COMSATS Newsletter

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

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Held in Islamabad, COMSATS' 29th Anniversary Celebrations; President of Pakistan and Diplomatic Community and others graced the occasion with their presence (Page 6)

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Patron:
Ambassador Dr. M. Nafees Zakaria
Executive Director COMSATS

Editor:
Ms. Farhana Saleem

Designing & Development:
Mr. Imran Chaudhry

newsletter@comsats.org (+92-51) 9214515-7

From the Executive Director's Desk

In this modern day and age, Science and technology stand as twin engines propelling human progress forward. Their significance in shaping the trajectory of development cannot be overstated. From driving economic growth to addressing pressing societal challenges, the role of science and technology is crucial in forging a brighter future for humanity.

Nations that invest in research and innovation better foster a culture of entrepreneurship and competitiveness, driving job creation and sustainable growth. Cutting-edge technologies such as artificial intelligence, robotics, data sciences, biotechnology, and renewable energy are not only creating new industries but also reshaping existing ones. However, realizing the full potential of science and technology requires equitable access and inclusive participation in a conducive policy environment that promotes scientific collaboration, and removes barriers to technology transfer.

S&T cooperation amplifies collective impact and fosters a sense of global solidarity and can harness the transformative power of science and technology to create a brighter future for all. By pooling together diverse talents and perspectives, countries can leverage complementary strengths and accelerate scientific breakthroughs that benefit humanity as a whole. This complimentarity and associated gains for the South are what define COMSATS' mandate of S&T-led development being pursued through South-South and Triangular Cooperation aimed at enhancing the capacity of developing countries to harness the benefits of scientific and technological advancements for their socio-economic development.

This maiden issue of COMSATS Newsletter for the year 2024 shows a very encouraging start of the year. We began the new year with a celebration of 29th Anniversary of COMSATS with the Presidency of COMSATS' host country, Pakistan. We were honored to be joined by top diplomats, scientists, civilian and military leadership of the country, who showed their appreciation and support to COMSATS giving the organization an excellent start of its 30th year. A special report on the same adorns the inner pages of this issue (Page 06).

During the reporting period, COMSATS, as part of Pakistan Pavilion, participated in the BETT UK a technology event that brings together numerous EdTech solution providers that showcase cutting-edge products and services. Other highlights of the reporting period included in this issue are sponsorship for 37th Khwarizmi Youth Award, collaborative AI and SQA bootcamp in Baku, and more.

Information on the same included in this issue are hoped to invoke the readers' interest and feedback.

COMSATS Sponsors Awards for 2nd & 3rd Laureates of IROST's 25th Khwarizmi Youth Award (KYA)

On February 27, 2024, the Iranian Research Organization for Science and Technology (IROST), in collaboration with COMSATS and other partner organizations, organized the 37th Khwarizmi International Award (KIA) and 25th Khwarizmi Youth Award (KYA) in Tehran, honouring young talents and distinguished scientists for their remarkable breakthroughs in the arena of ST&I.

COMSATS awarded Certificates to the 2nd and 3rd Laureates of 25th KYA, as recommended by the grand jury of the Khwarizmi Awards. The Executive Director COMSATS, Amb. Dr. M. Nafees Zakaria, also shared his Message on the occasion, which was published in KIA Bulletin.

The Khwarizmi International Award (KIA) and Khwarizmi Youth Award (KYA) are named after Muhammad ibn Musa al-Khwarizmi, the renowned Iranian mathematician and astronomer. IROST, an esteemed Centre of Excellence of COMSATS in Iran, organizes the KIA and KYA every year to honour outstanding scientists and researchers for their significant contributions towards science, technology and innovation. Considered as the most prestigious scientific award in the country, KIA is being presented annually since 1987 by the honourable President of the Islamic Republic of Iran to those scientists, researchers and innovators who bring about enormous benefits to the society in the form of S&T solutions to the various global challenges. Moreover, since 1999, the Khwarizmi Youth Award is presented to appreciate and recognize talent of the promising young Iranian scientists in order to embolden them to take bigger steps in their research career. The awards comprise a trophy, a certificate, and cash prizes. COMSATS has been supporting the Khwarizmi Awards since 2000.

COMSATS and PBBC Collaborate to Establish Pakistan Pavilion at BETT UK

COMSATS joined hands with the Pakistan Britain Business Council (PBBC) for establishing the Pakistan Pavilion at BETT UK. Being a global meeting place for education technology (EdTech) community, BETT UK was held on 24-26 January 2024, in London. The Executive Director COMSATS, Ambassador Dr. Mohammad Nafees Zakaria, is the Honorary Chief of Advisory Board of PBBC.

