



# COMSATS Newsletter

Commission on Science and Technology for Sustainable Development in the South (COMSATS)

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ED COMSATS, Amb. Dr. Nafees Zakaria and Acting Deputy Chairman of the Management Board IDDA, Mr. Rashad Khaligov, signing MoU, Minister and Ambassadors witness the signing (page 07)

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## From the Executive Director's Desk

In this era of unceasing expansion of science and technology and ever growing ingress into our lives, the world needs to gear up to keep pace with the scientific developments and innovations, lest we are left further behind. It is, therefore, an imperative to not only acquire knowledge but also be adaptive. Tech solutions including the use of various technology-based tools and innovations are essential to tackle the social, economic, and environmental issues that hinder the progress and well-being of communities, regions, and nations. COMSATS ascertains the challenges faced by its member states, analyses and plans activities to offer technology based solutions. COMSATS also joins hands with other international partners to that end.

Technology is helping nations to bridge the knowledge gap by providing access to educational resources and information from world over. Internet connectivity and digital learning platforms has enabled people in remote areas to access quality education, supporting paradigm shift in human development.

In the realm of healthcare, telemedicine and mobile health applications are extending healthcare services to underserved populations. Remote diagnosis, teleconsultations, and health monitoring devices have enhanced access to healthcare, especially in remote and resource-scarce regions. Renewable energy technologies, such as solar and wind power, can help provide clean and affordable energy to off-grid areas. This not only can address the challenge of energy shortfall but also help reduce carbon emissions, leading to sustainable development.

COMSATS has been successfully running programmes in the mentioned areas.

Technology has increased efficiency and speed of processing in every domain. IT and digitalization has created enormous amount of data pertaining to everything related to and around us. Data is precious and the advent of AI has been instrumental in addressing our challenges a great deal in a variety of ways, be it healthcare, climate change challenges, disaster management, genome sequencing, precision agriculture, precision medicine and so on. In the context of 'Food Security', a global challenge, technology-based early warning systems and disaster response tools enable communities to prepare for and respond to natural disasters, precision agriculture technologies such as GPS-guided tractors, drones, and data analytics have come to the rescue of farmers, catalyzing crop yields, optimizing resource use, and improving food security, resulting in poverty reduction and economic growth in rural areas. Soilless farming such as Aquaponics, Hydroponics and Aeroponics has been seen as aiding to addressing food security as these agritech methods have urbanized farming.

All said and done, it is also crucial to consider issues of technological know-how, infrastructure to support new technologies, accessibility, affordability, and digital literacy to ensure that these solutions reach and benefit all nations and all segments of a society. Policy makers have to remain sensitive about harnessing the potential of technology for

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## HIGHLIGHTS FROM COMSATS SECRETARIAT

### IOFS-COMSATS-COMSTech International Forum for Agri- Biotechnology

The second IOFS-COMSATS-COMSTech International Forum for Agri-Biotechnology was organized on 4th and 5th July 2023 by the Islamic Organization for Food Security (IOFS), under the patronage of Kazakhstan's Ministry of Education and Science. The event support included the Ministerial Standing Committee on Scientific and Technological Cooperation of the Organization of Islamic Cooperation (COMSTech), the Commission on Science and Technology for Sustainable Development in the South (COMSATS), and the National Center for Biotechnology, Kazakhstan.

The inaugural session of the Forum was held on 4th July, 2023, and presided over by the Director General of IOFS, H.E. Prof. Yerlan A. Baidautet. Speaking at the event, H.E. Prof. Baidautet emphasized the importance of investment in agribiotech research to increase the nutritional value of daily consumed food as well as its resilience to pests and disease. He also highlighted the importance of establishing balanced regulatory frameworks in biotechnology to ensure safety and assuage related public



concerns. The Director General called for cooperation to maintain biosecurity through advancement of biotechnology in the OIC countries. He also endorsed the idea of President of Kazakhstan, H.E. Kassym-Jomart Tokayev's to create an international biosafety agency in the country.

Esteemed speakers of the occasion included: Dr. Darkhan Zhumakanovich Akhmed-Zaki, Chairman of the Committee of Science of the Ministry of Science and Higher Education, Kazakhstan; Prof. M. Iqbal Choudhary, Coordinator General, COMSTech; H.E. Mr. Tlektes Yespolov, President of the Academy of Agricultural Sciences, Kazakhstan, H.E. Zehra Zümürüt SELÇUK,

Director General, Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIc); and Dr. Ahmad Kawesa Sengendo, Assistant Secretary General for Economic Affairs, OIC.

A highlight of the inaugural was signing of a Tripartite Memorandum of Understanding (MoU) with IOFS, the Academy of Agricultural Sciences of Kazakhstan, and the Tajik Academy of Agricultural Sciences (TAAS).

The event served the information needs of policy-makers and implementers through knowledge-sharing on the most recent developments in agri-biotechnology. Participants from educational institutions, research organisations, industry, and commercial establishments had come together to discuss creative solutions for sustainable agriculture and food security in the Islamic World. In its eight technical sessions and a poster exhibition session, the event covered a number of pertinent issues relating, inter alia, to green biotechnology, microbial biotechnology, food biotechnology, animal biotechnology, and relevant policies.

