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CAST Newsletter

The 6th WLA Forum convenes
in Shanghai



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Cover Story

The 6th WLA Forum convenes in Shanghai



The opening ceremony of the 6th WLA Forum
Photo credit: Official WeChat account of the WLA Forum

On November 6, 2023, the opening ceremony of the 6th WLA Forum & the Awards Ceremony of the 2023 WLA Prize was held at the Lin-gang Center, the permanent venue of the WLA Forum in Shanghai. The event, co-hosted by the World Laureates Association (WLA) and the China Association for Science and Technology (CAST), brought together over 300 eminent scientists from 25 countries and regions including 27 Nobel laureates, 40 members of the Chinese Academy of Sciences (CAS) and of the Chinese Academy of Engineering (CAE), and 120 young scientists from China and abroad. CAST President Wan Gang attended the opening ceremony and

delivered a speech.

Themed “Science Leads Transformation,” the 6th WLA Forum featured an impressive lineup of more than 60 WLA Frontier Lectures, 70 WLA Young Scientists HUBs, the WLA Life Science Forum, the WLA Intelligent Science Forum, and the WLA Zero Carbon Forum. It also hosted numerous specialized forums and roundtable meetings, creating a dynamic platform for the exchange of ideas and expertise.

(Source: Official WeChat account of the WLA Forum)

Overview of the WLA Forum over the years

• 2018 •



From October 29 to 31, 2018, the inaugural WLA Forum took place in Shanghai. The forum featured participation of 26 Nobel Prize laureates and 9 recipients of prestigious international awards such as the Wolf Prize, the Lasker Award, the Turing Award, and the MacArthur Fellowship. These eminent scientists represented various major fields of scientific research including chemistry, physics, and medicine. The forum facilitated profound cross-border, interdisciplinary, and cross-domain exchange.

The opening ceremony of the 1st WLA Forum
Photo credit: Official website of the WLA Forum

• 2019 •

From October 29 to 31, 2019, the 2nd WLA Forum convened in Shanghai and brought together 44 Nobel Prize laureates, 21 recipients of awards like the Turing Award, the Wolf Prize, the Lasker Award, the Fields Medal, and young scientists from around the world to explore the limitless potential of technological advancements. At the opening ceremony, the WLA Shanghai Center was officially inaugurated and the global debut of the WLA Science Community Planning was announced.

The opening ceremony of the 2nd WLA Forum
Photo credit: Official website of the WLA Forum



• 2020 •

From October 30 to November 1, 2020, the 3rd WLA Forum was held in Shanghai under the theme "Science and Technology for the Common Destiny for Mankind." The forum introduced the first WLF Master Class in the Scientific Mindset. Roger Kornberg, WLA Chair and the 2006 Nobel Laureate in Chemistry, delivered a keynote speech titled "Basic Science: The Hope of Progress."

Panelists discuss the shared future of humanity at the 3rd WLA Forum.

Photo credit: Official website of the WLA Forum



• 2021 •

From November 1 to 3, 2021, the 4th WLA Forum took place at the Lin-gang Special Area of China (Shanghai) Pilot Free Trade Zone under the theme "Open Science: Build an Open Innovation Ecosystem." Michael Levitt, WLA Vice Chair and a Nobel Laureate in Chemistry, unveiled the *Open Science: Building an Open Innovation Ecosystem* initiative to the global audience at the event.

Announcement of the *Open Science: Build an Open Innovation Ecosystem* Initiative

Photo credit: Official website of the WLA Forum



• 2022 •



From November 6 to 7, 2022, the 5th WLA Forum was held in Shanghai under the theme “Science Forward: Create a Bright Future.” Notably, the inaugural WLA Prize was presented at the opening ceremony of the forum.

◀ The opening ceremony of the 5th WLA Forum
Photo credit: Official website of the WLA Forum

Event Highlights

The Awards ceremony for the 2023 WLA Prize

On November 6, the awards ceremony for the 2023 WLA Prize was held during the opening ceremony of the 6th WLA Forum.