COMSATS is an intergovernmental organization having 27 Member States from Asia, Africa, Middle East, and Latin America. In collaboration with its 25 International Science and Technology

Message by Executive Director COMSATS, Amb. Dr. Mohammad Nafees Zakaria for 37th Khwarizmi International Award (KIA)

COMSATS congratulates and appreciates its esteemed Centre of Excellence in Iran, the Iranian Research Organization for Science and Technology (IROST) for organizing the 37th Khwarizmi International Award (KIA), to honour outstanding scientists and researchers for their significant contributions towards science, technology and innovation (ST&I). The organization of this prestigious Award since 1987 signifies the important role IROST is playing in benefiting from the valuable resource and expertise of scientists, researchers and innovators to bring about constructive change in the society by providing S&T-based solutions to address the global challenges. My heartiest congratulations to the winners of this year's KIA Award on their well-deserved distinction.

Undoubtedly, Science, Technology, and Innovation have consistently proven to be the panacea for humanity. Their impact has been far reaching for the socio-economic development. In today's rapidly evolving world, R&D driven ST&I stand as the bedrock of progress and the key to unlocking solutions for pressing global challenges.

The empowerment of young scientists and innovators plays a pivotal role in fostering sustainable socio-economic development. Recognizing and celebrating their contributions, the Khwarizmi International Award stands as a commendable initiative. This award acknowledges and supports the outstanding work of scientists and researchers, contributing to the fruitful advancement of knowledge and innovative solutions.

The National Poet of Pakistan, Dr. Allama Muhammad Iqbal, emphasized the potential of Youth often referring to them as Eagles. A poignant line from his verses reads:

نہیں تیرا نشیمن قصر سلطانی کے گنبد پر
تو شاہیں ہے بسیرا کر پہاڑوں کی چٹانوں میں

English Translation
Your resting places are not the minarets of the royal palaces.
You are an Eagle, the rocks of the mountains should be your habitat.

Young scientists and researchers should aspire to dream big, search for knowledge, and challenge the status quo. The potential for utilization of science and technology knows no bounds. Undoubtedly, the future's potential hinges on the diligent efforts and perseverance of today's young scientists.

Technology has transformed the world into a global village and hence made the collective approach to tackle common issues practicable and effective. To view the problems through a shared lens and come up with solutions that are supported by science and technology and accepted by all, there need to be a cross-border cooperation, and partnerships that may improve resource usability, and enhance knowledge generation. COMSATS, being an international/ intergovernmental organization, is endeavoring to unite developing countries for judicious use of science and technology.

Having 27 Member States and a Network of 25 renowned International Science and Technology Centres

of Excellence, COMSATS has been striving to promote South-South and Triangular cooperation through facilitating capacity building; collaborative research and development; and sharing of knowledge, experiences, good practices and technological resources among the member countries. R&D Centres and their sustainability is important, which will come with alignment with the industrial sector. COMSATS has recently ventured into a series of new initiatives in the fields such as Artificial Intelligence based Data Analytics, Genome Sequencing, IT Trainings, Precision Agriculture, Renewable Energy, Electric Vehicles, Tech-enabled Health Units, Drone Technology, and the forward march is on.

COMSATS recognizes the contributions of its esteemed Centres in placing science and technology at the forefront of development initiatives within its member nations. It is noteworthy to highlight IROST's commendable efforts in advancing S&T-driven development in Iran and across other member countries.

Centres of Excellence, COMSATS endeavors to advancing scientific research, innovations, and technologies in order to provide tech-based solutions to its Member States.

COMSATS raised awareness regarding the significance, benefits of participation, and various unique features of BETT UK among the relevant organizations in its Member States, Centres of Excellence, and partner organizations. In this regard, COMSATS facilitated the participation of its technology partner company, SeQuenX, at the event. SeQuenX provides software development and consulting services, and has a global presence with offices in Netherlands, the USA and Pakistan.

A three-member team of SeQuenX comprising its Managing Director, Mr. Shurjeel Tousif; Chief Technology Officer, Mr. Zier den Heijer; and EdTech Consultant, Mr. Evans Owusu, exhibited the company's EdTech solutions at the Pakistan Pavilion, which generated considerable interest among the visitors.

COMSATS Co-organizes Bootcamps for AI and SQA Trainings in Baku, Azerbaijan

COMSATS, in collaboration with the Innovation and Digital Development Agency (IDDA), Ministry of Digital Development and Transport of the Government of Azerbaijan, successfully conducted trainings for Artificial Intelligence (AI) and Software Quality Assurance (SQA) in Baku, Azerbaijan, on 12 January 2024.

