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Headlines

Tengchong Science Award criteria released



Rao Zihe outlining the criteria for the Tengchong Science Award
Photo credit: Official WeChat account of KEXIEXINJISHU

On July 24, 2023, during the Promotional Conference at the 2023 Tengchong Scientists Forum, Rao Zihe, Co-Chair of the forum and a member of the Chinese Academy of Sciences (CAS), revealed the criteria for the inaugural Tengchong Science Award.

The Tengchong Science Award aims to recognize advancements in various fields such as biomedicine, biodiversity, modern agriculture, new materials, and green energy. It covers a wide range of disciplines including science, engineering, agriculture, medicine, and interdisciplinary studies. The primary objective is to honor outstanding scientists worldwide who have made significant contributions to science and technology, advanced scientific progress, addressed major challenges with inventive solutions, and achieved substantial economic or societal impact through their research.

The selection process for nominees will involve past recipients of significant international awards, Chinese and international members of the Chinese Academy of Sciences (CAS) and the Chinese Academy

of Engineering (CAE), esteemed experts, and scholars from prestigious universities and research institutes. Candidates' scientific achievements should have gained widespread recognition within both Chinese and international scientific communities, excluding the Nobel Prize. Alternatively, they should have made remarkable contributions to advance science.

The Tengchong Science Award ceremony is scheduled for early December to coincide with the grand opening of the 2023 Tengchong Scientists Forum.

(Source: Official WeChat account of KEXIEXINJISHU)

CAST UN Consultative Committee on Information and Communication Technology secures hosting rights for IGF 2023 workshop

The CAST UN Consultative Committee on Infor-

mation and Communication Technology (CCIT) has recently been granted an opportunity to host the workshop titled “Green and Digital Transitions: Towards a Sustainable Future” during the 2023 United Nations Internet Governance Forum (IGF 2023). This achievement marks CCIT’s continuous participation in the IGF for eighteen years and its role as the exclusive Chinese entity to organize such an event.

CCIT has consistently utilized the platform provided by IGF to participate in international technology governance. The primary objectives of CCIT by hosting the workshop are to showcase China’s progress on this front, highlight China’s unique insights, contribute its intellectual assets, and support the United Nations Sustainable Development Goals (SDGs).

IGF is an important initiative led by the UN

Department of Economic and Social Affairs (UN DESA) with a mission to promote global internet governance. While it primarily serves as a platform for high-level intergovernmental dialogue, it also plays a significant role as a joint action plan for non-governmental organizations operating in the global information technology sphere.

(Source: Official WeChat account of the China Centre for International Science and Technology Exchange)

2023 National Youth University Science Camp kicks off



Launch ceremony of the 2023 National Youth University Science Camp
Photo credit: Official WeChat account of KEXIEGAIGEJINXINGSHI

On July 21, the 2023 National Youth University Science Camp commenced at China Agricultural University. The event was officially launched by the China Association for Science and Technology (CAST) and the Ministry of Education. Representatives from 15 Beijing campuses including Peking University and Tsinghua University joined students and teachers from China Agricultural University and the University of Science and Technology Beijing at the ceremony.

The launch ceremony featured two lectures. The first,

titled “Understanding Our Universe,” was delivered by Professor Wu Xiangping from the Chinese Academy of Sciences (CAS). He urged students to gaze at the skies and appreciate the vastness of the cosmos. The second lecture, presented by Professor Qiao Shiyuan from the Chinese Academy of Engineering (CAE), was themed “Giving Agriculture Technological Wings.” He shared captivating stories of research and future technology that illustrated the transition from traditional to modern agriculture and talked about the fascinating world of agricultural technology.

The 2023 National Youth University Science Camp brought together 72 prestigious Chinese universities, research institutes, and companies from across the nation. The camp was conducted in hybrid mode. Throughout the exciting week, the

students enjoyed various activities including visits to national key laboratories and corporate research and development centers, lectures by renowned experts, hands-on technological exercises, interactions with college students, and a variety of cultural and sports activities.

(Source: Official WeChat account of KEXIE-GAIGEJINXINGSHI)

“China’s Science and Technology Journals: Power of Communication (2023)” Inaugural meeting held in Beijing

On July 18, 2023, CAST held its inaugural meeting in Beijing to commence compilation of the report “China’s Science and Technology Journals: Power of Communication (2023).” The meeting was attended by 20 experts representing the report’s expert committee, writing committee, and

authors. They engaged in productive discussions about the report’s outline and framework, sharing valuable expertise and insights.