Around 60 subject specialists, researchers and students from nine



countries, including Bangladesh, Egypt, Jordan, Malaysia, Pakistan, Saudi Arabia, Türkiye, Tunisia, and USA presented their research studies and benefitted from the Forum's technical proceedings.

## CCIB holds workshop 'Green Biomanufacturing of Future Food'

On July 6, 2023, COMSATS Centre of Excellence in China, the Tianjin Institute of Industrial Biotechnology (TIB) organized a workshop titled 'Green Biomanufacturing of Future Food' in collaboration with COMSATS. The event was organized from the platform of the COMSATS Joint Centre for Industrial Biotechnology (CCIB). Established in 2021, CCIB has been serving as an effective platform for collaborations for strengthening industrial biotechnology sector of the Member States and related multilateral R&D. The Centre has so far hosted a series of five technical workshops in Synthetic Biotechnology in line with its thrust areas: Bio-medicine, Bio-agriculture, Bio-materials, Bio-chemicals and Bio-energy.

This workshop was organized by CCIB's Joint R&D Group on 'Future Food' with the aim to promote exchange of ideas and knowledge among representatives

of R&D organizations and industry, and fostering potential collaborations for R&D and technology on future food for achieving food security.

The event brought together a diverse group of researchers, scientists, academicians, government officials/policy makers and entrepreneurs to explore the untapped potential of biomanufacturing. About 50 individuals belonging to various COMSATS' Member States/Centres of Excellence participated in and benefited from the workshop.

The event featured a keynote address by a subject expert from China, and five technical talks by resource persons from China, Pakistan, and Nigeria. Opening the event, Prof. Dr. Jibin Sun, Director CCIB, who is also the Deputy Director-General TIB, extended a warm welcome to the subject-experts and participants. He acknowledged the collaboration and support extended by COMSATS for holding this workshop and gave an overview of the workshop's objectives. Speaking on the occasion, the Executive Director COMSATS, Ambassador Dr. Mohammad Nafees Zakaria, highlighted the potential of biotechnology in revolutionizing food production, promoting environmental sustainability and economic viability. Amb. Zakaria further underscored that "Food



### ...continued from page 1

development.

COMSATS serves as a vital platform for cooperation and collaboration in the realm of science and technology for sustainable development. Its efforts in capacity building promoting research and development support, and facilitating knowledge sharing contribute to the development and implementation of technology-based solutions for addressing developmental challenges in member countries and beyond. Through its initiatives and partnerships, COMSATS endeavors to help bridge the technological divide and promote inclusive, sustainable development.

I am pleased to note that COMSATS Secretariat has been organizing beneficial activities to support provision of tech solutions during the period under review. The memorandum of understandings (MoUs) were signed with organizations, including a central Asian country, for ICT and Technology Training Program for skill development.

As another noteworthy collaboration, COMSATS formalized an understanding with Carol Technology, this cooperation agreement will serve as a framework to make joint efforts in facilitating Research and Development for advancing research in areas of Vertical Axis Wind Turbines (VAWT), Internet of Things (IoT), and a range of innovation projects. Another MoU signed with AGECO, aims at strengthening the Electric Vehicle (EV) industry in Pakistan and other member states. These initiatives (Page 9) highlight the organization's proactive role in the global effort to leverage technology for Sustainable Development. Strengthening efforts towards cleaner and greener energy, these agreements have a strong bearing on efforts towards SDG-7: Affordable and Clean Energy and SDG-13: Climate Action, and, by extension, on SDGs 9, 11, 12, and 17.

Relatively recent welcome developments worth a mention here are induction of University of Granada of Spain as 25th Centre of Excellence to COMSATS' Network, Lol with Kyrgyz Republic on tech-enabled healthcare, and other agreements pertaining to genome sequencing, technology corridor with Netherlands, drone technology and dual degree programs (under process) with Global North countries. Information on these will adorn the pages of the next issue of COMSATS Newsletter.



Security” is a common challenge and that climate change is posing adverse effects on food production, leading to crop failures, food insecurity and poor livelihoods of small-scale farmers. He stressed the need for prompt and decisive action to foster sustainable practices that mitigate these challenges and ensure universal access to nutritious food. Amb. Zakaria also lauded the role being played by CCIB for supporting industrial biotechnology sectors in COMSATS’ Member States.

In his keynote address, Prof. Jingwen Zhou, Vice Dean of the Science Center for Future Foods at Jiangnan University, China, highlighted future food as a representative substance for changes in production methods and lifestyles. He recounted food supply and quality, food safety and nutrition, and right dietary habits, with characteristics such as safer, more nutritious, more delicious, and more sustainable as key foci of future foods. Prof. Zhou was of the opinion that the large-scale industrial application of synthetic biology technology is pivotal for the production of future food.

First talk of the technical session was made by Prof. Yu Zheng, Professor, Tianjing University of Science and Technology, China, that focused on inconsistent fermentation and unreliable quality of product. He considered

establishing a stable and fully functional microbial community crucial to achieve controllable fermentation and enable future intelligent manufacturing of traditional vinegar. He added that advancements in intelligent computing and high throughput screening technology have opened up possibilities for constructing an engineered microbiome through systematic analysis of the structure and function of microbial communities involved in traditional vinegar fermentation.