A Memorandum of Understanding (MoU) had been signed in July 2023 between COMSATS and IDDA for cooperation in the field of Information and Communication Technologies, which facilitated the execution of these technology trainings. This is among the new initiatives taken by Ambassador Dr. Mohammad Nafees Zakaria, Executive Director COMSATS.

The two bootcamps imparted the participants with necessary skills and tools for effective utilization of information technology in developing tech-based solutions. It is a significant step for COMSATS in achieving its mission of fostering international collaboration in the realm of science, technology, and innovation.

Tribute to Prof. Abdus Salam on his Birth Anniversary (1926 to 1996)

Ahead of his time, Prof. Abdus Salam set in motion a scientific movement that led to establishing supremacy of #science and #technology, international scientific collaborations, and R&D as a panacea to developmental woes of the South. Salam's rare Science Diplomacy acumen led to apex institutional & intergovernmental treatment of scientific cooperation. The Heads-of-State level COMSATS is proud to be the high-point of Salam's legacy of scientific institution-building in developing countries.

"Scientific thought and its creation is the common and shared heritage of mankind". Prof. Abdus Salam

International Day on Women and Girls in Science Observed

COMSATS commemorated the International Day of Women and Girls in Science by holding a Webinar titled "Women in Science: Shaping Tomorrow's Innovations", on 12th February 2024. Held in a hybrid format at COMSATS Secretariat in Islamabad, the event brought together a diverse panel of speakers to explore the pivotal role of women in Science, Technology, Innovation, and Engineering. More than 50 participants from around the globe joined the webinar.

Ambassador Dr. Mohammad Nafees Zakaria, Executive Director of COMSATS, delivered the opening remarks, stressing the importance of

women's equal participation alongside men in addressing global challenges. Dr. Zakaria reiterated COMSATS' commitment to advocacy for and promoting gender equality in science, technology, and innovation worldwide. He highlighted the significance of this day as a call to action, acknowledging women's invaluable contributions to science and the ongoing journey towards gender equality in the field. Dr. Zakaria emphasized that women bring a unique perspective to scientific endeavors, adding value with diversity of thought and experience, thereby helping to build a more comprehensive understanding of complex issues.

H.E. Senator Dr. Sania Nishtar, a distinguished member of the Senate of Pakistan and recently appointed CEO of Gavi, the Vaccine Alliance, expressed appreciation to COMSATS for organizing this significant event. Dr. Sania underscored that achieving gender equality in science, technology, and innovation is not only a matter of social justice but also essential for fostering economic prosperity and sustainable development. She highlighted the evolving nature of innovation, with a broader range overlapping influences that go beyond traditional science and technology advancements, particularly pertaining to environmental and societal challenges. In this new paradigm, the socio-economic empowerment of women emerges as a crucial catalyst for driving innovation forward.

Prof. Dr. Quarraisha Abdool Karim, President of The World Academy of Sciences (TWAS), shared valuable insights gained from her three decades of research contributions and global efforts towards HIV prevention. She highlighted that the developing countries must maximize the potential of their Research and Innovation systems while also promoting gender equality in scientific fields. Integrating gender considerations into the Science, Technology and Innovation landscape can provide developing countries with a significant competitive edge.

Professor Dr. Rana Dajani from Hashemite University in Jordan emphasized the importance of nurturing an inclusive environment in academia and research. She shared her experience of introducing a simple yet impactful model and activity 'We Love Reading', an inter-generational initiative, promoting healing, connection, and positive self-development through joy of reading.

Further, Dr. Dajani highlighted that a significant imbalance in women's representation persists across various levels of the professional hierarchy, particularly in leadership roles. Despite these hurdles, women and girls have the potential to exhibit remarkable leadership to greatly contribute to addressing global challenges, from poverty alleviation to climate change.

The webinar resulted not only in highlighting the accomplishments of women in science but also advocated transformative action, towards creating supportive atmosphere for women and girls in scientific disciplines. The insightful discussions underscored

Felicitations Member States' National Days (Jan-Feb 2024)

Independence Day (February 4)

Revolution Day (February 11)

Independence Day (February 18)

the necessity for supporting related ongoing endeavors and partnerships to ensure that women and girls are well integrated in science and innovation landscape for shaping the future and a better world.