The participants unanimously agreed that Chinese science and technology journals should play a significant role in promoting international collaboration and the global dissemination of scientific discoveries to foster cross-cultural understanding. The report aims to be edited with principles of self-assurance, autonomy, respect for tradition, and a commitment to innovation. It will be deeply rooted in China’s realities while maintaining a global perspective, aligning with the evolving practices of scientific and technological communication. Additionally, the report will incorporate cutting-edge research data to empower the scientific and technological journal community to effectively address the

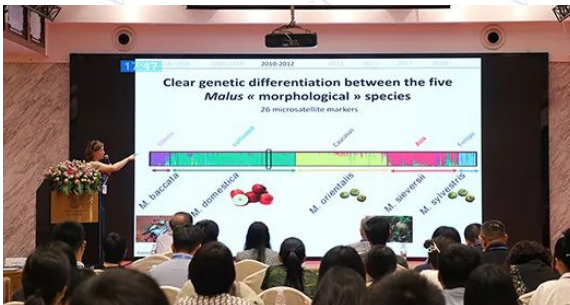
opportunities and challenges posed by current shifts in the environmental landscape and advancements in global communication technology. This approach aims to enhance international communication and promote global dissemination of Chinese culture and scientific achievements.

The report is edited by CAST and is scheduled for publication in early 2024.

(Source: Official website of CAST)

Academic Exchange

The 3rd International Symposium on Fruit Culture in Silk Road Countries opens in Hangzhou



A presentation given during the 3rd International Symposium on Fruit Culture in Silk Road Countries
Photo credit: Official WeChat account of the China Centre for International Science and Technology Exchange

From July 10 to 14, 2023, the 3rd International Symposium on Fruit Culture in Silk Road Countries took place in Hangzhou, Zhejiang Province, under the theme “Ancient Road, Modern Way.” The event, jointly hosted by the International Society for Horti-

cultural Science (ISHS) and the Chinese Society for Horticultural Science (CSHS), was attended by nearly 160 experts and scholars from nine countries including France, the United States, the Czech Republic, and Turkey.

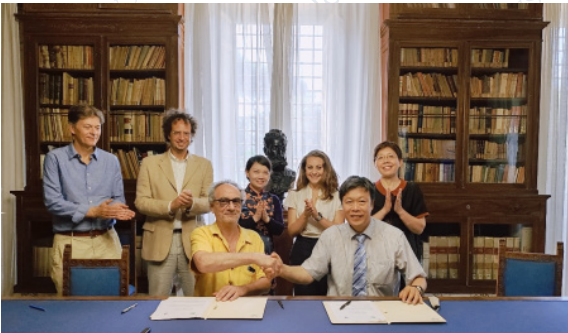
The symposium revolved around six core topics: germplasm resources and breeding, rootstocks, orchard systems and management, fruit development and quality, abiotic stress, and plant protection with pest control. It recognized exemplary presentations with awards for best oral and poster presentations by young researchers. Upon the symposium’s conclusion, participants visited mandarin orchards in Nanxun District, Huzhou City, and the Sangji fishpond in Digang Ancient Village, a site recognized for its historical agricultural significance. These field trips facilitated direct experience with modern fruit cultivation

techniques and a peek into traditional ecological farming practices.

The International Symposium on Fruit Culture in Silk Road Countries, an ISHS initiative, is a prestigious international academic event that convenes every four years. It plays an indispensable role in establishing an expansive international platform, empowering professionals, researchers, educators, and graduate students focused on fruit tree research, production, and education in Silk Road countries to foster collaboration and exchange of ideas on a grand scale.

(Source: Official WeChat account of the China Centre for International Science and Technology Exchange)

Geographical Society of China signs Memorandum of Cooperation with Italian Geographic Society



Presidents of the two societies signing the Memorandum of Cooperation
Photo credit: Official WeChat account of the China Centre for International Science and Technology Exchange

On July 14, 2023, Chen Fahu, President of the Geographical Society of China (GSC), led a delegation to visit the headquarters of the Italian Geographic Society (Società Geografica Italiana, SGI) in Rome.

