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CAST Newsletter

2023 Tengchong Scientists Forum opens in Yunnan



Headlines

The 2023 World New Energy Vehicle Congress opens in Haikou



Vehicles exhibited at the 2023 WNEVC
Photo credit: Official WeChat account of NTCAST

On December 7, the 2023 World New Energy Vehicle Congress (WNEVC), co-hosted by CAST, the Hainan Provincial Government, and other partners, opened in Haikou, Hainan Province. The congress assembled over a thousand delegates from 23 countries and regions to deliberate on “Strategies and Paths for Green and Low-Carbon Development” and “Accelerating the Automotive Industry’s Evolution towards a New Ecology.” Wan Gang, President of CAST and WNEVC, delivered a keynote speech.

Throughout the event, policymakers, heads of international organizations, and leaders of global automobile companies participated in exclusive sessions to discuss strategies for high-quality development in realms of vehicle electrification, intelligent technology, and low-carbon integration. The outcomes of these strategic meetings culminated in the *Consensus on the 2023 World New Energy Vehicle Congress*, which was released at the event.

The Consensus emphasized a collective resolve to

enhance cooperation across various sectors, aiming to translate innovative breakthroughs into practical industry applications. It also targeted acceleration of technological progress in pivotal areas such as vehicle-to-grid interaction, vehicle-road integration, and vehicle-cloud collaboration, with the goal of supporting integration of the automotive, energy, transportation, and telecommunications sectors.

(Sources: Official website of CAST and official WeChat account of NTCAST)

2023 Tengchong Scientists Forum opens in Yunnan

On December 1, the 2023 Tengchong Scientists Forum, hosted by CAST, kicked off in Tengchong City, Yunnan Province. Luo Hui, Director General of the CAST Department of International Affairs, attended the opening

ceremony and delivered a speech.



The 2023 Tengchong Scientists Forum
Photo credit: Official WeChat account of the China Centre for International Science and Technology Exchange

Themed “Science and Sustainable Development,” the forum featured participation from over 100 academy members, 20 university presidents from across the world, over 500 experts and scholars, and more than 300 leaders from various business and financial sectors. Highlights included the Global University President Forum, the Lancang-Mekong Forum on Exchange in Science, Technology, and Culture, and the International Frontier Science Forum.

During the opening ceremony, the first Tengchong Science Awards were presented to two distinguished individuals: Professor Dennis Lo Yuk-ming, a member of the Chinese Academy of Sciences (CAS) and a professor at the Chinese University of Hong Kong (CUHK), and Professor Zhang Feng, a Chinese American biochemist at the Massachusetts Institute of Technology (MIT).

Experts from Lancang-Mekong countries discuss development and cooperation opportunities in traditional medicine

The Lancang-Mekong Forum on Exchange in

Science, Technology, and Culture, held on December 1, 2023, explored innovation and development opportunities in the region. The forum included a series of significant events including an academic conference on traditional medicine themed “Integrating Traditional Medicine into Modern Healthcare” and an International Symposium on Animal Movement and Ecological Protection under Global Change.

Liu Baoyan, President of the World Federation of Acupuncture-Moxibustion Societies and a member of the International Eurasian Academy of Sciences (IEAS), underscored the growing relevance of traditional medicine in the Lancang-Mekong countries. He called for more collaborative research and shared learning and proposed the adoption of advanced research methodologies from around the world to further the progress of traditional

Chinese medicine.

International Frontier Science Forum held in Tengchong City

The International Frontier Science Forum convened on December 2, 2023, in Tengchong City and fostered a dynamic dialogue on the topic of “Planetary Health and Sustainable Development.”

Throughout the forum, experts from around the globe delivered keynote presentations, delving into pressing scientific challenges that demand attention in the context of urban, national, and global development. They also shared innovative ideas aimed at advancing realization of the United Nations 2030 Sustainable Development Goals (SDGs).

(Sources: Official website of CAST, official WeChat account of the China Centre for International Science and Technology

Exchange, and official website of Yunnan Provincial Government)

2023 World Sensors Summit opens in Zhengzhou



The keynote session of the 2023 World Sensors Summit
Photo credit: China Instrument and Control Society

On November 5, the 2023 World Sensors Summit, hosted by CAST and the Henan Provincial Government, took place in Zhengzhou, Henan Province. During the conference’s keynote session, four experts delivered presentations with the following titles: “Infrared Sensors in the AI Era,” “Optical Fiber Sensors for Industrial Applications,” “Kaihong Secure WSS Digital Base, A Cornerstone of Security for IoT Sensors,” and “2023 Global Sensor Industry Trend Research Report.”