In her presentation, Prof. Yingli Liu, Professor, Beijing Technology and Business University, China, shared her research on obtaining fibrinolytic enzyme gene from *Cordyceps militaris* that has the potential to be developed into a new generation of thrombolytic drugs and functional foods.

Prof. Hamid Mukhtar, Professor, Government College University, Lahore, Pakistan, gave an overview of the recent advances in the applications of biotechnology for the development of different functional foods. Prof. Mukhtar noted that recently biotechnological innovations have re-shaped a number of industries especially agricultural, food and health. He also covered some key dimensions related to quality assurance, biosafety, social, legal and regulatory aspects of biotechnology-derived functional foods.

In her presentation, Prof. Oladipo Iyabo Christianah, Professor at Ladoko Akintola University of Technology, Nigeria, shared her research on *Lactobacillus* species identified from some Nigerian fermented foods and palm wine, and their functional properties evaluated to better understand their usefulness as starter cultures or probiotics.

Prof. Ting Shi, Coordinator of CCIB Joint R&D Group on Future Food, in her talk on ‘Bio-manufacturing of Future Food Boosted by in-vitro Synthetic Biology’, highlighted precise control of reaction process and the enhancement of product yield as some of the advantages of in-vitro multi-enzyme molecular machines that have become an important branch of synthetic biology.

Closing the event, Ms. Qianqian Chai, Officer of Foreign Affairs and Academic Exchange at TIB, China, expressed satisfaction on the success of the workshop in fostering meaningful discussions and nurturing multidisciplinary collaborations in future food. She also announced that fourth International Training Course on Industrial Synthetic Biotechnology is planned for November 2023.

### Training Workshop on Renewable Energy and Energy Efficiency: Green Hydrogen

The training workshop on Renewable Energy and Energy efficiency: “Green Hydrogen: The Future of Renewable Energy and Energy Efficiency” was organized by COMSATS, from the platform of its COMSATS Centre for Climate and Sustainability (CCCS). The workshop was held in collaboration with the Islamic World Educational, Scientific and Cultural Organization (ICESCO); Egyptian National Commission to UNESCO – ICESCO – ALESCO;



Regional Center for Renewable Energy and Energy Efficiency (RCREEE); and COMSATS Centre of Excellence in Egypt, National Research Centre (NRC), under the auspices of the Egyptian Ministry of Higher Education and Scientific Research. The workshop was hosted by NRC, Egypt from 10th to 12th July 2023.

The esteemed panel at the inaugural session was comprised of Prof. Dr. Mohamed Samir Hamza, Head of the Cultural Affairs and Missions Sector – Supervisor of the Egyptian National Commission; Dr. Foued El Ayni, Expert – Science and Technology Sector, ICESCO, Morocco; Dr. Kamel Al-Khateeb, Professor, National Research Centre; Ambassador Dr. Mohammad Nafees Zakaria, Executive Director COMSATS (online); Dr. Omar Farouk, Assistant President of the Academy of Scientific Research and Technology, Egypt; Dr. Jauad El Kharraz, Executive Director, Regional Center for Renewable Energy and Energy Efficiency (RCREEE); Eng. Ehab Ismail, Vice President of New and Renewable Energy Authority, Egypt; Prof. Dr. Ibrahim Helal, Faculty of Engineering, Ain Shams University, Egypt; Prof. Dr. Mona Hagra, Supreme

Council of Universities, Egypt. These speakers emphasized the importance of building and expanding institutional capacities of entities in utilizing green hydrogen across diverse sectors.

Speaking on the occasion, Ambassador Dr. Mohammad Nafees Zakaria, Executive Director COMSATS, remarked that a shift in use of fossil fuels to renewable and other clean energy technologies is gaining pace with rapid development of technologies related to bioenergy, wind and solar energies, geothermal, electric vehicles.

The workshop was organized to explore the potential of RETs for addressing climate change; highlighting applications of green hydrogen in energy production and storage, transportation, and industrial processes; and deliberate on relevant policy frameworks. The workshop was attended by more than 50 participants from different departments and institutions of Egypt including the Ministries and national R&D institutions from energy sector and industry, and engineering and climate technology faculties of the higher education sector.

Relevant experts discussed various aspects of the event's theme including Renewable energy & Green Hydrogen principle and production; Decentralized On-Grid PV Systems; Sizing, Challenges, and Best Practices Applied in Egypt; Challenges for Green Hydrogen Production, Storage, and Distribution; Green Hydrogen and Fuel Cells Applications; prospect of green hydrogen and affordable integration in primary energy mix: The fuel of the future from the past; Green hydrogen production using non precious metal electro-catalyst in alkaline medium; Nanomaterials for water splitting: a greener approach to generate hydrogen; and Organic and Inorganic Hybrid Materials for Renewable production of Hydrogen.

The twelve speakers of the three-day Workshop belonged to Ain Shams University; New and Renewable Energy Authority; RCREEE, National Research Centre, Egypt; Dawood University of Engineering & Technology (DUET), Pakistan; National University of Sciences & Technology (NUST), Pakistan; and University of Malaya, Malaysia.

The workshop programme also included



site visit to Zafarana, a 544.82MW onshore wind power project located in Suez, Egypt.

