



# ECOSF NEWSLETTER



## ECOSF and SMUMS jointly hosted a webinar on Ethical use of AI in Shaping the Future of Medical Education and Learning.

ECO Science Foundation and Smart University of Medical Sciences (SMUMS) Tehran, Iran jointly hosted a webinar focused on the ethical use of artificial intelligence (AI) in education, particularly in the context of medical education. The event aimed to explore responsible AI practices and their impact on the future of learning.

### Ethical Uses of Artificial Intelligence for Teaching and Learning

Hasnain Zafar Baloch



The webinar featured Dr. Hasnain Zafar Baloch, a distinguished EdTech and AI Expert from Malaysia, as the keynote speaker. Dr. Seyed Ahmad Ahmadi, Vice Chancellor for International Affairs SMUMS, moderated the session guiding the discussions on ethical considerations in utilizing AI technologies in medical education.

Dr. Hasnain Zafar delved into ethical principles and best practices for AI's role in teaching medical sciences. Topics covered included AI applications in educational settings, potential ethical challenges, and the need for ethical frameworks in AI development and implementation within education.

The dialogue emphasized key ethical values such as transparency, accountability, adaptability, equality, and comprehensiveness in AI algorithms deployed in educational contexts. The webinar provided a platform for deep analysis and critical examination of ethical issues related to integrating AI in education.

In closing, President ECOSF Prof. Seyed Komail Tayebi commended Dr. Zafar for his insightful lecture and SMUMS for their partnership and hosting this vital virtual event, emphasizing the importance of such dialogues in shaping responsible AI usage and ethical considerations in educational advancements.

# Challenges in Implementing Ethical AI Frameworks

## Data Bias and Fairness

Addressing and mitigating biases in AI systems to ensure fair and equitable outcomes remains a significant challenge in ethical AI implementation.

## Regulatory Adaptation

Adapting existing regulations and creating new frameworks to align with ethical AI principles requires careful consideration and coordination among stakeholders.

## Accountability Structures

Establishing clear accountability structures within organizations to ensure adherence to ethical AI frameworks is a complex and evolving process.



## ECOSF in Partnership with UISMS hosted a Webinar on Symmetry of Frieze Patterns

### Symmetry

Harmonious or aesthetically pleasing proportionality and balance



### Frieze Pattern

An infinite strip with a repeating pattern is called a frieze or a border pattern





ECO Science Foundation (ECOSF) and the Union of Iranian Societies of Mathematical Sciences (UISMS) co-hosted a webinar on the **Symmetry of Frieze Patterns** as part of their ongoing Lecture Series on Popularizing Mathematics and Science. The virtual event took place on March 14, 2024. Mr. Imran Parvez Khan served as the esteemed speaker and delivered his interesting lecture on Frieze Patterns.

Mr. Khan highlighted that Frieze Patterns, which are decorative patterns found in both natural formations and man-made art. Mr. Khan introduced the audience to the seven types of Frieze Patterns and engaged them in an interactive session where participants had the opportunity to observe various patterns and classify them based on their specific symmetries. Additionally, Mr. Khan shared an algorithm for determining the symmetry group of any Frieze Pattern, adding a practical dimension to the theoretical discussion.

The webinar concluded with a lively question and answer session, where participants delved deeper into the intricacies of Frieze Patterns and their significance in mathematical and artistic contexts. The event successfully contributed to the goal of popularizing mathematics and science, providing attendees with valuable insights into a fascinating area of study.

**President ECOSF attended concluding ceremony of STSF as a Chief Guest**

A concluding ceremony of Science Talent Farming Scheme (STFS) Batch No.6 was held on March 8, 2024 at Murree, Pakistan. 250 science students from all over Pakistan were attending. President ECOSF Prof. Dr. Seyed Komail Tayebi attended the ceremony as Chief Guest on the invitation of the host; Pakistan Science Foundation (PSF).