Director ICCES, China, Visits COMSATS Secretariat

On January 15, 2024, Prof. Lin Zhaohui, Director of COMSATS Centre of Excellence in China, International Centre for Climate and Environmental Sciences (ICCES), Beijing, visited COMSATS Secretariat. A veteran scientist, Dr. Zhaohui is a senior member of COMSATS Coordinating Council.

Dr. Zhaohui, who had been in Pakistan to participate in COMSATS' 29th Anniversary Celebration (Page 6), was warmly received by the Executive Director COMSATS, Amb. Dr. M. Nafees Zakaria. Discussions between the two officials revolved around their organizations' enduring partnership and exploring avenues for joint initiatives in climate change and environment.

ED COMSATS Felicitates S.G. Commonwealth on Global Africa Champion Award

Executive Director COMSATS, Amb. Dr. M. Nafees Zakaria, felicitated Secretary-General Commonwealth, Rt Hon Patricia Scotland, on conferment of Global Africa Champion Award in Ghana in recognition of her efforts towards prosperity across Africa, on January 26, 2024.

The Commonwealth Secretary-General is the first recipient of the Global African Champion Award, which was presented to her by the President of Ghana, H.E. Nana Addo Dankwa Akufo-Addo. The Award ceremony was attended by heads of government from Africa and the Caribbean, other leading political figures, senior policymakers, technocrats, civil society representatives, academics and business executives.

(Source: Commonwealth.org)

SPECIAL SECTION: COMSATS 29TH ANNIVERSARY CELEBRATED AT THE PRESIDENCY OF HOST COUNTRY, PAKISTAN

The Commission on Science and Technology for Sustainable Development in the South (COMSATS) was founded in 1994 as an intergovernmental organization of the countries of the South to help pool their intellectual and scientific resources for achieving their developmental needs and national objectives. COMSATS was a culmination of science diplomacy efforts of the Nobel Laureate and world renowned scientist, Prof. Abdus Salam, whose persistent efforts in 1990s helped his idea of the Commission win Heads-of-State level patronage of the developing countries.

In October 2023, COMSATS turned 29 with the completion of the third decade right around the corner. Cognizant of importance of this juncture, on 16th January 2024, a graceful ceremony was held at the Presidency of COMSATS' host country, Pakistan – *Aiwan-e-Sadr*, Islamabad – to celebrate the organization's achievements over the years and for setting the stage for its future goals. The ceremony was presided over by the then President of Pakistan, Dr. Arif Alvi.

The ceremony was attended by Minister for S&T, Government of Khyber Pakhtunkhwa; Pakistan's Foreign Secretary; Ambassadors and High Commissioners of COMSATS Member States and other countries; representatives of international organizations; high ranking civil and military officials; Scientists and Academicians; and Heads of scientific organizations and academic institutions also participated in the event.

Dr. Alvi warmly felicitated the Heads of the State and Government of COMSATS' Member Countries and all those affiliated with the organization. He underscored the importance of COMSATS and assured the Government of Pakistan's active support.

Alluding to the significance of the technological advancement and innovations in diverse fields and widespread equal availability of knowledge, President Dr. Alvi stressed the need to share the latest scientific breakthroughs, experiences and achievements for the greater benefit of entire humanity. He opined that knowledge should not remain bound in the confounds of the developed countries' elusive repositories. The

capping under 'copyrights' regime limits accessibility to useful knowledge that could help humanity to move through the current economic, social and global challenges. He equated such limiting with "vision impairment of the South".

He further remarked that right transformation in the world could only take place in the presence of 'ethics or humanity-based order'. The 'rules-based world order' was dominated by material-driven priorities, he opined.

Dr. Alvi considered genomic-sequencing one of the major breakthroughs in the scientific world that had become

increasingly accessible to people over time due to the exponential pace of scientific developments. The world is heading towards exponential development as the technology will no longer remain static, he added. In the same vein, he highlighted how, very soon, quantum computing would be handling billions of humans' data on their health, besides opening up 'tremendous possibilities in the agriculture sector'.

Lauding COMSATS' role as agency of international cooperation, the President appreciated contributions of the COMSATS in the realms of science and technology among its 27 members. He congratulated Executive Director of COMSATS, Amb. Zakaria, on the landmark achievements of 29th Anniversary and expansion of Network to Europe with addition of University of Granada, Spain.

Speaking on the occasion, Ambassador Zakaria stated that in today's rapidly evolving world, ST&I stand as the bedrock of progress and the key to unlocking solutions for pressing global challenges. He advocated that adequate and sustainable funding for R&D not only helps in creating novel technologies but also drives a cycle of innovation.