Professor Kenneth T. V. Grattan, President of the International Measurement Confederation (IMEKO) and a recipient of the Chinese Government Friendship Award, highlighted the significant potential of optical sensors across various fields and markets. Through empirical analysis and illustrative examples, he highlighted the numerous opportunities associated with optical sensors. He also emphasized

that harnessing the advantages of optical technology would be a key direction for future solutions.

(Source: China Instrument and Control Society)

Academic Exchange

IHFCA attends the UNFCCC 28th Conference of Parties (COP28) in Dubai



IHFCA Secretary-General Wang Ju at the roundtable on “Low-Emission Hydrogen for Net-Zero”
Photo credit: Official WeChat account of IHFCA

From November 30 to December 12, 2023, the 28th Conference of the Parties (COP28) to the UN Framework Convention on Climate Change (UNFCCC) took place in Dubai, United Arab Emirates.

The International Hydrogen Fuel Cell Association (IHFCA) was invited to attend a series of COP28 events held in the Blue Zone, the Green Zone, the Climate Action Innovation Zone, and the Council of Engineers for the Energy Transition (CEET) meeting was held on the sidelines. By sharing China’s experience in energy transition and application of

low-carbon hydrogen in the transportation industry as well as successful cases from China’s new energy vehicle sector, the organization contributed to global climate governance and action.

At the roundtable titled “Low-Emission Hydrogen for Net-Zero” held in the Energy Transition Hub at the Green Zone, Wang Ju, Secretary-General of IHFCA, shared her insights on the significant role of public-private partnerships in promoting the transition to hydrogen as a clean fuel. She also emphasized how the widespread adoption of hydrogen in the transportation sector could play a pivotal role in achieving zero-carbon objectives.

(Source: Official WeChat account of IHFCA)

CSCB holds a joint session with ASCB at Cell Bio 2023 in Washington DC

From December 2 to 6,

Cell Bio 2023, a joint meeting of the American Society for Cell Biology (ASCB) and European Molecular Biology Organization (EMBO), took place in Boston, USA. This gathering was the largest event ever in the field of cell biology.



CSCB Vice President Yao Xuebiao with ASCB officials at Cell Bio 2023
Photo credit: Official WeChat account of NTCST

During the conference, Yao Xuebiao, Vice President of the Chinese Society for Cell Biology (CSCB), engaged in formal discussions with Erika Holzbaur, ASCB President, Sandra Murray, ASCB President-Elect for 2024, and ASCB CEO Rebecca Alvania. They discussed plans for upcoming bilateral academic exchange events in 2024 as well as a joint special symposium. Rebecca Alvania will lead an ASCB delegation on a visit to China in July 2024 to foster high-level bilateral cooperation.

(Source: Official WeChat account of NTCST)

9th International Symposium on Roller Compacted Concrete Dams and Cemented Material Dams opens in Guangzhou

From December 4 to 5, 2023, the 9th International Symposium on Roller Compacted Concrete Dams

and Cemented Material Dams was held in Guangzhou, Guangdong Province. The event was jointly organized by the China National Committee on Large Dams (CHINCOLD) and dam societies in Spain, Japan, and France. Over 340 experts and scholars from around the world gathered to share the latest achievements in the field and to discuss strategies to advance dam engineering.

During the conference's opening ceremony, the 5th International Milestone RCC Projects Award was presented to four outstanding projects: China's Baise Hydropower Project, Japan's Yamba Dam Project, Spain's Enciso Project, and the United States' San Vicente Dam Raise Project. The award, launched by CHINCOLD and the dam societies of Spain, Brazil, and the United States, recognizes significant achievements in various dam types and

construction techniques. These encompass concrete dams, rockfill dams, and roller-compacted concrete dams, with different categories acknowledged alternately to honor exceptional contributions.



Opening ceremony of the 9th International Symposium on Roller Compacted Concrete Dams and Cemented Material Dams
Photo credit: Secretariat of the China National Committee on Large Dams

Throughout the keynote session of the conference, experts engaged in in-depth discussions on topics such as roller-compacted concrete dams, cemented dam technologies, and application of digitalization and artificial intelligence in dam engineering.

(Source: Secretariat of the China National Committee on Large Dams)

China, Malaysia, and Myanmar sign agreements on mutual recognition of engineering capabilities

On December 5, 2023, in Beijing, the Chinese Society of Engineers (CSE) signed a mutual recognition agreement with the Institute of Engineers of Malaysia (IEM) and renewed a Memorandum of Understanding to strengthen engineering capacity building with the Myanmar Engineering Council (MEngC).

