«حامیان معنوی جشنواره»

Supportive Grants of the 7th Young Scientists Festival

"Startup" section

1st Team	2nd Team	3rd Team	4th Team
3/500/000/000 Rials	2/500/000/000 Rials	2/000/000/000 Rials	1/500/000/000 Rials

"Young Basic Science Faculty Member" section

1 research grant
The researcher awarded an equivalent to
2/000/000/000 Rials

"Idea" section

11 project grants
Each awarded an equivalent to
1/000/000/000 Rials

Teams with international members
received 20% higher amount as development grants

7th Young Scientists Festival
DEC 2023

هفتمین جشنواره اندیشمندان و دانشمندان جوان
آذرماه ۱۴۰۲

www.ysf-persia.com

The 7th Young Scientists Festival

The closing ceremony of the 7th Young Scientists Festival (YSF) was held on December 12, 2023, in parallel with the celebration of Research Week of the Ministry of Science, Research and Technology. The ceremony took place in the Central Library Hall at the University of Tehran.

During the 7th YSF, a total of 335 proposals were received, out of which 28 projects were selected in idea section and each was awarded a research grant equivalent to 100000000 Rials. Also, 11 ideators were selected as the 7th YSF laureates, each awarded a grant equivalent to 1100000000 Rials, with 10% of the grant provided on the day of the ceremony and the remaining 90% of the grant will be disbursed incrementally based on the progress made in developing their plans into viable business products.

Similarly, in startup section, four teams were selected and each was granted as below:

First team: 3500000000 Rials

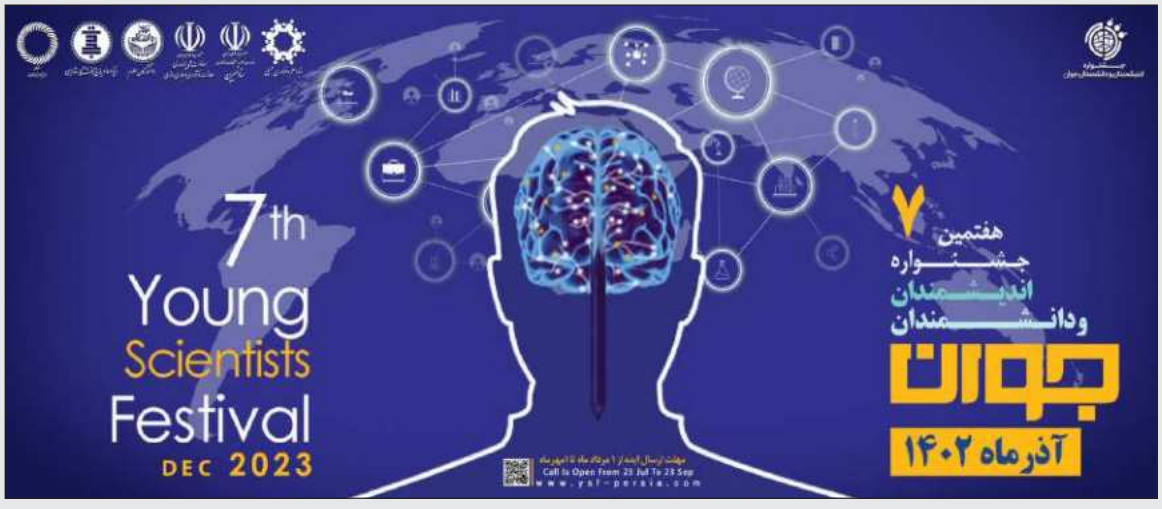
Second team: 2500000000 Rials

Third team: 2000000000 Rials

Fourth team: 1500000000 Rials

Similar to the idea section, 10% of these grants were provided on the ceremony day, and the remaining 90% will be disbursed based on the progress made in developing their plans.

Furthermore, Dr. Hamed Daemi was awarded a research grant (an equivalent of 1500000000 Rials) in the young basic science faculty members' section.



Dr. Mohammad Ali Zolfigol; Minister of Science, Research and Technology

Recognizing the Impact of Every Act on Supporting the Scientific Development

Participating in this esteemed event, organized to honor elites and future makers, is a privilege that I deeply appreciate.

First and foremost, warm congratulations are extended to the 7th YSF laureates.

Sincere gratitude is also expressed to Eng. Jamili and the Jamili Foundation for their wise decision to contribute to the advancement of applied basic science research.