Ambassador Zakaria paid tribute to Prof. Dr. Abdus Salam for his vision and contributions to the world science and technology especially benefitting the South through scientific institution-building, COMSATS being one of these. He thanked the incumbent Chairperson of COMSATS, H.E. Nana Addo Dankwa Akufo-Addo, the President of the Republic of Ghana, who has been facilitating S&T exchange, knowledge networking, capacity-building, and

Ambassador of Jordan to Pakistan on X

collaborative research among member countries. The Executive Director highlighted a series of new initiatives by COMSATS pertaining to information technology and its applications, artificial intelligence, genomic sequencing, renewable energy, electric vehicles, precision agriculture, industrial biotechnology and climate change. He also highlighted establishment and work of COMSATS Joint Centre for Industrial Biotechnology, and COMSATS Centre for Climate and Sustainability in recent years. He was confident that the leadership of the member states would provide necessary support to further these endeavors.

Dr. Zakaria also informed the learned gathering of the notable presence of COMSATS at COP28, UAE, where he had advocated for more just Climate Change mitigation efforts urging the tech-advanced nations to shoulder greater responsibility. He thanked President Alvi and attending Ministers and diplomatic community in Islamabad for showing their support to COMSATS by gracing the ceremony with their presence.

Prof. Dr. Lin Zhaohui, Director, International Center for Climate and Environment Sciences (ICCES), China, was the guest of honor on the occasion. Dr. Zhaohui stated that this milestone in the journey of COMSATS needs to be cherished for the organization's continued commitment to promoting South-South and Triangular Cooperation in the realm of science, technology and innovation. He expressed ICCES' firm commitment to COMSATS.

Taking pride in his Centre being one of the Founding Members of COMSATS Network, he highlighted its efforts towards multilateral research through a dedicated group on Climate Change. He appreciated COMSATS' unique structure for enabling cooperation in S&T, and appreciated its role in advancement and regional cooperation in S&T through its Network of Centres of Excellence. Prof. Lin highlighted the issue of climate change as one of the imminent threats to the planet, and appreciated COMSATS for being at the forefront to promote sustainable solutions and environmental stewardship.

A high-point of the celebration – announcement of induction of University of Granada (UGR), Spain, in COMSATS Network – was celebrated with a ceremonious presentation of Membership Certificate by Dr. Alvi to the University of Granada (UGR), Spain. A seasoned member of COMSATS Coordinating Council that provides patronage to the Network's operations, Dr. Zhaohui received the Certificate on behalf of UGR.

Dr. Alvi and the envoys of Member States of COMSATS made the ceremony more memorable by cutting the anniversary cake.

Investing in Women to Reap Developmental Benefits for the South

Farhana Saleem*

The prowess of the mind has long surmounted numerous physical barriers and has helped tackle challenges for humanity that were once deemed impossible to overcome. Narrative of progress and growth has transcended mere physical feats, duly acknowledging the need for equality of intellect irrespective of gender.

With men only slightly outnumbering women in global demographic, women's representation in Science, Technology, Engineering, and Mathematics (STEM) fields remains disproportionately low - women occupy only 31% of research and development positions in science globally, with even lower figures in leadership roles, particularly in the technology sector. Despite the clear benefits of women's participation in STEM fields, underrepresentation of women in these fields is a global issue, with disparities and barriers more pronounced in certain regions, especially the Global South.

Social stereotypes and biases often discourage girls and young women from pursuing careers in science and technology, leading to lack of representation in these fields. Governments and policymakers also have a role to play in addressing systemic barriers to women's participation in STEM fields. Encouraging girls from a young age to pursue careers in technology and providing necessary support, including childcare, are crucial steps toward achieving gender parity in these sectors. More policies and initiatives are needed to enable them.

Necessary perspectives are gained and disseminated by COMSATS through devoted events, observances and intellectual exchanges. "We have to start encouraging and supporting females very early if we want to bring a change", Prof. Mariangela Hungria, Senior Researcher, EMBRAPA, Brazil, told COMSATS' communication team in a focused interview, "this kind of support is very important since most of the women want to be mothers and the planet also needs new generation", she shared based on her personal experience, "Women should be allowed to be excellent scientists, excellent professionals, and excellent mothers as well. This change needs support from government institutions."

Women's participation in science and technology is not just a matter of gender equality, it is crucial for addressing some of the most pressing challenges facing humanity, such as pandemics, climate change events, natural disasters, and economic crises. Increasing women's participation in the workforce, particularly in high-skill fields like STEM, can boost economic growth and reduce poverty.