These agreements aimed to foster practical collab-

oration between China and Malaysia as well as China and Myanmar. The key areas of focus included enhancing engineering capabilities and facilitating exchange of young engineers. The mutual recognition agreement with IEM represented a significant milestone in validating engineering competence between China and Malaysia, serving as a model for future cooperation in engineering capacity building with other ASEAN countries. It also underscored the international recognition of China's engineering competence assessment system through key agreements within the International Engineering Alliance (IEA) including the International Professional Engineers Agreement (IPEA) and the APEC Agreement.

(Source: Official website of CAST)

2023 Belt and Road Forum on Digital Earth in Beijing

On December 6, the 2023 Belt and Road Forum on Digital Earth kicked off at the International Science and Technology Organizations Headquarters in Beijing with support from CAST. The event featured participation from over 100 experts and representatives from 33 countries including Egypt, Russia, Morocco, Sri Lanka, and Indonesia, as well as relevant international organizations.



Launch of the *Atlas of Resources and Environment in South Asia along the Belt and Road*
Photo credit: Official website of Beijing Association for Science and Technology

Themed “Digital Earth and Sustainable Development of Belt and Road Countries,” the forum focused on the pivotal role of Digital Earth in promoting the sustainable development of Belt and Road countries in areas of sustainable ecological development, climate change mitigation, resilient cities and communities, and disaster risk management.

Several important agreements were signed during the opening ceremony. Notably, the International Society for Digital Earth (ISDE) inked a Memorandum of Understanding with the Alliance of National and International Science Organizations for the Belt and

Road Regions (ANSO). Furthermore, the ISDE Digital Belt and Road Alliance entered into a framework cooperation agreement with the Indonesian Society for Remote Sensing (MAPIN/ISRS) and the Mongolian Geospatial Association.

The conference also marked the release of the *Atlas of Resources and Environment in South Asia along the Belt and Road*, compiled by the Institute of Mountain Hazards and Environment (IMHE) of the Chinese Academy of Sciences (CAS). This atlas consolidated research findings from the past decade in the South Asian region since 2012. The electronic version is freely accessible online and is poised to contribute significantly to the United Nations 2030 Agenda for Sustainable Development and global sustainability endeavors.

(Source: Official WeChat

account of the China Centre for International Science and Technology Exchange)

2023 World Intelligent Manufacturing Conference opens in Nanjing



Announcement of the World 10 Scientific and Technological Developments in Intelligent Manufacturing
Photo credit: Official WeChat account of the China Centre for International Science and Technology Exchange

On December 6, the 2023 World Intelligent Manufacturing Conference kicked off in Nanjing, Jiangsu Province, under the theme “Intelligent, Digital, and Connected Transformation, Digital-Real Economy Integration and Innovation.” The conference offered a wide range of activities including keynote speeches, thematic forums, professional discussions, industrial competitions, and on-site exhibitions. Its aim was to foster a diverse and inclusive international platform for exchange and cooperation in intelligent manufacturing.

The conference marked the official launch of the International Coalition of Intelligent Manufacturing (ICIM) and announced the top 10 global and top 10 Chinese scientific and technological achievements in intelligent manufacturing. These recognitions expanded the list of advancements to 67 worldwide and 70 in China, as endorsed by ICIM and the Intelligent Manufacturing Alliance of CAST Member Soci-

eties.

The event also unveiled China’s intelligent manufacturing demonstration factories, identified eight major trends in Chinese intelligent manufacturing facilities, and presented the *China Intelligent Manufacturing Development Research Report for 2023*.

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

International Awards

Chinese scientist Tang Shiping elected ISA vice president

On December 8, 2023, the International Studies Association (ISA) announced the results of its 2025-2026 presidential election. Professor Tang Shiping was elected one of the three vice

presidents of ISA for the 2025-2026 term. He secured 40% of the votes and became the first Chinese scholar to attain this significant position.



SHIPING TANG, FUDAN UNIVERSITY, SHANGHAI

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Candidate Statement from Shiping Tang

It is a great honor to be nominated for ISA Vice-President.

I am Fudan Distinguished Professor at the School of International Relations and Public Affairs (SIRPA), Fudan University, Shanghai, China. Besides Western "mainstream" IR and Global IR, I have also contributed to the broader social sciences. My book, *The Social Evolution of International Politics* (Oxford, 2013), won the ISA's "Annual Best Book Award" (2015) as a co-winner. I was the first non-Western scholar to win this prestigious award.

Since 2007, I have been actively contributing to many ISA's activities and initiatives. I enthusiastically supported the Global IR movement from its very beginning, serving on the ISA Presidential Task Force on the Global South and now as an executive member of the Global IR Section. I was on the editorial board of ISQ (2015-2020) and have regularly reviewed submission to other ISA journals. I am now serving as a member of the Karl Deutsch Award committee (2022-).