The awards ceremony for the WLA Prize in Computer Science or Mathematics
Photo credit: Official WeChat account of the WLA Forum

The 2023 WLA Prize in Computer Science or Mathematics was presented to Arkadi Nemirovski, Chair

Professor at the H. Milton Stewart School of Industrial and Systems Engineering at the Georgia Institute of Technology, and Yurii Nesterov, Professor Emeritus and Senior Scientific Researcher of the Center for Operations Research & Econometrics and Mathematical Engineering Department at the Université Catholique de Louvain, for their seminal work in convex optimization theory.

The 2023 WLA Prize in Life Science or Medicine was presented to Karolin Luger, Professor and Jennie Smoly Caruthers

Endowed Chair of Biochemistry at the University of Colorado Boulder, Daniela Rhodes, Emeritus Group Leader of the MRC Laboratory of Molecular Biology in Cambridge, and Timothy J. Richmond, Professor Emeritus of Crystallography of Biological Macromolecules at ETH Zürich, for their groundbreaking work in elucidating the structure of the nucleosome at the atomic level.



The awards ceremony for the WLA Prize in Life Science or Medicine
Photo credit: Official WeChat account of the WLA Forum

The WLA Prize is an international science prize initiated by the World Laureates Association (WLA) in 2021. The prize aims to recognize and support eminent researchers and technologists worldwide for their contributions to science. It is intended to support global science and technology advancement, address the challenges to humanity, and promote society's long-term progress.

(Source: Official WeChat account of the WLA Forum)

WLA She Forum advocates for gender equity and more support for women scientists

On November 6, 2023, the 6th WLA She Forum took place at the Lin-gang Center, the permanent venue of the WLA Forum in Shanghai. The event, co-orga-

nized by WLA and the China Women's Association for Science and Technology (CFAST), was themed "Celebrating Female Role Models and Igniting Inspiration," with the primary goal of inspiring and promoting the active involvement of more women in the forefront of scientific endeavors.



The roundtable of the WLA She Forum
Photo credit: Official WeChat account of the China Centre for International Science and Technology Exchange

Gender disparity in the scientific community persists

Irina Bokova, former Director-General of UNESCO, noted that if the world requires more engineers and scientists, women represent the largest untapped resource. Bokova emphasized that women bring valuable diversity and fresh perspectives to scientific research,

and that it is important to involve more women starting from laboratories to boardrooms.

Empowering female scientists as role models

Lynne Maquat, the 2021 Wolf Prize laureate in Medicine, the J. Lowell Orbison Endowed Chair and Professor of Biochemistry & Biophysics and Director of the Center for RNA Biology at the University of Rochester as well as the Chair of Graduate Women in Science (GWIS) at the University of Rochester, underscored the need to set exemplary models for young girls and the importance of encouraging talented women across various fields to persevere in their pursuits.

Cao Xiaofeng, a CAS member, Co-Director of CEPAMS (CAS-JIC Centre of Excellence for Plant and Microbial Science), and CWAST Vice President, high-

lighted the significance of early exposure to scientists for girls to make informed life choices. She expressed hope that successful individuals would dedicate time and effort to mentor young women and guide them into scientific research.

Women need comprehensive parenting support system

All participants unanimously emphasized the necessity for a more comprehensive support system for women when it comes to marriage, family, and parenting.

Chen Wen, Deputy Director of the Scientific Satellites Division at the Innovation Academy for Microsatellites of CAS (IAMCAS), advocated for equitable parenting policies to help eliminate gender discrimination in hiring practices.

Sir Michael Berry, the 1998 Wolf Prize Laure-

ate in Physics, stood out as one of the few male scientists at the forum. As a theoretical physicist who also took on parenting responsibilities, he recounted how he raised his children within his office from 6 weeks to 18 months, a period that coincided with the most productive phase of his academic career. He strongly recommended male colleagues to consider bringing their children to the workplaces in addition to supporting institutional arrangements such as maternity and paternity leave as a personal contribution towards achieving gender equality.