UN's Sustainable Development Goals (SDGs) also emphasize inclusive and equitable development, recognizing the pivotal role of women. Science and technology offer solutions to pressing global challenges, from climate change to healthcare access,

but their effectiveness relies on diverse perspectives and inclusive participation.

Contributing to SDGs on universal healthcare and women empowerment and reduced inequalities, COMSATS Telehealth (CTH) has made significant strides in providing essential healthcare services to communities in some resource-challenged areas of COMSATS' host country, Pakistan. With a notable 80% of beneficiaries being women and children, the program has played a crucial role in addressing the healthcare needs of this demographic.

CTH Telehealth clinics prioritize maternal and child health, with a focus on antenatal care, handling 75-80% of cases in this area. To cater to the predominantly female patient base, all staff members, including doctors

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* *Ms. Farhana Saleem is Communication Lead of COMSATS Secretariat. She is an experienced Science Communicator with special interest in social policy, advocacy of women in STEM, science policy and diplomacy. Email: farhana@comsats.org*

SOME ACTIVITIES OF COMSATS' CENTRES OF EXCELLENCE

ITS-Indonesia Students Initiate a Hemoglobin Detector with Embedded Artificial Intelligence

A non-invasive hemoglobin detector called Hemoglobest has been developed but Hemoglobest Team of Institut Teknologi Sepuluh Nopember (ITS) -Indonesia with added STM32 artificial intelligence. With artificial intelligence, this device can do calculations efficiently, thus accelerating the prediction of anemia conditions. The STM32 artificial intelligence can also save power and function as a microcontroller. It is specialized to detect and predict anemia in patients with Systemic Lupus Erythematosus (SLE). Lupus patients require a specific approach to detect anemia, as their hemoglobin levels tend to be lower compared to non-lupus patients.

Unlike usual hemoglobin detectors, the ITS developed detector uses a non-invasive procedure. This procedure refers to a medical procedure that does not require inserting an instrument through an incision in the skin, so it does not injure the skin. "Therefore, the device will be easier to use and will not cause pain," the student, who is also part of the ITS Banyubramanta robotics team, said.

Non-invasive hemoglobin detectors have also been proven to produce less waste than invasive hemoglobin detectors.

ITS-Indonesia the First Production of EVITS eBike

ITS has recently launched the first production of an electric motorbike called EVITS as a result of innovation to provide clean and eco-friendly energy for Indonesia. ITS through PT ITS Tekno Sains in collaboration with PT Panggung Electric Citrabuana inaugurated the first production of EVITS electric motorbikes on 21 December 2023 at PT Panggung Electric Citrabuana. EVITS is an electric motorbike equipped with an ergonomic design and good acceleration capabilities, providing comfort for the rider. It is also equipped with a battery that provides a range of up to 60 kilometers.

As of now, PT ITS Tekno Sains is developing three other types of electric motorbikes that have entered the initial development stage. All those three types of motorbike are planned to be launched in 2024. As the supply management of the production of EVITS, PT Panggung Electric Citrabuana was thrilled and proud to be able to bring environmentally friendly products to the community. It is expected that this cooperation can bring a beneficial impact to Indonesia.

Anargya ITS Successfully Secures Champion Title at FSAE Japan 2023

The Formula Society of Automotive Engineers (FSAE) Japan is an annual international electric car competition that challenges students to design and produce a single-passenger car resembling a formula racing car. This year's FSAE Japan competition featured 62 teams from various world-class universities in China, Taiwan, Bangladesh, Thailand, Indonesia, and the host country, Japan. For this year, Anargya ITS team represented Indonesia. and achieved 3rd place in the Business Plan Presentation and also received the 3rd place award for the View Drawing category.

Furthermore, innovation was also achieved by incorporating components made by the Anargya team themselves, including batteries assembled according to international regulations. These batteries have fire-resistant capabilities, making them safer in emergency situations. The team also equipped the car with an air-cooling system that flows through the side pods, thus increasing battery efficiency and durability. Additionally, the battery capacity was increased to 7.46 kilowatt-hours.

RSS-Jordan Calls to Stop the Degradation of Agricultural Lands

The Royal Scientific Society, in collaboration with the Food and Agriculture Organization (FAO) in Ajloun Governorate, launched the project "Achieving land degradation neutrality targets through restoration and

sustainable management of degraded land in Northern Jordan".

The project aims to help in sustainable planning for the use of various lands, preserve productive land resources, increase their area and improve productivity to meet the increasing demand for food, in addition to managing and rehabilitating forests and improving the productivity of pastures and barren lands in the northern governorates as a first stage, stressing the methodology of the Royal Scientific Society in working with all sectors to achieve real development with a sustainable impact on the land.