This decision showcases both the intellectual vision and technological vision of the Jamili foundation. Our society takes great pride in having individuals like Eng. Jamili who prioritize and actively contribute to enhancing the progress of science-based advancements.

Finally, it is essential to emphasize the importance of benevolent actions in supporting researchers. It is crucial to acknowledge that every act of scientific support has a significant impact on the advancement of science-based technologies.

Prof. Mohammad Moghimi; President of the University of Tehran

Alongside the education, training our children to grow talented is also important

We are all recently criticizing the standards of determining elite individuals where we only focus on the number of high-quality articles published as a definite factor for classifying individuals as “elite.”

The Young Scientists Festival, organized by the Jamili Science and Technology Foundation aims to support innovative ideas, startups, and entrepreneurship, all centered around fostering creativity which addresses the challenges, we have in identifying top talents.

The focus on nurturing and supporting young researchers in their professional growth has been insufficient and also, we have not been able to provide adequate job opportunities for them.

When assessing the qualifications of an elite individual, it is important to consider a comprehensive set of standards rather than focusing on the number of published articles.

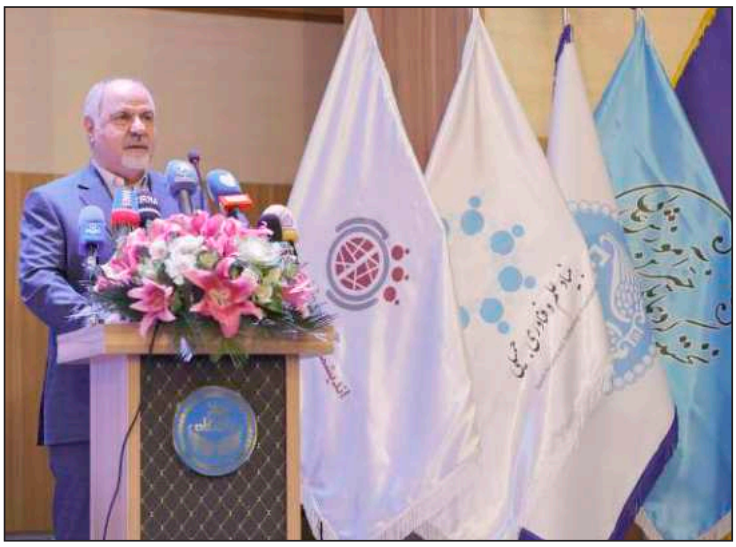
Unfortunately, the applied basic science researches often do not receive the attention they deserve. One of the contributing factors

to this situation is the significant challenges that graduates face in terms of direct employment prospects in these fields, especially in our country. It is essential that we prioritize providing necessary laboratory and research facilities to support the growth of these disciplines and improve their job competency.

While many foundations focus primarily on supporting infrastructure and construction projects, the Jamili Foundation’s mission is to offer support to basic science projects which cab have an applied outcome.

Eng. Ebrahim Jamili; President of YSF Policy-making Council

Together, we can make a brilliant future and a prosperous Iran



We are sure that you, the young generation will be helping Iran to have a brighter future in science and technology.

Considering the increased number of migrations, we try to inspire the younger generation, ensuring that hope remains alive within them to take brighter steps through science development. We strongly believe in creating an inclusive environment where all YSF participants, including the winners and non-winners, feel supported.

Through a strategic planning, every month on Tuesdays, the Jamili Foundation, hold an event in collaboration with the Research Deputy of the MSRT, and the University of Tehran, plans to support aspiring entrepreneurs and innovators in the Iranian Research Organization for Science and Technology.

By the end of this event, I hope we can take even a small part in solving the challenges our world is facing to let them build a better future for the country.

Prof. Mahmoud Kamarei; President of YSF

We should take steps towards cultivating the culture of innovation in our young generation

YSF is focused on supporting applied basic science researches which is organized by "Jamili Science and Technology Foundation" as an NGO. YSF aims to provide a platform for young ideators and start-up owners to showcase their ideas and achievements and contribute to the scientific growth of the world, while also providing opportunities for networking and collaboration with the specialists in basic sciences.

