

# Empowering People Through Innovation, Collaboration

## Dialogue

By LONG Yun, ZHONG Jianli & TIAN Nianping

Dr. Manzoor Hussain Soomro speaks not as a theoretical academic, but as someone who has lived the journey from hardship to global influence. Born into a landless farming family in Pakistan, he rose to become founding president of the Economic Cooperation Organization Science Foundation, a senior advisor to UNESCO and the UN Food and Agriculture Organization, and a recipient of Chinese Government Friendship Award.

Even today, the expert in science education and science and technology policy still remembers the most profound moment in his life: standing in a village field, watching farmers apply scientific knowledge to grow better crops and realizing, through tears of joy, that he had helped change lives like his own.

In a recent conversation with *Science and Technology Daily*, Soomro reflected on his insights on youth and female development, the power of science and technology, and the growing role of collaboration in global sci-tech landscape.

### Global citizenship needed

When asked about the most important quality for young researchers, Soomro emphasized dedication and consistency over innate brilliance. He believes young people are the future of global development, especially if they are critical thinkers focused on solving real-world problems. While intellectual ability is important, he argues that sustained effort and a clear sense of purpose are far more decisive in achieving meaningful research outcomes.

This belief stems from his own upbringing. His father taught him the value of hard work and perseverance. "I learned consistency from my father," Soomro recalled. "He was a landless farmer, but he was consistent. That's



Professor Manzoor Hussain Soomro. (PHOTO: Science and Technology Daily)

what I carry with me."

He says today's youth must not only excel in science, but also need to embrace global citizenship. "It's not just [about] future scientists and engineers. We also need future leaders in diplomacy, [and] all [other] fields to think positively and globally," he said, pointing to ongoing conflicts and a complicated global landscape.

For Soomro, the solution lies in collaboration, not competition. "This is what I admire about Chinese leadership. They talk about working with others, even with powerful nations like the U.S. There's so much to be done together."

He also said that if we apply this way of thinking to space exploration and tackling climate change, we can prevent making the same mistakes in space that we have made on Earth.

### Empowering women in science

Last week, Soomro came to Beijing for an international seminar about "She Power" in science. Gender equity in science has always been close to Soomro's heart. "Globally, only 31 percent of researchers are women," he noted. "Yet women make up nearly 50 percent of the population. If we don't tap into this talent, we're wasting half the world's

potential."

He praised China's progress in this area. "China's ratio is better than many countries," he said, hoping for more progress. He highlighted a cultural strength he observed in China and other Eastern societies: the emphasis on family and intergenerational care. Still, he emphasized the importance of visible role models. "If young girls see more women leaders in science, they'll follow. We need to create those pathways."

### The engine of BRI

The Belt and Road Initiative (BRI) is often praised for its extensive infrastructure projects, including bridges and railways. But Soomro sees a deeper transformation. "Infrastructure's role needs to be maximized," he said. "We must focus on the person behind the machine."

During a lecture in Beijing on industrial transformation in BRI countries, he analyzed how development efforts have evolved from constructing roads and railways to investing in education, training, and policy frameworks that ensure sustainable growth.

He applauded China's vision about integrating human resource development with infrastructure, calling it a necessary step for long-term impact.

As vice president of the Belt and Road International Science Education Coordinating Committee, Soomro has worked to strengthen science education across partner countries. Under this initiative, he and his team developed a curriculum exploring historical exchanges along the Silk Road, including those led by Zheng He, an ancient Chinese diplomat from the Ming dynasty, and Moroccan scholar and traveler Ibn Battuta, linking cultural heritage with sci-tech and people-to-people exchanges.

He sees BRI not just as an economic project, but as a cultural and scientific bridge. "China shares technology at affordable prices. They offer quality gadgets at lower costs. This empowers developing nations."

### The soul of science

In an age of AI and remote learning, Soomro champions balance. "All technology is a tool," he said. "Nuclear energy can destroy or heal. AI can educate or mislead."

He praised AI's role in education, especially for shy students who can now learn independently. "But the content matters," he warned. "I've used some AI tools, but sometimes the information is wrong. Developers and users alike must be responsible."

He welcomed UNESCO's development of global AI ethics guidelines and credited China for its leadership in advocating for a unified international framework during a UN conference. For Soomro, the true value of science and technology depends on how it is used. The goal should not be innovation for its own sake, but innovation that serves human dignity and collective well-being.