If elected, I aim to enhance equity, diversity, inclusion, and activism at ISA. I believe that "mainstream" IR also benefits from a more globalized IR. My possible vice-presidency of ISA will surely make Chinese IR a more integral part of the Global IR.

Candidate statement from Tang Shiping

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

Professor Tang's election as ISA vice president reflects the global membership's strong appreciation for his academic contributions. It also underscores the widespread recognition of his longstanding commitment to advancing international relations on a global scale and his years of public service within both ISA and the broader international relations community.

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

Chinese scientist Zhang Ruixun wins Honorable Mention of the ICPM Research Award

Assistant Professor Zhang Ruixun from Peking

University's School of *Mathematical Sciences* and Center for Statistical Science recently published a paper titled "Quantifying the Impact of Impact Investing" in the prestigious journal *Management Science*. This work, a collaborative effort with MIT Sloan School of Management Professor Andrew W. Lo, featured Zhang as the corresponding author.



Zhang Ruixun and the ICPM Research Award certificate

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

Zhang is distinguished as the sole scholar from a Chinese university among this year's honor-



Zhang Ruixun and the ICPM Research Award certificate
Photo credit: Official WeChat account of the China Centre for International Science and Technology Exchange

ees and the second from the Chinese mainland to be recognized since the award's inception in 2017. Following this achievement, Zhang was invited to deliver a keynote address at the 2024 ICPM conference.

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

Scientist Profile

“7-11 professor” and eternal pursuit of excellence



Scientific endeavors demand a commitment to truth, relentless pursuit of excellence, and meticulous attention to detail.

Xue Qikun, born in December 1962, is an eminent materials physicist. He also holds membership in the Chinese Academy of Sciences (CAS), a research position at the Institute of Physics (IOP) of CAS, a professorship at Tsinghua University, and presidency of the Southern University of Science and Technology (SUSTech). His research expertise spans several areas such as scanning tunneling microscopy, surface physics, spintronics, topological insulator quantum states, and low-dimensional superconductivity. Notably, he was the first Chinese scientist to be honored with the Oliver E. Buckley Condensed Matter Physics Prize.

Photo credit: youth.cn

At Tsinghua University, Xue Qikun is renowned beyond his professional titles. He is affectionately termed the “7-11 professor,” a nickname that reflects his routine of working in the lab from 7 a.m. to 11 p.m. His commitment has further been demonstrated by his refusal to take full vacations for many years.

In late October 2023, the American Physical Society (APS) acknowledged his pioneering work on topological insulators and his discovery of the quantum anomalous Hall effect within these materials by awarding him the Oliver E. Buckley Prize. In response to this accolade, Xue expressed heartfelt thanks, calling the award a testament to his team’s longstanding dedication to research and an affirmation that inspires continued exploration in materials science.

Foundational research is a journey of incremental progress

The quantum anomalous Hall effect holds immense significance in condensed matter physics. For years, the challenge of revealing this effect and observing it experimentally captivated the scientific community worldwide.

Beginning in 2009, Xue Qikun and a team of specialists from various Chinese and international institutions embarked on the challenge through the lens of topological insulators. After meticulously preparing and examining over a thousand samples, they observed the effect empirically in late 2012. Their groundbreaking results were published in the prestigious journal *Science* in 2013 and hailed by reviewers as “a landmark achievement in the field of condensed matter physics.”

This achievement was just

the start. In 2015, they observed a zero-conductance plateau within the quantum anomalous Hall effect. By 2017, they had substantially increased the temperature at which this phenomenon could be detected and had created a multi-layer structure for it. A year later, their collaboration yielded another revolutionary discovery: an intrinsic magnetic topological insulator. This finding attracted global attention and opened a dynamic new avenue for research.

Striving for progress and sharing Chinese wisdom with the world

At the Department of Physics at Tsinghua University, the pursuit of knowledge extends beyond topological quantum physics to the frontier of high-temperature superconductivity. This field has profoundly enhanced people’s understanding of natural principles, especially those governing electri-

cal resistance. Nevertheless, numerous age-old challenges remain unresolved.

In 2012, Xue Qikun and his team made a striking discovery: interface-induced high-temperature superconductivity,

which resulted from a unique combination of single-layer iron selenide and a strontium titanate substrate. This finding did more than just upend established theories—it paved the way for new schools of thought, as detailed in their 2021

publication. Looking ahead, Xue Qikun and his colleagues are driven by an ambition to contribute more to global understanding of high-temperature superconductivity.

(Sources: *People's Daily* and *The Beijing News*)

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