms.

How to deal with windstorms?
If dust enters the eyes, do not rub them vigorously, but rather rinse out with running water as soon as possible, to remove any grit. If you continue to

The Birth of 'Unbreakable Glass'

From page 1

After in-depth analysis, the engineers found that bubbles are generated when the glass liquid comes into contact with the bottom of the kiln. To reduce bubbles, it is necessary to cool the kiln. But the cooling effect of conventional air blowing is limited. To solve the problem, some young technicians have put forward a bold idea to throw a "water bag" into the kiln.

After careful calculation, the technicians introduced a "water bag" made of steel plates (similar to an iron water pipe) into the kiln by 10 millimeters every two hours to cool the wall, while finely adjusting various parameters. Half

a month later, the bubbles in the glass finally disappeared.

This technological innovation has increased the qualification rate of glass to 80 percent, paving the way for large-scale production. With continuous improvement of the process, the qualification rate has gradually increased to 97 percent.

More benefits
In 2021, China's first nanocrystal glass line was finally produced. Jiang said that the key to success lies in ATG's technology to integrate a large number of nano microcrystals into the glass. The core of the technology is the precise control of temperature by

their self-developed equipment called a tunnel kiln.

After ten years, ATG's dedication to innovation has finally shattered international barriers. Its nanocrystalline glass obtained the Swiss SGS five-star glass drop resistance certification, a testament to its resilience against impact.

Currently, the company has applied for more than 350 patents at home and abroad, including 282 invention patents. The products are widely used in fields such as smart home appliances, aviation, high-speed rail and new energy vehicles, providing strong support for the development of China's high-end manu-

facturing industry.

In the future, Bai envisions constructing an electronic cover glass industrial cluster. He predicts that by 2025, the company can generate sales revenue of more than two billion RMB, which can drive upstream and downstream enterprises in the industrial chain to create tens of thousands of jobs.

As China has emphasized the development of new quality productive forces, the company will remain committed to innovation of original and cutting-edge technologies, contributing to industrial modernization, and fostering advancements that benefit both the nation and the world, said Bai.

Expats Activity



On the morning of April 14, 2024, the "Beijing 2024 Beijing International Friendship Forest Tree Planting" event was launched in Changping district.

Nearly 200 representatives, including foreign envoys, foreign experts in Beijing, and international students from about 47 countries, participated in the event.

These pictures show foreign experts attending the tree-planting activity. (COURTESY PHOTO)