### COMSATS Webinar on El-Nino: Understanding the Weather Phenomenon

COMSATS Centre for Climate and Sustainability (CCCS) organized a virtual gathering on August 8, 2023, titled "El-Nino: Understanding the Weather Phenomenon; Opportunities for Resilient Future in the Global South". The event brought together an array of experts and stakeholders from around the world to engage in insightful discussions on the intricate dynamics of El-Nino and its implications for the vulnerable regions of the Global South. Valuable insights shared by esteemed experts enriched the experience of over 60 participants from different countries.

In his welcome speech, Executive Director COMSATS underscored the socio-economic ramifications of El-Nino and emphasized the pivotal role of science and technology in addressing related challenges. Briefing on the webinar's objectives, he hoped that the expertise of renowned experts during the event would contribute to fostering mitigation and adaptation strategies for climate change. He reiterated

COMSATS' commitment to advancing science and technology solutions in the face of this critical global challenge.

Dr. Zaheer Ahmed Babar, Director of the National Weather Forecasting Center, Pakistan Meteorological Department, moderated the webinar's proceedings. The event featured presentations from four esteemed experts representing El-Nino vulnerable nations.

Dr. Ahad Vazifeh, Director of the National Center for Climate Services and Drought Monitoring, Iran National Meteorology Organization, shared his research on the dynamics of the El-Nino-Southern Oscillation (ENSO) phenomenon, offering valuable insights into simulation-based predictions for the upcoming El-Nino event and its anticipated implications.

Dr. Vanessa Surapipith, Deputy Director of Thailand's Hub of Talents on Air Pollution and Climate (HTAPC) at the Collaborating Center for Clean Air and Climate Change (CCCACC), presented the meteorological interplay between El-Nino and atmospheric pollutants, elucidating how altered weather patterns interact with aerosols and black carbon to impact air pollution.

Prof. Dr. Dambaru Ballab Kattel, Associate Professor at the Institute of Tibetan Plateau Research, Chinese Academy of Sciences, presented his work on hydrological dynamics exacerbated by El-Nino, utilizing simulation models to communicate devastating effects of climate change on precipitation and the amplification of these impacts by El-Nino.





Dr. Sher Muhammad, Remote Sensing Specialist within the Strategic Group: Reducing Climate and Environmental Risk at the International Centre for Integrated Mountain Development (ICIMOD), offered a comprehensive overview of geoinformatic technologies' role in monitoring and analyzing past changes and predicting future dynamics. Dr. Muhammad showcased application of remote sensing to predict hydrological and glaciological shifts in the Indus River Basin amidst the approaching El-Nino episode.

The event was concluded with an interactive panel discussion, moderated by Dr. Zaheer Ahmed Babar. The session resulted in vibrant exchanges between participants and experts and diverse perspectives and inquiries on understanding of El-Nino's far-reaching implications.

In her closing remarks, Dr. Mehwish Durani, Head of CCCS, expressed gratitude to the esteemed experts and participants. Dr. Durani acknowledged the invaluable insights shared throughout the webinar.

The webinar served as a demonstration of COMSATS' unwavering commitment

to fostering collaboration, knowledge exchange, and innovative solutions for the challenges posed by El-Nino and climate change in the Global South.

### Federal Minister for Overseas Pakistanis & HRD visits COMSATS Secretariat

The (then) Federal Minister for Overseas Pakistanis & Human Resource Development, Honorable Sajid Hussain Turi, visited COMSATS Secretariat, Islamabad, on July 26, 2023. The Executive Director briefed the Minister on COMSATS' operations that have a primary aim of benefitting its members



in the field of Science, Technology, and Innovations.

Their discussions explored potential avenues of collaboration, particularly in skill-development with a specific focus on the Information Technology sector. The Minister welcomed the idea of establishing Telehealth clinics in Khyber Pakhtunkhwa. During the discussion, 64% young population of Pakistan was recognized as tremendous asset of the country. The importance of empowering the youth through training and skill development was emphasized to help foster sustainable economic growth in the country.

The Minister appreciated the role played by COMSATS in promoting S&T in the member states. Dr. Zakaria found the visit of the Host Country's Federal Minister reassuring and encouraging for the organization's international mandate and operations.

### COMSATS and Azerbaijan to Cooperate in ICT Sector

The Minister for Digital Development and Transport of Azerbaijan, H.E. Mr. Rashad Nabiyeu, visited COMSATS Secretariat, Islamabad, and had a bilateral meeting with the Executive Director COMSATS, Amb. Dr. Mohammad Nafees Zakaria. The visit



the technology experts. He expressed his appreciation for COMSATS for the meaningful and substantive interaction during his visit.

In his remarks on the occasion, the Executive Director COMSATS reiterated COMSATS' commitment to bridging the technology and knowledge gap between the global North and the global South through South-South Cooperation.

### **Azerbaijan Ambassador Appreciates COMSATS, Calls for Cooperation in S&T**

was a part of his sidelines meetings during the Minister's official visit to Pakistan. The discussions during the meeting covered a range of ideas pertaining to technology projects for cooperation, particularly in the field of IT and digitalization.