The project is comprised of three main components; (I) Enabling Environment for Land Degradation Neutrality (LDN) planning and monitoring, (II) Demonstrating the LDN approach and scaling out Sustainable Land management (SLM) practices and approaches in 57 selected landscapes in the Irbid, Mafraq and Ajloun Governorates, (III) Project Monitoring, Evaluation and lesson learned.

President RSS-Jordan Launches of the First National Conference on Circular Economy

HRH Princess Sumaya bint Al Hassan, President of the Royal Scientific Society (RSS), sponsored the launch of the First National Conference on the Circular Economy, under the title "Transition to a Circular Economy: Jordan's Opportunity for Employment and Growth", which was organized by the Royal Scientific Society and the Circular Economy Club - Amman, in cooperation with the Jordan Strategy Forum and the project to promote green activities in industrial facilities implemented by the German Cooperation Agency (GIZ).

HRH stressed the importance of shifting towards a circular economy as a strategic direction that contributes to addressing the problems of poverty, unemployment, climate change and the depletion of natural resources. She pointed out the need to overcome the linear economy system, in which the depletion of natural resources is accompanied by an increase in waste production, which is a burden on both environmental and social systems.

RSS-Jordan Training Courses on Natural Air Conditioning and Cooling Gases

The Royal Scientific Society provided training for technicians regarding "Safe Handling of Natural Refrigerants and Importance" within Cool Up programme.

Three trainings were held at RSS for 43 technicians during December 2023 covering the following:

- About the COOL UP programme;
- The Ministry of Environment's commitments regarding phasing out HCFCs and phasing down HFCs;
- Natural refrigerants' characteristics and importance in protecting the environment;
- Flammability classification of refrigerants;
- Safety, maintenance, and refrigerants recovery procedures
- Practical training

These trainings were held under the supervision of the Jordan Technical and Vocational Skills Development Commission that accredited RSS as a training provider for "Dealing with natural refrigerants and importance".

CUI-Pakistan and D-8 International University Iran Ink Academic Accord

On February 27, 2024, COMSATS University Islamabad (CUI), Pakistan and D-8 International University (D-8 IU), Iran, signed an MoU authorized by the Federal Cabinet of Pakistan to enhance their collaboration in joint academic and research activities, including exchange of faculty, researchers, students, staff, scholarships, training courses for capacity-building of faculty and administrative staff, joint training programs, convening of joint conferences and other areas.

University of Leicester Explores Collaboration with CUI-Pakistan

Mr. Anthony Braybrooke, Associate Head, International Recruitment, University of Leicester, UK, visited CUI, on February 21, 2024, to discuss potential collaboration. Accompanied by Mr. Shiraz Rasheed, Operations Manager, International Development Program (IDP), Pakistan, the officials met Dr. Hammad Omer, T.I., Head, International Office and Mr. Ali Tawab Baloch, Senior Manager, International Office.

During the meeting, both Parties discussed various collaboration options, including 3+1 program, joint degree programs, writing joint proposals, aiming to increase people-to-people interactions, semester exchange initiatives and progression arrangements. Mr. Braybrooke highlighted Leicester's expertise in

computer science and engineering. While discussing specifics, such as fee waivers and semester exchange programs for CUI students, both sides expressed enthusiasm for future collaborations in 3+1 programs.

CUI-Pakistan and University of Regina of Canada Discuss Global Collaboration

In a significant step towards international cooperation, CUI and University of Regina, Canada, have signed a landmark MoU for a five-year term. The agreement has endorsement of the Government of Pakistan.

Prof. Dr. Sajjad A. Madani, Registrar of CUI, and Mr. Haroon Chaudhary, Associate Vice-President (International) & Chief International Officer of the University of Regina, inked the MoU on behalf of their institutions during a physical ceremonious event held at the CUI, Islamabad Campus, on February 23, 2024.

Under the terms of the MoU, both universities intend to amplify their collaboration efforts, fostering direct contact, educational advancements, and research partnerships between their constituents, including students, faculty, departments, and research institutes. This alliance is also hoped to catalyse collaborative science and technology research projects, facilitate publications, and spearhead capacity building programs for the collective advancement of both universities.

University of Gloucestershire Explores Collaboration with CUI-Pakistan

Exciting developments unfolded as Dr. Mathews Andrews, Pro-Vice Chancellor for Governance and Students Affairs of the University of Gloucestershire (UoG), United Kingdom, visited CUI on January 31, 2024. He was accompanied by Global University Systems (GUS) officials including Professor Ashraf Jawaid OBE, CEO of International Partnerships, Professor Faisal Azeem, Managing Director of International Business, and Ms. Sabahat Khan, CEO Pakistan.