As our conversation ended, he offered one final piece of advice: "Ask your grandparents about their struggles. Remember their sacrifices. Innovation is important, but so is remembering where we came from."

In a world often driven by speed and profit, Soomro reminds us that the most powerful science is the kind that uplifts people, honors culture and dares to care.

## My China Story

# An Emerging Magnet for Global Talent

By LONG Yun & ZHONG Jianli

For many international students and entrepreneurs, China has become more than just a destination. It is a place where ancient traditions meet modern innovation, where global talent is welcomed, and where people from around the world are building meaningful lives and finding a sense of belonging.

At Xi'an Jiaotong University in Xi'an, Shaanxi province in northwest China, Ammara Hanif, a master's student from Pakistan, has found more than academic excellence. Her China residence has been a story of personal and intellectual growth. Drawn by the country's reputation for advanced technology and high-quality education, Hanif chose to pursue her studies here, inspired by the strong research environment and the global recognition of Chinese universities.

"The labs are excellent, the teaching is rigorous, and the courses are well structured," she said. "I wanted to learn something new and do meaningful research." Now in her second year, Hanif confirms that her experience has not only met but exceeded her expectations. The university's strong international standing has opened doors to future opportunities — whether she continues with a PhD or enters the global job market.

Daily life in China continues to impress her, especially the seamless integration of technology. "In Pakistan, we rarely use mobile payments. Here, everything is on apps, shopping, dining, even street vendors. You just scan a code, and it's done."

She recently experienced palm-vein payment technology for the first time. "You simply hold out your hand, and the payment goes through. It feels like living in the world depicted in a sci-fi novel."

Then there is the high-speed rail network, which stands out as a game-changer. "It connects cities in just a few hours, fast, efficient and comfortable," she remarked.

Safety is also a significant factor. Hanif's parents were initially concerned about her living in a foreign country on her own but have since grown assured as they see more and more students from Pakistan choosing China.

"China is very safe. I can walk outside at night without worry. That peace

of mind means a lot," Hanif said.

Despite being far from home, Hanif has never felt alone. "People here are warm and open," she said, recalling a visit to a park in Xi'an. There local people happily took photos with her and started friendly conversations. "My Chinese classmates are always ready to help when I want to know something. They make me feel included."

She has experienced the different sides of China's identity. "Xi'an feels traditional — calm and rooted in history. Shanghai is modern, with skyscrapers and bright lights. But across the country, there's a balance between the old and the new. That's what I find most fascinating."

As her studies draw to a close, Hanif is considering her next step. "I would love to stay in China, either for a PhD or for work. The opportunities are here — especially for those who learn Chinese." For her, China is no longer just a place to study; it could become her long-term home.

China is also a promising destination for entrepreneurship — and Makum Martin Makum, a Cameroonian entrepreneur, is living proof of that. He has called China home for nearly a decade. He first arrived eight years ago in search of professional opportunities. What he found was much more: a thriving business environment, cultural warmth, and a deep sense of belonging.

He settled in Xi'an. Nowadays, he runs a foreign trade company. "There are so many opportunities here, especially if you're open to exploring different industries," he said. Local government support has played a key role in his success. Regular networking events, business incubation programs, and policy incentives have helped him integrate and build valuable connections. "These programs expose us to new ideas, products and partnerships we wouldn't have access to back home."

When asked to describe China in three words, he pauses, then smiles. "Wonderful, Great, Home."

Hanif and Martin's experiences reflect a broader shift. China is becoming increasingly accessible to international students, professionals and entrepreneurs. World-class universities, cutting-edge infrastructure, and supportive policies are drawing global talent from all corners of the world.

## Traditional Eastern Wisdom

# Rubbing: A Creative Duplication Art Form

By BI Weizi

Long before the invention of the photocopier, the ancient Chinese developed a method of extracting patterns, calligraphy or characters inscribed on oracle bones, bronze vessels and stone tablets. This process could be done with rice paper, ink and a combination of other materials such as timber and textiles. It is undoubtedly very ancient, dating back to Eastern Han Dynasty (25—220 AD),

and is believed to have inspired the invention of printing.