In the 7th YSF, 335 proposals were received in the idea section, out of which 33 projects were successfully entered to the next stage of evaluation process. Similarly, in the start-up section, we received 51 business proposals and following the initial review, 10 proposals were qualified for the next assessment. In addition, among 52 faculty members of basic sciences who applied for the festival research grant, 22 applicants were entered to the second judging process. 12 proposals were selected as the 7th YSF laureates and each received a research grant (an equivalent of One billion IRR, with 10% of the grant provided as a gift and the remaining 90% of the grant will be disbursed incrementally based on the progress made in developing their plan into viable business products. Furthermore, Dr. Hamed Daemi, an assistant professor at Royan Institute, was awarded a research grant (an equivalent of Two billion IRR) in the young basic science faculty members' section.

The Jamili Foundation generously provided a total of 24 billion IRR product development grants to support the 7th YSF laureates in 2023.

Importance of Strengthening STI Institutions in Economic Development

Prof. Seyed Komail Tayebi
President ECO Science Foundation (ECOSF)

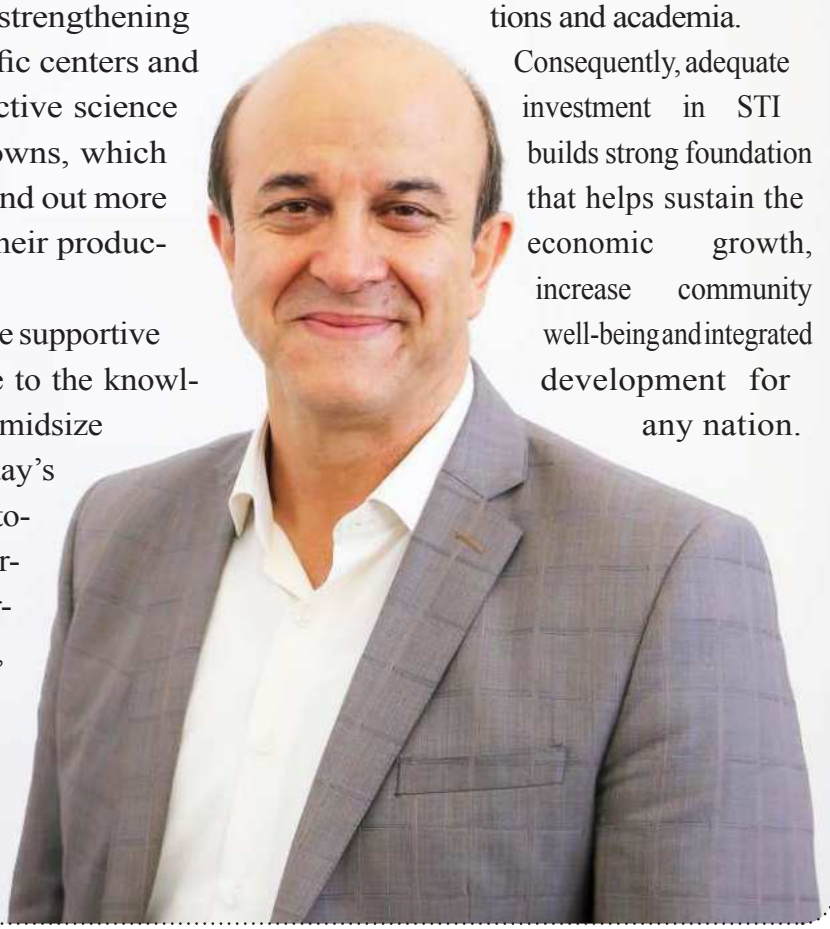
Islamabad, Pakistan

It is evident that Science, Technology and Innovation (STI) boost socio-economic growth and sustainable development. Several STI indicators are the primary factors influencing economic growth and development, according to the literature on indigenous economic growth. Consequently, STI institutions are essential in this context because they provide training to entrepreneurs, startups, knowledge-based businesses, and incubators that produce high-tech and value-added products that increase economic capacity at both the macro and micro levels.

One efficient way of strengthening STI is to support scientific centers and to promote more productive science and technology parks/towns, which can assist industries to find out more innovative methods in their production lines.