The two societies expressed intentions to collaborate back in early 2020. However, due to the onset of the COVID-19 pandemic, the actual signing of the agreement was delayed for some time. Despite this setback, both parties maintained active communication. Recently, the presidents of the two societies, alongside representatives from each institution, signed a comprehensive bilateral cooperation memorandum. This landmark agreement establishes the foundation for a bilateral coordination committee, facilitates delegate exchange at major events, and enables the joint organization of bilateral academic seminars. The memorandum also outlines collaborative initiatives on publishing, joint research, and geography education exchange projects as well as a plan to jointly launch international scientific programs. To further strengthen

ties, SGI, the founding member and secretariat of the Association of European Geographical Societies (EUGEO), pledged to support GSC on fostering relationships with academic groups within the European geographical community.

Founded in 1867, SGI is one of the world's oldest geographical societies. As a nonprofit academic institution, its primary objective is to advance geographical culture and knowledge, a mission it has pursued since its inception. The society has played an instrumental role in consolidating and enhancing cooperation among European geographical societies, contributing significantly to the progress of European geography.

(Source: Official WeChat account of the China Centre for International Science and Technology Exchange)

Chinese scientist Xie Shucheng awarded 2023 Alfred Treibs Medal



Xie Shucheng receives the medal from Professor Sumit Chakraborty, President of the Geochemical Society
Photo credit: Official WeChat account of the China Centre for International Science and Technology Exchange

On July 12 at the Goldschmidt 2023 Conference in Lyon, France, Chinese scientist Xie Shucheng received the Alfred Treibs Award for his remarkable contributions to the study of geological lipid molecules and their associated isotopes. Xie is a member of the Chinese Academy of Sciences (CAS) and Director of the State Key Laboratory of Biogeology and Environmental Geology (BGEG) at the China University of Geosciences (Wuhan).

Throughout his career, Xie has been dedicated to promoting the integration of earth science and life science. His work has focused on exploring interactions between geological microorganisms and climate environments and has led to a systematic chain of innovations spanning advancements in geological lipid technology to breakthroughs in theoretical understanding and the expansion of new disciplines.

Utilizing a geological lipid lens, Xie has unearthed invaluable data regarding ancient marine microbial

activities and historical climate transformations. His groundbreaking research has been published in *Nature* and *Science* and was commended through individual reviews in *Science* and *Nature Geoscience*. Since 2014, he has maintained a consistent presence on Elsevier's list of highly cited Chinese researchers. Alongside his research commitments, he is also a board member of the Geobiology Society and an editorial board member for international journals such as *Geochimica et Cosmochimica Acta* and *Geobiology*.

The Alfred Treibs Award, presented by Geochemical Society's Organic Geochemistry Division in honor of Professor Alfred Treibs, the "father" of organic geochemistry, recognizes global scientists who have produced outstanding research within the field of organic geochemistry. Since

its inception in 1979, 36 scholars have been honored with the award.

(Source: Official WeChat account of the China Centre for International Science and Technology Exchange)

Chinese scientist Jiang Linhua elected into the European Academy of Natural Sciences fellow

The European Academy of Natural Sciences (Europasche Akademie der Naturwissenschaften) recently elected Professor Jiang Linhua, a scholar from Shanghai and an eminent figure in the field of technology and science in the European Chinese community, as a fellow for 2023.

Professor Jiang's expertise is artificial intelligence, intelligent networks, and optoelectronic information science. His career has included tenure at esteemed institutions



Photo credit: Official WeChat account of the China Centre for International Science and Technology Exchange

such as the Interuniversity Microelectronics Centre (IMEC), NanoLabNL, Stanford University, the University of California, and the Paul Scherrer Institute (PSI) in Switzerland. Furthermore, he has authored an impressive portfolio of over two hundred scientific papers and has served as a peer reviewer for various top-tier SCI-indexed journals. Beyond his research, his commitment to the academic community has been demonstrated through his numerous years spent facilitating international academic conferences and fostering scholarly

exchange between China and Europe.

The European Academy of Natural Sciences is a prestigious international scientific organization founded by scientific organizations from various European countries. It is recognized as one of the most influential bodies in the Europe-

an academic realm. Fellows of the Academy are carefully chosen by the science academies of European countries through an intensive evaluation process that includes recommendations, voting, an executive committee review, and medal awards. This distinction symbolizes the pinnacle of academ-

ic honor and status in Europe, reserved for the most accomplished scientists and scholars in natural sciences.