(Sources: *China Youth Daily* and the official WeChat account of the WLA Forum)

The WLA Life Science Forum seeks breakthroughs in building a global community of health for all

The 6th WLA Life

Science Forum, which convened on November 7, 2023, included a dozen world-renowned scientific award recipients, CAS and CAE members, eminent scientists, representatives from leading global hospitals, medical policy experts, and hospital management specialists. They held in-depth discussions on the transformation and advancement of future medicine, new drug research and development, and diagnosis and treatment of major diseases. Together, they crafted a vision for a global community of health for all.



The routable of the WLA Life Science Forum
Photo credit: Official WeChat account of the WLA Forum

Themed “Science Leads Transformation of Scientific Paradigm: Building a Global Community of Health for All,” the forum delved into how the broader progress in science can catalyze groundbreaking medical discoveries and technological applications. This, in turn, paves a robust foundation for building a global community of health for all.

Chen Zhu, Co-Chair of the WLA Life Science Forum, underscored the significance of translational medicine, a process involving the identification of clinical challenges, conducting fundamental research to address them, and subsequently validating the solutions through clinical trials. He cited the exam-

ple of utilizing all-trans retinoic acid and arsenic trioxide in the targeted treatment of acute promyelocytic leukemia, which transformed this once-deadly leukemia subtype into the first curable one. This success story serves as a shining model for translational medicine.

Roger Kornberg, the 2006 Nobel laureate in chemistry, WLA Chair, and Mrs. George A. Winzer Professor of Medicine at Stanford University, reflected on some of the pivotal medical discoveries of the past century such as X-rays and antibiotics. He expressed hope that people would draw inspiration from these historic achievements and address the pressing challenges of our era to make meaningful contributions to the field of medical science.

(Source: Official WeChat account of the WLA Forum)

Expert Voices

WLA experts encourage young scientists to pass the torch of scientific discovery



Young scientists at the WLA HUB event
Photo credit: Official WeChat account of the WLA Forum

One of WLA's central missions is to nurture the growth of young scientists. This year's WLA forum brought together over 120 young scientists from more than 25 countries and regions. Their research capabilities, coupled with their enthusiasm, ignited a fresh wave of youthful energy at the event.



Young scientists at the WLA HUB event
Photo credit: Official WeChat account of the WLA Forum

In discussions on topics like “Fostering True Research Independence for Young Scientists” and “The Role of Mentors in Research,” Yang Wei, a CAS member and Chair of CAST UN Consultative

Committee on Open Science and Global Partnership (CCOS), stressed the importance of striking a balance. Young scientists must strive to maintain independence while actively seeking guidance from seasoned experts who can significantly contribute to their professional development. This perspective was drawn from the wealth of experiences shared by scientists at the WLA forum and reflects their aspirations for the next generation.

Radha Boya, Professor of Physics and Astronomy at the University of Manchester and a Royal Society University Research Fellow, proposed that independence is akin to a scientist's sense of self-identity because the pursuit of innovation and collaborative problem-solving remains at the forefront of their endeavors.

Science is a relay and a legacy. At the Youth Science Hub, Jiao

Nianzhi, a CAS member, Chair Professor at Xiamen University, and Co-Chair of the United Nations Global Ocean Negative Carbon Emissions (Global-ONCE) program, imparted these wise words: “The world belongs to us, but the future belongs to you.”

(Source: Official WeChat account of the WLA Forum)

Events in Focus

UNESCO approves China’s proposal to celebrate the 1800th anniversary of Chinese mathematician Liu Hui’s birth



The 42nd session of the UNESCO General Conference
Photo credit: CAST

From November 7 to 22, 2023, the 42nd session of the UNESCO General Conference was held in Paris, France. The conference voted to approve a proposal from CAST to commemorate the 1800th anniversary of the birth of Liu Hui, a Chinese mathematician.