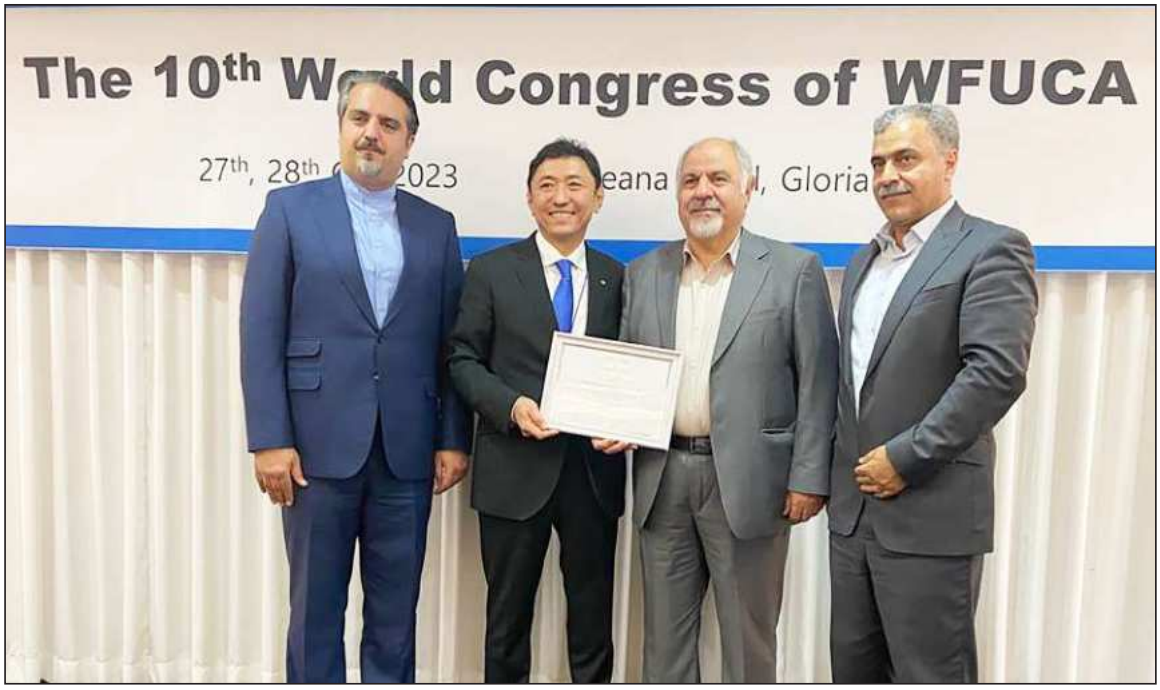
STI institutions can also be supportive to the youth who partake to the knowledge based small and midsize enterprises (SMEs). Today's youth and children are tomorrow's leaders, tomorrow's scientists, tomorrow's artists, politicians, policymakers, teachers and business persons. If we provide them, the leaders of tomorrow, with their opportunity to discover themselves and inculcate the concept of inquiry and questioning them, they would be better citizens, more responsible and critical thinkers. Then, they can also become productive entrepreneurs and practitioners.

Worldwide, the STI parks thus have been proven to be centers of innovation that focus on creating new knowledge and establish effective linkages between knowledge creation and innovation. In order to develop an ecosystem that supports innovation and improves business productivity, it is essential to build collaboration and bonding among businesses, government organizations and academia.



Consequently, adequate investment in STI builds strong foundation that helps sustain the economic growth, increase community well-being and integrated development for any nation.

Eng. Ebrahim Jamili – Director General of UNESCO Basic Science and Technology Club participated in the 10th World Congress of WFUCA in South Korea



The 10th World Congress of the World Federation of UNESCO Clubs and Associations (WFUCA) took place in Seoul, South Korea, from October 26 to 29, 2023. This significant gathering brought together more than 100 representatives from the UNESCO Clubs across various regions. The Congress came up with several notable outcomes, including the adoption of a revised name for the World Federation. This change aligns with the original name that was established back in 1981 when the World Federation was formed. During the Congress, amendments to the WFUCA Constitution were approved to ensure compliance with the Regulatory Framework Regarding Associations, Centres, and Clubs for UNESCO."

Notably, new members were admitted to WFUCA from Azerbaijan, Iran, Kenya, Kyrgyzstan, and Tajikistan. Another significant development was the announcement of the Global Initiative of Partnership Establishment. Moreover, the Congress resulted in the adoption of the "Appeal for Global Peace," signifying the organization's commitment to promoting peace worldwide.