The process of creating a rubbing involves gently pressing a damp sheet of rice paper over the carved surface of an oracle bone, bronzeware or stone tablet, using fingers and a selection of brushes. A soft pad is then made from cloth or rolled up paper, dipped in ink and gently tapped over the carved sections that need to be recorded. Once dry, the paper is carefully removed with the

shapes copied.

Rice paper is favoured as it does not tear easily and absorbs water evenly. A series of precise steps must be followed: cleaning the surface of the item to be copied; wrapping it in rice paper; pressing the paper; applying ink to the paper; and removing the paper.

Throughout the entire process, craftspeople must be highly skilled in order to ensure the rubbings are distinct. This involves choosing flexible rice pa-

per, managing the quantity of pigments or ink, and understanding when and where to exert uniform pressure.

Rubbings served as a method of duplicating patterns, symbols and characters, making a significant contribution to the preservation of ancient culture and fostering cultural exchange. Thanks to the wisdom of the ancient Chinese, this ancient art form is preserved and we are able to follow in their footsteps.



Foreign students attend an international cultural event at Tianjin Foreign Studies University. (PHOTO: XINHUA)

# How Your Body Knows You Are Burning Midnight Oil

## Science Outreach

By CHEN Jie & BI Weizi

After the long holiday, many night owls find themselves trapped in a vicious cycle: They are unable to catch up on sleep during the day, despite feeling exhausted, and yet they struggle to fall asleep at night. But how exactly does the body distinguish between day and night, and how does it know when we've been staying up late?

"The core mechanism for telling day from night lies in the synergy be-

tween the biological clock and external signals," said Dr. Li Mao, associate chief physician in the Neurology Department of the First Medical Center of PLA General Hospital. The human brain houses a command center called the suprachiasmatic nucleus (SCN), which functions like a precise timer. It receives light signals from the retina and uses them to regulate bodily functions.

During the day, intense light transmitted through the retina suppresses melatonin secretion, keeping the brain alert and enabling efficient daily activities. As night falls, the SCN lifts its inhibition on melatonin secretion, triggering a significant increase in its production and thereby signaling to the body that it's time to sleep.

"Simultaneously, multiple physiological activities synchronize with the day-night cycle, collectively reinforcing the circadian rhythm," Dr. Li said.

The body's response to staying up late essentially reflects disruptions to the circadian rhythm. Even when we force ourselves to stay awake at night, the suprachiasmatic nucleus in the brain remains vigilant, issuing rest signals according to the normal rhythm and increasing melatonin levels as scheduled.

"At this point, signals such as drowsiness, decreased attention and slower reactions are reminders that the body needs rest," Dr. Li said.

Moreover, staying up late disrupts the body's hormonal balance.

For example, cortisol helps to maintain alertness during the day, but it should decrease gradually at night in order to prepare the body for sleep. However, late nights cause cortisol levels to spike abnormally. Over time, this exacerbates fatigue, creating a vicious cycle whereby the longer you stay up, the more exhausted you feel, and the harder it becomes to sleep.

Dr. Li cautions that the impact of staying up late extends to multiple areas. The effects include reduced metabolic efficiency, disrupted neural repair processes and weakened immune function. "These physiological abnormalities clearly signal to the body that its designated sleep period is being usurped," he added.

# Top 10 Global Engineering Accomplishments 2025 Announced

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Second, they exemplify systemic innovation through multidisciplinary integration. NASA's Perseverance rover achieved autonomous navigation and sample collection on Mars, opening a new era of extraterrestrial exploration. Humanoid robots — integrating AI, mechanical engineering and motion control — are evolving into general-purpose intelligent machines capable of transforming manufacturing, healthcare and daily life.

Third, the listed projects highlight the emergence of new quality productive forces and industries. High-performance carbon fiber composites are revolutionizing materials science with

their strength, lightweight properties, and design flexibility, driving innovation in aerospace and new energy sectors. China's DeepSeek open-source large language model has accelerated global access to advanced AI capabilities, promoting intelligent transformation across industries.

Finally, they demonstrate how engineering addresses global challenges. The middle route of the South-to-North Water Diversion Project and encircling barrier project in the Taklamakan are monumental examples of sustainable engineering, securing water resources, restoring ecosystems, and combating desertification — offering replicable solutions for global environmental governance.