STSF is scheme conceived by PSF for young students with the aim to groom and transform them into productive scientists through additional interventions like study visits, workshops on Inquiry Based Science Education (IBSE) and interaction with eminent scientists and motivational speakers. Followings are the main goals of STFS: Attracting youth towards science in early years of education.

- Developing a competitive knowledge economy through value addition.
- Improving the quality of science and technology education particularly in the Natural Sciences and Mathematics for students of Government schools.



This was the sixth batch of STSF wherein, 500 students from all over the country were trained.

During the concluding ceremony, Chairman PSF Prof. Dr. Muhammad Akram Shaikh delivered the opening remarks and welcomed all the distinguished guests. He briefly made introduction of STSF which was launched in in 2018.



President ECOSF in his speech extended his sincere appreciation to Pakistan Science Foundation for hosting this Ceremony and successfully fostering the Science Talent Farming Scheme (STSF). To enhance the passion of the students, Prof. Tayebi also talked about the struggles and achievements of great Muslim scientists and mathematicians such as Ibn al-Haytham, Ibn Sina, Dr. Abdus Salam, Dr. Ahmed Zewail, Dr. Mariyam Mirzakhani and others to motivate the students to be great scientists as the future of countries lies in science.

Prof. Tayebi added that today's challenges are vast, and the improvement of our lives, the sustenance of growing populations and the protection of our children and environment hinge on our ability to create opportunities for everyone to benefit from science. Thus, our primary investment must be in the younger generation, particularly young scientists and technologists empowering them to find efficient, cost-effective, and innovative solutions to address national and global challenges.



The concluding ceremony was also attended by Ex-Chairman PSF Prof. Dr. Shahid Mehmood Baig and Vice Chancellor of Kohsar University Murree Prof. Dr. Syed Habib Bukhari. They also made the speeches and talked about importance of science specially at the school level, because the science future is based on understanding and commitment of youth in their lives

Some students also shared their feedback and seemed that the students were highly motivated by the scheme. They said that the scheme has provided them unmatched experience of their lives which should be continued. At the end, the certificates were distributed among all the participating students.

### Chairman Pakistan Science Foundation called upon President ECOSF

Prof. Muhammad Akram Sheikh, Chairman of Pakistan Science Foundation (PSF) called upon Prof. Seyed Komail Tayebi, President ECOSF on March 11, 2024. The purpose of the meeting was to discuss and review the ongoing collaboration between the two esteemed organizations. Prof. Tayebi warmly welcomed Chairman PSF, Prof. Akram and shared his enthusiasm to work closely with PSF to promote regional cooperation in Science and Technology.



During the meeting, a detailed discussion was held regarding the progress and impact of the collaborative efforts between Pakistan Science Foundation and ECO Science Foundation and further to establish linkages with other similar prestigious institutions. Both the leaders from ECOSF and PSF shared ideas on joint research initiatives, and programs aimed at advancing scientific cooperation and innovation within the ECO region.

### President ECOSF Hosted Nowruz - New Year Celebration at the ECOSF

President ECOSF Prof. Seyed Komail Tayebi hosted a lively celebration for Nowruz, the Persian New Year on March 20, 2024. ECOSF officials and staff members enjoyed traditional music and rituals, highlighting the diverse cultural heritage of the region. Prof. Tayebi highlighted the historical and cultural background of this Nowruz Celebration, which is celebrated by millions of people worldwide, particularly in countries with Persian cultural roots.



The Nowruz celebration at ECOSF provided a platform for promoting cross-cultural understanding and symbolized the shared values of cooperation and harmony within the ECO region, reflecting a commitment to building bridges and strengthening bonds across borders.

President ECOSF contributed to the newsletter of 7<sup>th</sup> Young Scientist Festival hosted by Jamili Foundation

### 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 invents 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 inequali-



ties, 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.