Furthermore, a new Executive Board was elected during the congress to lead WFUCA. Following the election, participants from various countries expressed hope regarding the future progress of the World Federation under the new leadership. Mr. Bolat Akchulakov - President of WFUCA outlined several key priorities for WFUCA, with a particular emphasis on streng the ning and advancing Associations and Clubs for UNESCO across all regions of the world. This includes enhancing their visibility and involvement in supporting UNESCO's mission within local communities and expanding the membership base. Furthermore, the president of WFUCA emphasized that there is a strong desire to deepen collaboration with UNESCO member state governments to jointly implement the World Federation's key programs.

ACTIVITIES OF YSF INTERNATIONAL COMMITTEE

Following the authorization of the YSF for internationalization granted by University of Tehran, YSF has been successful in establishing and managing the "Basic Science and Technology UNESCO Club" to promote and enhance international collaborations in the support of applied basic sciences by organizing scientific programs worldwide.

YSF has been successful in initiating the collaborations with the following organizations:

• World Invention Intellectual Property Associations (WIIPA)
• Economic Cooperation Organization (ECO)
• Economic Cooperation Organization Science Foundation (ECOSF)
• Belt and Road International Science Education Coordinating Committee (BRISECC)
• Islamic World Educational, Scientific and Cultural Organization (ICESCO)
• Tunisian Association for the Future of Sciences and Technology (ATAST)
• United Nations Development Program (UNDP)
• International & Academic Cooperation Directorate of University of Tabriz
• Agricultural Research, Education and Extension Organization (AREEO)
• Center of International Cooperation of MSRT
• Bureau of Loans, Assemblies and International Institution in Iran
• Deputy Director of Multilateral Cooperation, Ministry of Foreign Affairs of Iran

YSF is also planning to actively participate the "ECO Technology and Trade Expo and Conference (TTEC)".

Upcoming international programs of the Young Scientists Festival:

YSF is planning to initiate is planning to initiate cooperation with various international organizations (some listed in below text) with the aim of providing support for basic science researchers working on translation of the science to technology:

• Food and Agriculture Organization of the United Nations (FAO)
• United Nations Industrial Development Organization (UNIDO)
• World Intellectual Property Organization (WIPO)
• Islamic Development Bank (IsDB)
• Indian Ocean Rim Association (IORA)
• Organization of Islamic Cooperation (OIC)
• Islamic Cooperation Youth Forum (ICYF)
• BRICS
• OPEC Fund for International Development
• Asia Cooperation Dialogue (ACD)
• Developing 8 Countries (D8)

International proposals received in the 7th YSF:

This year in 2023, a total of 15 proposals with international partners in both the idea and startup sections have been received and the evaluation process was carried out with the collaboration of 32 international experts.

Why Basic Science?
How important it is in driving innovation?

As we navigate the challenges of the modern era, it is crucial for the society to rely on science and technology to find solutions. While great progress has been achieved in scientific discovery and innovation, it is important not to overlook the vast amount of complexities that remain unexplored.

Basic research serves as the principal foundation for scientific and technological developments worldwide. Today's pioneering applications often trace their roots back to fundamental research conducted years ago. By establishing a robust base in basic research, we position ourselves as future leaders in applied sciences, enabling continued progress and innovation.

Some may wonder why basic science is equally important to the technology development. To put it simply, trees thrive when they have a strong trunk and well-developed branches. The leaves at the end represent the specific applications and products derived from research. However, without a sturdy tree trunk, the leaves alone cannot sustain the tree. Similarly, while the practical applications of research are urgently needed, the fundamental and foundational aspects of basic science are critical for sustained progress and advancements.

It is crucial for science policy makers to consider a balance between addressing immediate problems such as food scarcity and advancing healthcare, while also recognizing the importance of investing in basic science. While applied sciences focus on practical and immediate benefits, basic science may be initially driven by curiosity but enables long-term breakthroughs. It involves diverse explorations and investigations that may not yield immediate results, but can lay the groundwork for significant inventions and advancements in the future. This iterative process has historically been the backbone of technological progress.

Global Trust in Science; the Necessity of STEM Education

Seyed Komail Tayebi,
Professor of International Economics, University of Isfahan, Iran
President ECO Science Foundation (ECOSF), Islamabad, Pakistan

The world is witnessing rapid advancements in scientific innovations. Knowledge of the natural world has reached unprecedented levels, and technology has been manipulated to enhance and enrich our lives in remarkable and purposeful ways. Indeed, science has been a cornerstone in shaping our world, with innovations and inventions driving substantial technological progress, continually enhancing our quality of life. Science has been also positively impacting including food security, agriculture, disease prevention, water security, climate change, economy and energy. Thus, in a world shaped by information, trust in science is the basis of progress. Building trust of stakeholders in science, the global efforts have been focused on STEM (Science, Technology, Engineering and Mathematics) education.