The Minister also witnessed signing of a Memorandum of Understanding on ICT and Technology Training Program for skill development between COMSATS and the Innovation and Digital Development Agency (IDDA) of Azerbaijan on 18th July 2023.

The ceremony was attended by the Ambassadors and diplomats of COMSATS' Member States and a large number of internationally recognized technology experts and innovators in Pakistan belonging to COMSATS' partner organizations. The technology experts are heading state-of-the-art software houses, technology parks, incubation centres, data centres, and renewable energy and electric vehicles (EVs) enterprises.

The Minister, H.E. Rashad Nabiye, also held an exclusive interaction with

The Ambassador of the Republic of Azerbaijan, His Excellency Mr. Khazar Farhadov, visited COMSATS and held a meeting with the Executive Director COMSATS, Ambassador Dr. Mohammad Nafees Zakaria on 25th August 2023. During the meeting, Ambassador Zakaria recalled an earlier visit of Azerbaijan's Minister for Digital Development and Transport to COMSATS the previous month July, during which His Excellency also witnessed signing of cooperative agreement with Innovation and Digital Development Agency (IDDA) of







Azerbaijan.

Dr. Zakaria briefed the Ambassador on the diverse initiatives and activities being undertaken by COMSATS for advancement of Science, Technology, and Innovation (STI) in its member and non-member countries. He reiterated COMSATS' commitment to facilitating the exchange of knowledge, expertise, and best practices in these countries. Expressing interest in the endeavors of COMSATS, Ambassador Khazar Farhadov highlighted Azerbaijan's strong commitment to the fields of Science and Technology.

Ambassador Farhadov also visited COMSATS Telehealth center in Islamabad that demonstrates how technology can be harnessed for the betterment of society.

### COMSATS Forges Collaborations with Technology Organizations

On 20th August 2023, COMSATS signed a Memorandum of Understanding with the Carol Technology, aimed at facilitating joint R&D projects for technological advancements. Carol Technology is one of the pioneers in Pakistan that introduced inspection of

wind turbines through Unmanned Aerial vehicles (UAVs).

The MoU was signed by Executive Director COMSATS, Amb. Dr. Mohammad Nafees Zakaria, and Head of R&D, Consultant, Carol Technology, Prof. Dr. Zeeshan Ali. This cooperation agreement is expected to serve as a framework to make joint efforts in facilitating Research and Development for advancing research in areas of Vertical Axis Wind Turbines (VAWT), Internet of Things (IoT), and a range of innovation projects.

On 25th August 2023, COMSATS inked another Memorandum of



Understanding with the AGECO Pvt. Ltd., aimed at strengthening the Electric Vehicle (EV) industry in Pakistan and other COMSATS Member States. AGECO is multiple patent holder of Solar Electric Vehicles' Design and has developed and manufactured these vehicles as per global road safety standards.

The MoU was signed by Dr. Zakaria, and CEO AGECO, Mr. M. Aslam Azad. This cooperation agreement will facilitate joint venture partnerships for development of Electric Vehicles, as well as creation of employment opportunities.

### COMSATS to Support Innovative Tech Solutions for Inclusive Societies

On August 14, 2023, the Executive Director COMSATS, Ambassador Dr. M. Nafees Zakaria received, at his office, a team of incredible young Pakistani innovators and co-founders of DeafTawk, a tech company leveraging inclusion and prosperity of differently-abled community, through its real-time sign language tech app, bridging gap for 466 million deaf worldwide. He met DeafTawk's CEO, Mr. Ali Shabbar, CTO, Mr. Wamiq Hassan,



and COO, Mr. Abdul Qadeer. They exchanged views on advancements being made on technological front and the breakthrough digital technologies are providing in the present-day world. The team leaders elaborated on the particular roles performed by them on DeafTawk.

Mr. Shabbar informed that he initiated and oversees disability-inclusive business process and also founded the Pakistan Mobile App Awards in the country. Mr. Wamiq, the 1st deaf Pakistani computer engineer, briefed that he works on innovative project with tech giants like Apple and Nokia, and has founded hearing aid technology in smartphones by Samsung.

Mr. Abdul Qadeer briefed that he supports smooth operations of the company and has professional experience in automating inclusive banking and developing financial applications such as digital wallets.

The meeting concluded on a note of COMSATS supporting tech initiatives for the betterment of masses.

### COMSATS Participates in Consultative Session of Malala Fund, Pakistan Office

On July 12, 2023, a consultative session on “Climate Change and Girls’ Education” was attended by officials of COMSATS, Dr. Mehwish Durani, Additional Director (Coordinator for IOs & Climate Change) & Head CCCS, and Dr. Huma Baloch, Deputy Director (Programmes). The Malala Fund organized the session in order to seek Dr. Adil Najam’s advice for a paper on “Climate Change and Girls Education in Pakistan” to be presented at the upcoming COP28. Dr. Najam is the President of the World Wildlife Fund (WWF) International and the Dean Emeritus of the Frederick S. Pardee School of Global Studies at Boston University.

Dr. Najam was joined by representatives from international and local development agencies, education authorities, multilateral financial institutions, and local and international organizations working in the field of climate change.

During the session, Dr. Durani

highlighted the considerable gap between policies and practices for climate action, education equity, and gender equality. She noted that there should be a strong coordination between various ministries (i.e. health, science, environment, and education) of the governments. Dr. Durani called for improvement in coordination between the government’s ministries of health, science, environment, and education.