### 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.



### UNESCAP hosted a webinar on Webinar on Cross-Border E-commerce for SMEs' Export: Opportunities, Challenges, and Policy Implications

The webinar on Cross-Border E-commerce for SMEs' Export, organized by the United Nations Economic and Social Commission for Asia, the Pacific (UNESCAP) and the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), was held on March 28, 2024. The webinar aimed to explore the opportunities, challenges, and policy implications of cross-border e-commerce for small and medium-sized enterprises (SMEs). President ECOSF Prof. Seyed Komail Tayebi participated in the webinar on behalf of ECOSF.

Webinar highlighted the challenges that SMEs face in international trade, as identified by the OECD. While cross-border e-commerce has provided a platform for SMEs to access global markets, it also presents new challenges such as competition and expertise requirements. Policy support is crucial to facilitate SMEs' participation in cross-border e-commerce effectively. The webinar featured a diverse panel of experts from industry, academia, and think tanks, who shared valuable insights and perspectives on the topic.



## WEBINAR ON CROSS-BORDER E-COMMERCE FOR SMES' EXPORT: OPPORTUNITIES, CHALLENGES AND POLICY IMPLICATIONS



**Mr. Yann Duval**  
Chief, Trade Policy and Facilitation Section, Trade, Investment and Innovation Division, ESCAP



**Mr. Nanno Mulder**  
Chief of the International Trade Unit, ECLAC



**Mr. Tengfei Wang**  
Economic Affairs Officer, Trade Policy and Facilitation Section, Trade, Investment and Innovation Division, ESCAP



**Mr. Chandimal Kalusinghe**  
Business Development Manager, Los Andes Beltroad Group - Trading Investment & Consulting Co Spa, Chile company and Shanghai Lianchang Electronic technology Co Ltd



**Mr. Jian Wang**  
Professor, International Business and E-business, University of International Business and Economics (UIBE)



**Mr. Sami Farhad**  
Senior Lecturer, Zhejiang University, and Advisor, Alibaba



**Ms. Susana Munoz Enriquez**  
Co-founder Latin e-Mart Ltd

28 March 2024, 12.00-13.30 hrs. (UTC+7, Bangkok time)  
Virtual meeting, ZOOM

REGISTRATION  
Deadline for registration: 27 March



### Upcoming Events posted on ECOSF website and Facebook Page

#### Conference on the Current State and Development Perspectives of Science and Technologies during the Fourth Industrial Revolution



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## "The Current State and Development Perspectives of Science and Technologies during the Fourth Industrial Revolution"

Dedicated to the 101st anniversary of the National Leader Heydar Aliyev  
International Scientific-Practical Conference  
May 6-7, 2024 / GANJA, AZERBAIJAN  
AZERBAIJAN TECHNOLOGICAL UNIVERSITY

Azerbaijan Technological University (ATU) will host an International Scientific-Practical Conference on **"The Current State and Development Perspectives of Science and Technologies during the Fourth Industrial Revolution"** in a hybrid format on May 6-7, 2024. The Conference will offer experienced scientists and young researchers an incredible chance to interact with each other and share their experience and knowledge of innovative technology applications. We would like to highlight that paper **publication are free of charge** for the international researchers. For more information about the conference, please visit the conference webpage: <https://conference.atu.edu.az/en/>

UNESCO MAB Young Scientists Award 2024



Are you an enthusiastic under-35 person carrying your research in UNESCO Biosphere Reserves or potential sites? Does your work contribute to the achievement of the 2030 Agenda and its Sustainable Development Goals? Do you know someone with this profile?

Until 15 May 2024, applications for the **2024 MAB Young Scientists Awards** are open. Created in 1989,

the grant sheds light on interdisciplinary research in line with UNESCO's [Man and the Biosphere Programme](#) carried out by young scientists. Since 2022, with the generous support from the **Principality of Monaco**, five additional annual fellowships are granted specifically to studies on marine, island and coastal issues in biosphere reserves, totalling a number of 11 awards.

Find all the criteria, details and application forms at <https://www.unesco.org/en/mab/young-scientists>.