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CAST Newsletter

CAST and WFEO Deepen Cooperation for Green and Sustainable Development in Global Engineering

Headlines

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WNEVC 2025 focuses on industrial transformation and sustainable development

Plenary session of WNEVC 2025

On September 27, the 2025 World New Energy Vehicle Congress (WNEVC 2025) opened in Haikou, Hainan Province. The event was co-hosted by CAST, the Ministry of Science and Technology, and the Ministry of Industry and Information Technology, among others. Under the theme "Industrial Transformation and Sustainable Development," the congress featured 18 forums, technical exhibitions, technology selections, and a series of public science activities. Participants from governments, industries, academia, and research institutions across multiple countries and regions held in-depth dialogue on future mobility and green, sustainable development. CAST President and WNEVC President Wan Gang delivered a keynote speech.

A visitor experiences a new energy vehicle on display
Photo credit: Xinhua News Agency

Wan noted that the global new energy vehicle (NEV) market continues to grow steadily, with electrification, intelligentization, and low-carbon transformation progressing in a coordinated and orderly manner alongside infrastructure development. He emphasized the need to seize the opportunities brought by energy transition, digital and intelligent transformation, and low-carbon growth by further opening up, improving the business environment, and encouraging domestic and international enterprises to deepen cooperation, explore new collaborative models and build an open, inclusive, and interconnected global automotive ecosystem. Such efforts, he said, will help nurture new drivers of industrial growth and ensure that technological innovation better benefits people around the world.

During the congress, the World New Energy Vehicle Development Organization (WNEVDO) was officially launched. Jointly initiated by the China Society of Automotive Engineers, China Changan Automobile Group, and the International Federation of Automotive Engineering Societies (FISITA), WNEVDO aims to advance the green and intelligent transformation of the automotive industry and promote sustainable development. By uniting stakeholders across the global automotive sector, it will serve as a major platform for industry governance and international multilateral cooperation, fostering the creation of a shared and mutually beneficial industrial ecosystem.

(Sources: Official website of CAST and gmw.cn)

CAST and WFEO deepen cooperation for green and sustainable development in global engineering

On October 12, 2025, CAST President Wan Gang met in Shanghai with Mustafa Shehu, President of the World Federation of Engineering Organizations (WFEO), and his delegation.

Wan Gang recalled that in 2004, the first World Engineers' Convention was held in Shanghai under the theme "Engineers Shape the Sustainable Future." The event marked a milestone in the partnership between China and WFEO and set an example of unity and cooperation for the global engineering community. Now, with the WFEO General Assembly once again convening in Shanghai under the theme "Engineering Shapes a Green Future," the focus on sustainability has deepened. Wan noted that the theme highlights the role of engineering innovation as a driver of green transformation and underscores engineering's vital contribution to achieving the UN Sustainable Development Goals (SDGs). This spirit of collaboration has been passed from generation to generation, giving the event special significance.

Wan emphasized that engineers' resilience represents a core strength in overcoming technical challenges. "In every field, it is this persistence that enables engineers to accumulate experience and insight, laying the groundwork for breakthroughs in critical technologies," he said. As the home of Chinese scientists and engineers, CAST has worked to support and serve science and engineering professionals through talent cultivation, motivation programs, capacity building, mutual recognition of engineering qualifications, and international cooperation. CAST actively promotes engineer mobility by facilitating cross-disciplinary and cross-border exchange, advancing capacity building and qualification recognition, and creating opportunities for engineers to sharpen their skills through diverse global practices. Looking ahead, Wan expressed CAST's commitment to deepening its partnership with WFEO and working together to advance the global sustainable development agenda.

WFEO President Shehu and members of the WFEO Executive Board commended CAST's efforts to enhance openness, trust, and collaboration within the international engineering community. They expressed heartfelt appreciation for CAST's strong support in organizing the WFEO General Assembly. Shehu also encouraged CAST to further expand its engagement with the Global South, particularly with developing countries, by strengthening engineering capacity building, professional training, and talent development. He called for closer cooperation in engineering science and technology innovation to jointly foster a green and sustainable future.