(Source: Official WeChat account of the China Centre for International Science and Technology Exchange)

Scientist Profile

Yang Chunhe: Finding “space” underground



Yang Chunhe, born in 1962, is a prominent expert on rock mechanics. He became a member of the Chinese Academy of Engineering (CAE) in 2019 and currently serves as a research fellow at the Institute of Rock and Soil Mechanics of the Chinese Academy of Sciences (CAS). Moreover, Yang holds the position of Deputy Director of the State Key Laboratory of Geomechanics and Geotechnical Engineering.

Yang has devoted his career to advancing the theoretical and technical aspects of salt rock solution mining and underground oil and gas storage. He was honored to be listed in the prestigious “National Hundred, Thousand, and Ten Thousand Talent Project” for his outstanding achievements. Additionally, he has secured funding from the National Science Fund for Distinguished Young Scholars and serves as chief scientist of the national 973 Program. His relentless pursuit of excellence is driven by belief that the true value of geotechnical engineering theories lies in their practical application to engineering technology.

Yang Chunhe on a field trip to Yunying salt mine in Hubei Province
Photo credit: *China Science Daily*

For over two decades, Yang has single-mindedly pursued his passion: researching salt cavern gas storage, a concept he fondly refers to as finding “space” underground. Yang has explored all potential underground salt rock spaces across China suitable for oil and gas storage. His pioneering work led to the development of underground salt cavern gas storage facilities which use empty cavities left after salt mining to store natural gas, thereby preserving land resources and cutting operational costs.

Salt cavern gas storage as an innovative energy solution

Salt cavern gas storage utilizes vacant spaces, which can be either remnants of salt mining operations or natural caverns within subterranean salt formations, to store natural gas. This storage method offers several advantages, including high storage capacity, cost-effective-

ness, excellent sealing capabilities, and a long operational lifespan. Importantly, it provides an efficient way to conserve surface land resources, as the operating costs are approximately one-third of what above-ground storage facilities require.

As to why the industry prefers underground salt cavern storage over above-ground options, Yang Chunhe provides a clear explanation: “During natural disasters or unforeseen events that may disrupt oil and gas supplies, energy reserves become critical. Underground oil and gas storage offers large-scale capacity, heightened safety, and strong economic viability. With a sufficient array of salt cavern gas storage facilities, these reserves can ensure a stable supply, even in the face of upstream disruptions.”

Dispelling doubt with solid science

Yang faced consider-

able resistance from the industry when he first proposed storing natural gas underground. Detractors cited a lack of experience and the complex geological structure of China, particularly its laminated salt layers with numerous insoluble interlayers, as major hurdles. The fear was that any safety breaches such as leaks, collapses, or explosions could lead to disastrous consequences.

Rather than getting mired in exhaustive debate, Yang took decisive action. He led a team on a comprehensive exploration of China’s salt mine geology in provinces including Hubei, Jiangxi, and Jiangsu. They left virtually no region with potential for underground oil and gas reserves in salt rock unexplored.

After accumulating a substantial collection of salt rock samples, Yang and his team conducted a series of experiments and precise calculations. Through nearly 2,000

sets of tests and comparisons, they reached a conclusion: China's laminated salt rock is strong enough for underground oil and gas storage, ensuring both safety and suitability.

Building China's first salt cavern gas storage facility

In 2003, Yang and his team were presented an unprecedented opportunity to apply their theoretical innovations during construction of gas storage facilities for the China West-East

Gas Pipeline Project. He proposed establishing the country's first salt cavern gas storage in Jintan District, Changzhou City, Jiangsu Province. The idea was to utilize the dissolved cavities from the Jintan salt mine to potentially save construction costs of approximately 125 million yuan. His recommendation received support from relevant authorities. Consequently, in 2007, the Jiangsu Jintan gas storage became operational, marking the inauguration of China's first underground salt cavern gas storage.

Fast forward to January 19 of this year, this pioneering salt cavern gas storage facility achieved a cumulative gas extraction volume exceeding 5 billion cubic meters. This volume can satisfy peak demand from 16 million households in the Yangtze River Delta. The success of China's first salt cavern gas storage is a testament to Yang Chunhe's dedication and relentless efforts.

(Source: *China Science Daily*)

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CAST is the largest non-governmental organization of scientific and technological professionals in the world. Through its 215 member societies and local branches all over the country, CAST maintains close ties with millions of Chinese scientists, engineers, and other professionals working in fields of science and technology.

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