Dr. Baloch emphasized the need for mapping populations that are most at risk to climate change. She stated that these already vulnerable groups remain further exposed to the climate crises due to lack of essential technological and financial means. She emphasized that Climate Change and girls’ education cannot be treated in silos.

Other participants also shared their views on the theme of the paper supported by relevant data. Potential solutions were discussed to bring and keep more girls in schools.

Educational equity was considered one of the best ways to deal with the worldwide rising concerns of climate change.

## SOME ACTIVITIES OF COMSATS' CENTRES OF EXCELLENCE

### KazNU Signs MoU with Jiaotong University for China and Central Asia Legal Studies Center

On July 2, 2023, a delegation headed by Prof. Shang Wenhua, Vice-President, Xi'an Jiaotong University, China, visited Al-Farabi KazNU and signed an MoU for establishment of the Center for Legal Studies of China and Central Asia.

The rector of the Al-Farabi KazNU, Prof. Dr. Zhansait Tuimebayev, welcomed the guests. Briefing them, he highlighted that important agreements had been signed during President of Kazakhstan, Kassym-Jomart's state visit to China. These agreements include terms for cooperation with Northwestern Polytechnic University, creation of a Chinese-Kazakh Remote Sensing Technologies Laboratory, and paved way for memoranda of understanding with Shenzhen University and Beijing Petroleum University.

### KazNU Explores Avenues of Collaborations with Chinese Institutions

On July 24, 2023, a delegation from the State East China University of Politics and Law (ECUPL), Shanghai, visited Al-Farabi KazNU, where both institutions signed an MoU.

Prof. Lazzat Yerkinbayeva, Vice-Rector for Academic Affairs, welcomed the delegation and introduced them to the university's activities. She highlighted the research university status of KazNU and its collaborations with Chinese universities.

The Vice-Rector emphasized the potential for double-degree education, joint research in environmental conservation, natural resource protection, and collaborative legal



research projects between KazNU and ECUPL.

Another delegation led by Mr. Liu Hongzhi, Director, Chinese Technology Transfer Center for Shanghai Cooperation Organization (SCO), visited Al-Farabi KazNU on July 25, 2023.

During this visit, the distinguished Chinese guests held discussions with KazNU's leadership, including Dr. Assel Uvalieva, Vice-Rector for Operations and Dr. Jamil Aitzhanova, Vice-Rector for Research and Innovation. The meeting included discussions on potential collaborative scientific and educational initiatives, and signing of a Memorandum of Understanding.

### Rector of KazNU Participates in Symposium on China-Central Asia

A symposium "China – Central Asia" was held in Beijing on July 5, 2023, which was organized by the China International Center for Development Knowledge. The event convened leaders and representatives from financial institutions, universities, research centers, from Central Asia and China. Attending the meeting,

Rector KazNU, Dr. Zhansait Tuimebayev highlighted the symposium's role as a platform for knowledge exchange further building on decisions from the May 2023 China-Central Asia Summit and the Xi'an Declaration. Prominent figures, including Mr. Lu Hao, Director, Development Research Center under the State Council of the People's Republic of China, and Mr. Anukaly Dosaliev, Deputy Minister of Transport and Communications of the Kyrgyz Republic, also addressed the international gathering.

### New Filter Material Developed by KazNU Scientists

Scientists, led by Dr. Yerbol Ikhsanov, Head, Laboratory of Chemistry of Medicines and Organic Synthesis at Al-Farabi KazNU, have pioneered a technology for producing ultra-high molecular weight open-pored polyethylene through foaming under supercritical fluid conditions. This innovative material enhances water and liquid filtration, contributing to improved domestic product quality.

This unique material combines high chemical resistance, biocompatibility, filtering capacity, and ease of production, making it suitable for



use in a number of industries. It is used in filtering oils and liquids for solid impurities, offering a filter size averaging 2 microns. The material further stands out due to its mechanical strength, allowing regeneration via high-pressure cleaning. Its applications range from automobile fuel systems to medical implantation and armor protection. Experiments involving sunflower oil filtration have yielded promising results.

### COMSATS University Islamabad Ranked 151-200

The COMSATS University Islamabad (CUI) has been placed in the prestigious 150-200 band in the recently released Times Higher Education World University Rankings 2023 Young



category. CUI is proud to provide a nurturing environment to the students that empowers intellectual growth, creativity and critical thinking.

### CUI organizes a Workshop on Pathways to Collaborative Networking Series for Project Investigators

On 10th July, 2023, the Department of Biosciences, CUI, in collaboration with the University of Glasgow, UK, organized an online training workshop on 'Pathways to collaborative networking series for Project Investigators: Understanding microbial communities through in situ omics data synthesis – New developments'. The event was organized with Dr. Umer Zeeshan Ijaz, Reader Information Technology, University of Glasgow, UK, to introduce researchers to basic and advanced statistical tools for microbial community analyses.

Dr. Ijaz, Director, Environmental Omics lab, James Watt School of Engineering, University of Glasgow who is a co-founder of the Bacteria, Immunology, and OMICS (BINGO) group was the keynote speaker of the event that was attended by 125 participants from 12 countries, including the UK, USA, UAE, Germany, and Italy. Participants included scientists, scholars, and postgraduate students from various fields.