(Source: Official website of CAST)

CSE and FEBRAE sign first MoU to advance engineering collaboration and talent exchange

On September 23, 2025, local time, the Chinese Society of Engineers (CSE) signed a memorandum of understanding (MoU) with the Brazilian Federation of Engineering Associations (FEBRAE) in Rio de Janeiro, Brazil, marking the first cooperation agreement between CSE and a Latin American engineering organization.

The two sides reached consensus on strengthening collaboration in engineering capacity building, youth engineer exchange, and reciprocal visits. CAST Executive Secretary Wang Jinzhan attended the signing ceremony and held talks with FEBRAE President Hideraldo Rodrigues Gomes.

FEBRAE is a federal public institution officially recognized by the National Congress of Brazil. It is a non-profit civil society organization that is composed of major national engineering associations across key industries and serves as a member of the Pan American Union of Engineering Associations (UPADI).

(Source: Official website of CAST)

Four CAST-UN Consultative Committee reports featured in UN Compilation of STI Forum Side Event Reports

The United Nations recently released a compilation of summaries submitted by organizers of the side events held during the 2025 Multi-Stakeholder Forum on Science, Technology and Innovation for the SDGs (STI Forum). Out of 54 reports selected, four were submitted by the CAST-UN Consultative Committees.

The featured reports include: *From Divide to Synergy: Global Cooperation Frameworks for AI Capacity-Building* submitted by the CAST-UN Consultative Committee on Artificial Intelligence Capacity Building (in preparation); *Gender Equity and Global Partnership: A Global South Perspective*, jointly submitted by the CAST-UN Consultative Committee on Open Science and Global Partnership and the CAST-UN Consultative Committee on Women Scientists and Gender Equality & Solidarity; *Digitally Empowered Healthy City Development: Innovative Strategies and Practices*, submitted by the CAST-UN Consultative Committee on Sustainable City, Community and Heritage; and *One Health for All: Synergistic Solutions Advancing SDG3 through Sustainable Science & Inclusive Innovation*, submitted by the CAST-UN Consultative Committee on Life Science and Human Health.

The compilation highlights the achievements and shared insights from the forum's side events, demonstrating the active participation and growing visibility of diverse stakeholders in advancing the global agenda of "Science, Technology, and Innovation for the SDGs." It also serves as a key reference document for the outcomes of the UN High-Level Political Forum on Sustainable Development (HLPF), providing valuable input for global science and technology policymaking. This year, the CAST-UN Consultative Committees hosted four side events, marking their highest level of participation since joining the STI Forum.

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

Academic Exchange

Global experts gather in Guangxi to explore frontiers in advanced materials

From October 15 to 17, 2025, the 3rd World Materials Congress (WMC), the 9th World Materials Summit (WMS), and the International Union of Materials Research Societies Internation Conference in Asia 2025 (IUMRS-ICA 2025), convened in Guilin, Guangxi Zhuang Autonomous Region. Co-hosted by the Chinese Materials Research Society (C-MRS) and the International Union of Materials Research Societies (IUMRS), the event brought together leading scientists and experts from over 50 countries and regions to discuss breakthroughs and future directions in materials science and technology.

Opening ceremony of 3rd WMC, 9th WMS & IUMRS-ICA 2025

The conference focused on six major frontier areas: advanced energy materials, advanced information materials, advanced structural materials, advanced functional materials, advanced biomaterials, and advanced computational materials. A total of 37 thematic forums were held, covering not only cutting-edge theoretical research but also the translation of technological innovation into industrial applications.

At the opening ceremony, IUMRS President Anil Kumar announced that, starting in January 2026, the IUMRS headquarters will be officially relocated to China, with C-MRS assuming administrative responsibility.

Across sessions such as “Diamond and Its Functional Applications” and “Advanced Powder Metallurgy Materials,” scholars shared their latest findings—from single-crystal diamond synthesis to material fabrication under extreme conditions—sparking lively discussions and inspiring new ideas.