This was the first occasion for China to secure a UNESCO endorsement for a birthday anniversary event dedicated to a scientist. The proposal garnered support

from Azerbaijan and the Republic of Korea.

As one of the founding figures in classical Chinese mathematical theory, Liu Hui made great contributions to Chinese mathematics and holds an important position in world history of mathematics. His masterpiece *Nine Chapters on the Mathematical Art* exerted profound influence on subsequent generations of mathematicians and mathematical works.

The celebration, slated to take place from 2024 to 2025, will be a collaborative effort between China and France and open to mathematicians from across the globe. It will serve as a valuable platform for shedding light on the accomplishments of ancient Chinese mathematicians and facilitating the exchange and mutual enrichment of world civilizations.

(Source: Official website of CAST)

CAST delegation attends the World Engineers Summit 2023 in Singapore

From November 8 to 10, the World Engineers Summit (WES) 2023 was held in Singapore. Luo Hui, Director General of the CAST Department of International Affairs and Vice Chairperson and Joint Secretary-General of the Chinese Society of Engineers (CSE), was invited to attend the summit and delivered a speech at the opening ceremony.

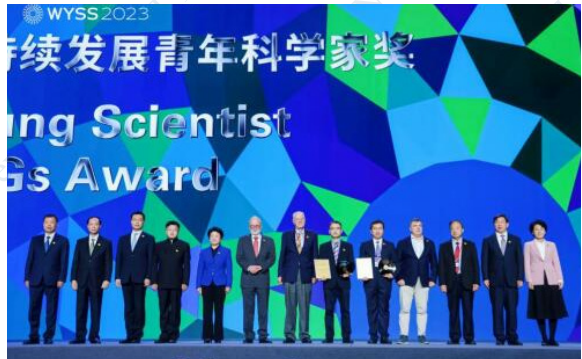
During their time at the summit, the CAST delegation met with Dalson Chung, President of the Institution of Engineers, Singapore (IES) and witnessed President Chung award the Chartered Engineer certificates to the first five Chinese engineers who earned this recognition through mutual agreement. They also met with Seng Chuan Tan, President-Elect of the World Federation of

Engineering Organizations (WFEO), Kai Sang Lock, Chair of the *Washington Accord* Executive Committee, and representatives from engineering organizations worldwide. These meetings aimed to foster collaboration in areas such as engineering education accreditation and mutual recognition of engineers.

As a strategic partner of the summit, CSE organized two key events: the China Engineers Forum (CEF) and the China Engineering Achievement Exhibition. The exhibition placed a particular focus on showcasing distinctive Chinese engineering projects contributing to sustainable development. These projects spanned areas like clean energy, smart buildings, and ecological restoration, drawing the interest of numerous participants.

(Source: Official WeChat account of NTCAST)

World Young Scientist Summit 2023 kicks off in Zhejiang Province



Recipients of the Young Scientist SDGs Award on stage
Photo credit: Official website of CAST

On November 11, the World Young Scientist Summit 2023 (WYSS 2023) opened in Wenzhou, Zhejiang Province. The summit, jointly organized by CAST

and the Zhejiang Provincial Government, was attended by over 800 delegates including four Nobel laureates, 36 academy members, representatives from the United Nations, diplomatic missions from various countries, and international scientific organizations. CAST President Wan Gang delivered a video speech at the opening ceremony.

This year's summit introduced the inaugural Young Scientist SDGs Award, honoring those who have made remarkable and innovative contributions in support of one or more Sustainable Development Goals (SDGs) through their research in natural sciences or applications of engineering.