Co-chaired by Prof. M. Qaiser Fatmi and Dr. Sundus Javed, Biosciences Department, the event featured three sessions. In the first, titled "Understanding

Microbial Interaction: Basic Principles and Advanced Approaches," Dr. Ijaz introduced microbial community assembly and in situ omics data synthesis.

The second session explored "Maximizing Impact: Meta-Analysis and Efficient Survey Practices", during which Dr. Ijaz discussed strategies for impactful research and systematic microbial community surveys. The final session showcased some ongoing collaborative projects led by Dr. Sundus Javed, Dr. Aamira Tariq, and Ms. Hafiza Aqsa Ameer.

### Faculty Members of CUI Receive Pakistan's Civil Awards

Four faculty members of CUI were awarded Pakistan's highest Civil Awards. Dr. Jamshed Iqbal, Professor, Head GADR, and Dr. Hammad Omer, Associate Professor CUI-Abbottabad have been recognized for their work in the field of Science and engineering, respectively. Dr. Muhammad Yar, Associate Professor, at Lahore Campus got the award in the field of Education



(Chemistry); Ms. Farrah Mahmood Rana, Associate Professor, CUI-Islamabad Campus got Pride of Performance in the field of Arts.

### RSS-Jordan Launches GreenChemistry Project

On 13 August, 2023, the Royal Scientific Society, Jordan, launched their project "Global GreenChem (GC) Innovation & Network Inclusion Programme," funded by the Global Environment Facility (GEF) and managed by UNIDO. This initiative is carried out in collaboration with Yale University and the local partner, Jordan's Cleaner Production Unit (CP-unit), situated at the Water, Environment & Climate Change Center of RSS.

Within its work plan which extends to year 2028, the project aims to apply the principles of green chemistry to assist participating countries, including Jordan, in promoting green entrepreneurship, and stimulating green research and innovation towards sustainability, in order to achieve the goals of the circular economy.

### RSS Participates in Prize Jury

The Royal Scientific Society participated

in the Guidance Committee and Technical Committee for the Green Factory Prize launched by the Jordan Chamber of Industry in collaboration with the project promoting green activities in industrial facilities in Jordan implemented by the German Agency for International Cooperation (GIZ) and funded by the German Federal Ministry (BMZ) in cooperation with the Ministries of Industry, Environment and Energy and the Specification Foundation And the Jordanian scales, RSS and local industry chambers.

### Climate Finance Workshop at RSS

A 4-day workshop on climate finance was held at the RSS in July. The workshop came as part of the NDC Action Project that aims to build Jordan's capabilities and enable it to raise ambition for climate action.

This project is implemented by the RSS and the National Centre for Agricultural Research in close cooperation with the Ministry of the Environment and supported by the United Nations Environment Program (UNEP) and the Copenhagen Climate Center of the UN Environment Program.

Noteworthy is that this workshop comes in a series of technical sessions aimed at building the capacities of stakeholders for implementing commitments contained in the National Defined Contributions document with focus on two sectors; the Water for Agriculture and Solid Waste Sector.

### Director ICCBS-Pakistan gets Dual Academic Honors

The University of Tehran, Iran, has appointed Prof. Iqbal Choudhary, Director ICCBS, University of Karachi, as an Adjunct Professor at its Institute of Biochemistry and Biophysics. Prof. Seyed Mohammad Moghimi, President, University of Tehran, hopes that the Pakistani professor's appointment will enhance teaching and research at the Iranian institution and foster scientific collaboration with University of Karachi.

Further, Prof. Choudhary has also been reappointed as the UNESCO Chairholder for Medicinal and Bio-Organic Natural Product Chemistry at ICCBS. He oversees leading research institutions in Pakistan and serves as COMSTECH's Coordinator General, and is recognized for contributions in natural products and bioorganic chemistry.



## ICCBS and MoITT Join Forces to Establish Health Incubator and Software Technology Park

An MoU was signed between ICCBS and Ministry of Information Technology and Telecommunication (MoITT), Pakistan, for creating the Health Incubator and Software Technology Park within the ICCBS, UoK. The signing ceremony took place at Prof. Salimuzzaman Siddiqui, ICCBS, University of Karachi on Tuesday, 1st August 2023.

During the ceremony, Federal Minister for Information Technology and Telecommunication, Syed Amin Ul Haque, assured continued support for these institutions and pledged to help digitize the University of Karachi's examination department.

The ceremony featured addresses by several notable individuals, including the Vice Chancellor, University of Karachi, Prof. Dr. Khalid Mehmood Iraqi, Prof. Dr. Atta-ur-Rahman, ICCBS Patron-in-Chief, Prof. Iqbal Choudhary, Director, ICCBS, and other key figures from various organizations.

Prof. Choudhary emphasized the Health Incubator's pioneering role in developing health solutions and fostering innovation among young inventors and entrepreneurs.



## EUREKA 2023-24-Türkiye Chairship

The Eureka EB-EG (Executive Board and Executive Group) meetings took place on July 11-12, 2023, at TÜBİTAK MAM. These meetings convened member countries at TÜBİTAK's Gebze Campus, marking the inaugural board meeting of EUREKA under Turkey's term chairship for year 2023-24.