At the forum titled “The Origin and Evolution of Human Materials Science,” participants unveiled, for the first time, the results of a technological analysis of 10,000-year-old pottery unearthed at the Dayan site in Lingui, Guilin. The study creatively integrates modern materials science with archaeological discovery. Experts also conducted field visits to the Dayan and Zengpiyan sites, examining ancient clay samples and drawing inspiration from humanity’s earliest encounters with materials.

(Source: Official website of CAST)

CAA delegation visits IFAC to strengthen global cooperation on sustainable development

An IFAC staff member introduces the organization's history and leadership to Wang Feiyue and his delegation

On October 7, 2025, a ten-member delegation led by Wang Feiyue, Chief Supervisor of the Chinese Association of Automation (CAA) and research fellow at the Institute of Automation, Chinese Academy of Sciences (CAS), visited the headquarters of the International Federation of Automatic Control (IFAC) in Vienna, Austria. IFAC is one of the world's most influential international academic organizations in the field of automatic control, and CAA is one of its founding members.

During the meeting, Wang presented the latest developments in China's automation science and technology as well as CAA's key initiatives. He noted that CAA is dedicated to advancing scientific and technological innovation in automation and places great emphasis on strengthening collaboration with international organizations. Looking ahead, he expressed hope to further deepen cooperation with IFAC in areas such as young talent development, co-hosting international conferences, joint journal initiatives, and the promotion of global technical standards. Representatives from IFAC expressed their appreciation for CAA's long-standing support and enthusiasm for expanding collaboration across a broader range of fields. The two sides also held in-depth discussions on preparations for the 23rd IFAC World Congress.

(Source: Official WeChat account of CAA)

International Awards

Chinese scientist Zhang Tao named Citation Laureate 2025

On September 25, 2025, Clarivate unveiled the Citation Laureates 2025, recognizing 22 outstanding scholars from eight countries. Chinese scientist Zhang Tao, member of the Chinese Academy of Sciences (CAS), recipient of the 2024 Future Science Prize in Physical Science, and research fellow from the Dalian Institute of Chemical Physics (DICP), CAS, was named the Citation Laureate in Chemistry for his pioneering contributions to the field of single-atom catalysis.

Zhang Tao (center) receives the Citation Laureates 2025 Award in Chemistry

Established in 2002, the Citation Laureate Awards honor researchers whose work demonstrates exceptional influence and innovation across fields such as chemistry, physiology or medicine, and physics. The selection is based on multidimensional evaluation criteria, including citation performance, originality and research impact, identification of key contributors, and peer recognition. Notably, 83 past Citation Laureates have gone on to receive Nobel Prizes.

”It is my great honor to receive the Citation Laureates 2025 award, which is a full recognition of the originality and international impact of our work.” Zhang said. “In the past, my collaborators and I created the concept of Single-Atom Catalysis by standing on the shoulders of others. Looking ahead, I hope that more young scientists will stand on our shoulders to drive catalysis and chemistry to a higher level. I believe that the integration of single-atom catalysis with artificial intelligence will shape a new paradigm of atomically precise catalysis, making catalyst rational design possible and accelerating the advancement of global new energy and green chemical industries.”

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

Scientist Profile

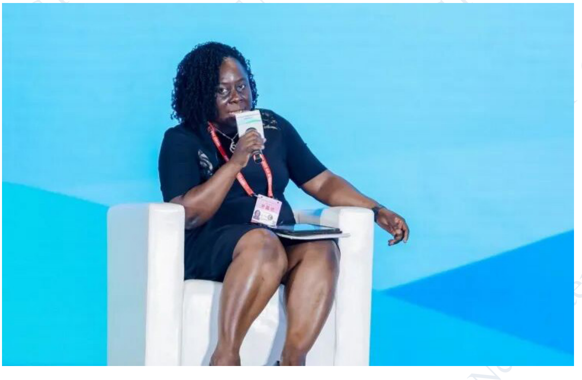
WFEO 2025 GA Roundtable empowers global young engineers and charts new pathways for talent development

On October 13, during the World Federation of Engineering Organizations 2025 General

Assembly (WFEO 2025 GA) in Shanghai, a roundtable discussion themed "Capacity Building for Women and Young Engineers" was held, bringing experts and scholars from around the world to explore new models for cultivating engineering talent in the digital era.