The summit also highlighted various sub-events including the Women Scientists Forum, the Energy Materials 2023 workshop, the Sino-Nordic Sustainable Development International

Cooperation Forum, and the 2023 Youth Climate Action Forum. Notably, the "WYSS Metaverse" debuted, enabling participants to immerse themselves in a virtual world and engage with various aspects of the summit.

WYSS serves as a global platform for young talent. Since its inception in 2019, it has successfully convened five times, solidifying its status as a prominent international event in the realm of science and technology.

(Source: Official website of CAST)

CAST International Young Scientists Salon on Photonic Crystal Optical Fiber



Young scientists at the CAST International Young Scientists Salon on Photonic Crystal Optical Fiber

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

From November 11 to 12, 2023, the CAST International Young Scientists Salon on Photonic Crystal Optical Fiber was held in Hangzhou, Zhejiang Province. The event brought over 30 young scientists representing various countries including Malaysia, Egypt, Pakistan, Ethiopia, the UK, and Japan together. Their aim was to share ideas and insights on a

range of topics including photonic crystal fibers, hollow-core optical fibers, and ultra-precise laser processing of fibers.

The salon featured keynote speeches that delved into intriguing subjects such as “Exploring the Effects of Femtosecond Laser Radiation on Glass,” “Recent Advances in Microstructured Optical Fibers,” and “Applications of Photonics Glass and Fiber in Sensing.”

Four international young scientists presented perspectives on the latest developments and applications of doped glass fibers, innovative functional glasses, and even the use of ancient glass in the field of photonics. They underscored the crucial role of glass materials in advancing the field of photonics and offered insights into future directions.

During the salon, Philip Russell, the inventor of photonic crystal fibers,

shared his wisdom with the young scientists. He stressed that, in addition to their research pursuits, young scientists should place importance on personal growth and global awareness and contribute to international exchange and the cause of world peace and progress.

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

Academic Exchange

BAST delegation attends the 2023 International Forum (Berlin) on Green Design and Green Manufacturing and Dialogue on Green Transition and Climate Change



BAST Vice President Liu Xiaokan delivers a speech at the event
Photo credit: Official WeChat account of BAST

On October 26, a delegation from the Beijing Association for Science and Technology (BAST) attended the 2023 International Forum (Berlin) on Green Design and Green Manufacturing and Dialogue on Green Transition and Climate Change in Berlin, Germany. The event, organized by the World Green

Design Organization (WGDO) under the theme “Green Design, Green World,” explored the effective utilization of green design and low-carbon technology to facilitate a shift towards sustainability and address climate change, thereby contributing to the advancement of the United Nations Sustainable Development Goals (SDGs). The BAST delegation also participated in special forums and the awards ceremony of the event.

BAST has played a pivotal role in fostering non-governmental international science and technology exchange over the years and has maintained friendly relations with many international organizations. Liu Xiaokan, BAST Vice President, affirmed the organization’s unwavering commitment to supporting the development of WGDO. He also expressed a strong desire to enhance future collaboration and harness the

power of green design to promote sustainable development practices on a global scale.

(Source: Official WeChat account of BAST)

Shanghai Association for Science and Technology signs MoU with New York Academy of Sciences



Han Zhiqiang and Nicholas B. Dirks at the MoU signing ceremony
Photo credit: Official WeChat account of the China Centre for International Science and Technology Exchange

Recently, Han Zhiqiang, Vice President of the Shanghai Association for Science and Technology, and Nicholas B. Dirks, President and Chief Executive Officer of the New York Academy of Sciences, signed a memorandum of friendly cooperation, sowing the seeds of friendship between the two organizations.

In the spirit of this partnership, both parties will explore cooperation in four key areas: co-hosting the Twin Cities Science and Technology Forum, advancing STEM science education for young minds, bolstering scientific research endeavors, and nurturing technology talent. They will also facilitate reciprocal visits and exchange on sustainable devel-

opment and climate change to foster collaboration among scientists from both regions and

encourage vibrant youth exchange.

(Source: WeChat public

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

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