## TUBITAK UZAY, Türkiye, Shares First Image from its Satellite

The İMECE satellite, a Turkish space endeavor developed by TÜBİTAK Space Technologies Research Institute (UZAY),

has captured an image of the Togg Technology Campus in Gemlik, Bursa. İMECE, Türkiye's first high-resolution domestic and national observation satellite, has been successfully performing its mission since the moment it was placed in orbit.

Positioned at an altitude of 680 kilometers in orbit simultaneously with the sun, İMECE will serve Türkiye in many areas such as target identification, detection, natural disasters, defense and agricultural applications for 5 years.

## TÜBİTAK UME Welcomes Delegation from Libya

On July 24, 2023, TÜBİTAK National Metrology Institute (UME) hosted





a Libyan delegation comprising of senior officials from the Libyan Ministry of Planning and the Libyan National Center for Standardization and Metrology (LNCSM). During a comprehensive day of discussions, both organizations explored the potential framework and roadmap for cooperation.

The delegation also had the opportunity to tour TÜBİTAK UME's laboratory facilities.

TÜBİTAK UME expressed its commitment to support LNCSM in the field of metrology.

### **TÜBİTAK holds Sky Observation Event**

From August 10 to 13, 2023, the TÜBİTAK Sky Observation event took place in Saklıkent, Antalya. The event featured various workshops, experiments, and competitions facilitated by TÜBİTAK units.

The TÜBİTAK Activity Tent hosted engaging activities such as Metaverse exploration, Age Determination through Carbon-14 Analysis, Microscopic examination of different materials, Carbon Footprint Measurement,

Rocket Models, and VR Virtual Reality experiences, particularly engaging children.

The Antalya Science Center Tent had the Sky Puzzle, Bilim Üsküdar Tent for crafting Paper Model Airplanes, Konya Science Center Tent turned participants into Anatomy Detectives, Gaziantep Science Center Tent hosted Light Diffraction Experiments, GUHEM Tent focused on assembling Wooden Model Airplanes, and Deneyap Türkiye Tent offered Nature Power Plant activities.

### **President of TÜBİTAK's Visit to Oman for Bilateral Cooperation**

As part of the official visit of the President of TÜBİTAK on August 13-14, 2023, a delegation visited the Ministry of Higher Education Research and Innovation of Oman, which serves as the counterpart organization to TÜBİTAK.

The objective of this visit was to enhance technological and scientific collaboration between the two countries. Apart from the Ministry, the delegation also visited several universities and technology parks.

### **BCSIR-Bangladesh R&D and other Activities**

Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh has integrated 138 (out of 140) new R&D projects for the year 2023. About 278 R&D initiatives of both basic and applied research are currently being carried out at BCSIR to advance various fields of science and technology development. Additionally, BCSIR is currently executing five Annual Development Projects (ADP) aimed at enhancing its research and development capabilities and other facilities.

Other activities of the Centre include:

- Development of an affordable 'BCSIR Covid-19 Testing Kit' for the first time in Bangladesh' that could be transferred to the member states of COMSATS;
- Dr. Abdul Gafur, Principal Scientific Officer, BCSIR awarded the 'Bangabandhu Gold Medal Award, 2023';
- Professor Dr. Md. Aftab Ali Shaikh reappointed as the Chairman of BCSIR for the next three years;
- More than 40 research papers published in different international journals in July-August, 2023.

## Scholarships/Fellowships for Member States by COMSATS' Centres of Excellence

The COMSATS University Islamabad (CUI), Pakistan, has offered Graduate (MS and PhD) scholarships for Fall 2023 session for students/researchers belonging to COMSATS Member States.

This scholarships are offered in the following key programmes: Computer Science; Management Science; Electrical Engineering; Biosciences; Mathematics; Physics; and Meteorology

The relevant details, including academic programs, eligibility criteria, admission procedure and schedule, application form, etc. are available on CUI website: ([http://ww2.comsats.edu.pk/internationalstudents/COMSATS\\_HQ.aspx](http://ww2.comsats.edu.pk/internationalstudents/COMSATS_HQ.aspx)).

Students from COMSATS' Member States and Centres of Excellence are encouraged to benefit from this opportunity. The last date for submission of applications is June 30, 2023.

For further details on the scholarships, please visit [www.comsats.org](http://www.comsats.org) or write to [farhan@comsats.org](mailto:farhan@comsats.org).

## CUI's 20th International Information Technology Conference

COMSATS University Islamabad (CUI) is organizing the 20th Annual Conference on Frontiers of Information Technology (FIT'23) on December 11 and 12, 2023 at Islamabad. This annual conference is a leading event on exchange of elite knowledge and innovative ideas in the field of Information and Communication Technologies, including modern trends pertaining to computer sciences, engineering, and other related areas.

IEEE Lahore section is a technical sponsor of this year's event. The intellectual output of the event will become a part of IEEE Xplore and other Abstracting and Indexing (A&I) databases.

**Date:** December 11 and 12, 2023

**For more details, visit:**  
<https://fit.edu.pk/>

## COMSATS Network of Centres of Excellence



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