Mentored growth: The best path toward professional maturity

Martin Manuhwa speaking at the roundtable



Enyonam Kpekpena speaking at the roundtable

"Capacity building is fundamental to the engineering profession," said Martin Manuhwa, Chair of the WFEO Committee on Engineering Capacity Building. "Engineering is not merely a career; it is the lifeblood of sustainable development and the backbone of global transformation. Whether we are driving digitalization, combating climate change, or advancing smart agriculture, engineers are central to progress. Yet in many parts of the Global South, young engineers still face significant gaps in technical readiness."

As the UNESCO Engineering Report (2021) shows, as global demand for engineers continues to grow, interest among young people in pursuing engineering as a field of study and a career is declining. Many countries are witnessing a "flight from engineering," and women remain underrepresented in the field. Contributing factors include the relatively low social and economic status often associated with engineers, as well as limited opportunities for international mobility among young professionals. Young engineers are experiencing "growing pains" and find their potential constrained by multiple challenges.

According to Enyonam Kpekpena, Chair of the WFEO Committee on Women in Engineering, "This conference allows young engineers to explore new discoveries in the age of AI and to seize the opportunities WFEO provides." She emphasized that WFEO, through its Committee on Young Engineers/Future Leaders and partnerships with national engineering education organizations, is building platforms for exchange, particularly for women engineers. Training programs that combine knowledge renewal, skills development, and discussions on engineering ethics aim to foster an ecosystem of "mentored growth" in which young engineers receive the support they need to thrive.

Cultivating "polygonal warriors": Building global competence for a changing world

Wang Hongyang speaking at the roundtable

Kancheepuram Gunalan speaking at the roundtable

Speaking on youth development, Chinese Academy of Engineering member Wang Hongyang noted, "The essence of education lies in nurturing a well-rounded individual—someone who not only masters knowledge but also integrates humanistic understanding with practical ability."

As international collaboration deepens, it brings opportunities for technological progress, but also introduces new layers of complexity to existing cultural challenges. Differences in labor laws, environmental regulations, and intellectual property systems, as well as variations in religious customs and workplace cultures, can all pose obstacles. Misunderstandings arising from cultural gaps may slow project advancement, while inconsistent technical standards often add further complications. When local practices conflict with international norms, cross-border projects may face increased costs.

Kancheepuram Gunalan, Chair of the WFEO-UN Relations Committee, underscored the growing importance of soft skills in building global competence: "Beyond science and engineering, young engineers need a solid grasp of intellectual property, economics, trade, and business—these are essential tools in every engineer's toolbox. Only by combining these can we achieve innovation both technologically and socially." By harnessing the leadership of international organizations and the innovative capacity of industry, WFEO seeks to empower young engineers worldwide to collaborate on a shared global stage.

(Source: huanqiu.com)

Upcoming Conferences

HSLA Steels 2025 to convene in Nanjing

The 9th International Conference on High Strength Low Alloy Steels (HSLA Steels 2025), organized by the Chinese Society for Metals (CSM), will be held from November 2 to 4 in Nanjing, Jiangsu Province. The conference will focus on key themes such as physical metallurgy, product development and applications, performance and safety, and high-quality process technologies. Discussions will cover a wide range of topics, including alloy design, recrystallization, mechanical properties, strengthening mechanisms, modeling and simulation, plate and strip production, long products, cast steel, and welding performance. The event aims to provide a global platform for researchers and professionals engaged in the development of advanced steel materials to exchange ideas, share the latest progress in microalloying technology, and promote mutual learning and collaborative innovation.

For details, visit:

https://www.csm.org.cn/col/col6291/art/2025/art_74edcb39e2334ebc96ad25fe1c3e367e.html

(Sources: Official website of CAST and official website of CSM)

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Editor: Ying Wenqi
Proofreader: Bai Ge
Designer: Zhang Shan