In principle, science discovers and describes a better understanding of life, technology inverts and improves the natural world, engineering designs materials, processes, and systems what could be, and mathematics is the symbolic language for representing reality and making sense of the world with numbers. World Bank and UNESCO claim that excellence in STEM can also play significant role in promoting long-term economic growth and in building a financially stable society. Furthermore, STEM is beyond borders and cultures because it identifies how to make scientific instructions compatible with diverse cultures. USA, UK, and Canada are the top 3 countries offering a wide range of STEM courses. Chinese decision makers have recommended STEM approaches for educators for a deeper understanding of school curricula within China.

High quality STEM education nurtures innovation and provides the scientific knowledge and skills needed to understand and address sustainability challenges. In light of current technological advancements across most aspects of daily human activity, STEM fields are considered catalysts for the achievement of sustainable development. STEM education facilitates innovative solutions to global challenges such as climate change, food insecurity, dimensions of poverty, global inequalities, among others. This type of education is the engine driving economic development in the 21st century. In the context of economic development, STEM education is the catalyst for creating a pool of skilled professionals and entrepreneurs. It lays the foundation for industries to flourish, fuels research and development, and ensures a country's competitiveness in the international arena.

To remain competitive in the global economy, we in developing countries must nurture an equitable workforce well-versed in STEM disciplines, as research underscores the direct link between a nation's economic development and the quality of its STEM education. STEM education drives innovation, productivity, and the creation of new ideas and groundbreaking products and services. The role of STEM in shaping our collective future can only be fulfilled when there is a foundation of trust in science. This trust is what drives the development and application of evidence-based solutions to address the many complex challenges facing our world. Building trust in science is a complex issue, influencing both how scientists carry out their work and how society views the field of science. Also, enhancing trust in science strengthens the basis for science-based policy decisions and society's support for their application. In this respect, academia must shift their focus to effectively grow STEM careers, retain STEM students, attract talented young minds, applying student-centered approaches to their curriculums and adapt to the demands of booming industries.

Summary of the Keynote Speeches at the 7th Young Scientists Festival

Prof. Dr. Raheel Qamar, Head of Science and Technology Sector at ICESCO, discussed the ICESCO focus on empowering youth to become self-sufficient entrepreneurs. He emphasized the importance of adaptability in the rapidly changing field of science and technology, and highlighted the new training programs of ICESCO on emerging scientific topic, and sustainable development goals. Dr. Qamar encouraged students to develop the necessary skill sets for the future job market and positions of leadership in science and technology.

Prof. Dr. M. Iqbal Choudhary, Coordinator General COMSTECH representing OIC COMSTECH, emphasized the importance of nurturing the skills and creativity of young researchers, particularly in the fields of basic sciences and emerging technologies. Dr. Choudhary highlighted the role of youth in socio-economic development and the need for academic-industry linkages and collaboration among Muslim countries.

Dr. Jackie Kado, Executive Director of the Network of African Science Academies in Kenya, urged young scientists to focus on undertaking inclusive and ethical science, engaging in science for societal impact, and promoting science through various media platforms. She emphasized the importance of interdisciplinary collaboration, utilizing science for the betterment of humanity and addressing global challenges, and leveraging social media to share world-class scientific achievements.

Prof. Ahmad Fauzi Ismail, the UTM Vice Chancellor in Malaysia addressed and emphasized the importance of translating basic science into technologies in his keynote speech. He emphasized the role of scientific advancement in transforming lives, creating industries, and addressing global challenges. Prof. Fauzi Ismail urged collaboration, interdisciplinary approaches, and fostering an environment of creativity and innovation to shape a future driven by curiosity, discovery, and innovation.

Dr. Ganigar Chen, Vice President of National Science Museum in Thailand congratulated the participants of the 7th Young Scientists Festival in Iran and encouraged them to cherish the opportunity to learn, share, and network. She emphasized the importance of curiosity, scientific knowledge for technology development and preservation of the planet's resources. Dr. Chen wished the young scientists' success in their studies and careers, highlighting the importance of their contributions to a sustainable future.