The meeting set the stage for potential collaborations, interalia, for academic exchange programs (for both students and faculty); joint supervision of PhD students; joint degree programs; joint research initiatives, like UK grant; post-doc fellowships for CUI faculty; joint organization of workshops, conferences, seminars, and training sessions; admission of CUI graduates in MS/PhD.

Discussions on 3+1 and 2+2 models highlighted the need for approval from the HEC. In the event of a 3+1 program, UoG committed to providing a significant fee concession of £5,000.

Director ICCES-China Explores Transformative Collaboration with CUI-Pakistan

CUI, Pakistan, hosted Professor Dr. Zhaohui Lin, Director of the International Centre for Climate and Environment Sciences (ICCES), China on January 15, 2024, to explore collaborative opportunities in climate change and environmental sciences.

The Rector extended a warm welcome to the Director ICCES, paving the way for insightful discussions on potential collaboration. Dr. Lin highlighted ICCES's research focuses on main areas aligned with UN SDGs, earth system model development, meteorological and environmental forecast, data assimilation, and earth system theory. He concluded by emphasizing collaboration between CUI and ICCES for joint publications and joint proposals, expressing ICCES' openness to data sharing too.

The Director delivered an engaging lecture on the "Earth System Numerical Simulator and its Applications for Climate Studies". Faculty and students of the Department of Meteorology of CUI Islamabad Campus benefitted from the lecture.

CUI-Pakistan Faculty Wins ANSO International Collaborative Research Project

Dr. Toqeer Ahmed, Associate Professor, Centre for Climate Research and Development, CUI, Islamabad, won a collaborative research project titled "Free Online Training Courses for Sustainable Water, and Land Use in Arid Region with RS-GIS Application based on Chinese Expertise" worth USD30,000/- from Alliance of International Science Organization (ANSO) with collaborating partners from China, Kazakhstan, Iran and Pakistan.

SFA-Sindh Government (Pakistan) Signs Agreements with ICCBS-Pakistan

Sindh Food Authority (SFA), Government of Sindh, has signed two Memoranda of Agreement (MoA) with the International Center for Chemical and Biological Sciences (ICCBS), Pakistan – Halal Certification Testing and Research Services (HCTRS) and the Industrial Analytical Center (IAC), International Center for Chemical and Biological Sciences (ICCBS).

These MoA aim to create a long-term framework of collaboration, cooperation, and development of a strong linkage between SFA and the

research centers of the ICCBS for the testing of food products, which is in the interest of both institutions. The SFA Director General Agha Fakhar Hussain and Prof. Dr. Farzana Shaheen, the Director of the ICCBS, University of Karachi, signed the agreement in a meeting held at the HEJ Research Institute of Chemistry, ICCBS.

Halal Testing Laboratory works to standardize and uplift the high-quality standard of nutrition & hygiene in

Halal-certified food & other products by international export quality standards. The IAC is working to meeting testing requirements with integrity, reliability, accuracy, precision of data, and timeliness of reports to achieve customer satisfaction and define specifications in compliance with ISO/IEC Laboratory Accreditation System and ISO 9001Quality Management System.

ICCBS-Pakistan Professor Wins 37th Khwarizmi International Award

Prof. Dr. Raza Shah, the Senior Professor at the International Center for Chemical and Biological Sciences (ICCBS), Karachi, Pakistan, has won the 37th Khwarizmi International Award (KIA) in Biological and Chemical Sciences.

Prof. Raza Shah received the trophy, certificate, and cash prize of 20,000 USD by the President of the Islamic Republic of Iran at the 37th KIA Award Ceremony in Tehran. These awards have been announced by the Iranian Ministry of Science, Research and Technology, and Iranian Research Organization for Science and Technology (IROST) to recognize the valuable achievements of the researchers, innovators, and inventors in the field of Science and Technology.

PCMD-ICCBS-Pakistan Scientist Elected as PAS Fellow

The Pakistan Academy of Sciences (PAS) has elected Dr. Zaheer-Ul-Haq, a Professor at the Dr. Panjwani Center for Molecular Medicine and Drug Research (PCMD), ICCBS, as a fellow of the Pakistan Academy of Sciences (PAS). Only scientists of the highest merit, who have made outstanding contributions to advancing scientific knowledge, are elected fellows. PAS promotes higher studies and research on pure and applied sciences in Pakistan and disseminates scientific knowledge.

Al-Farabi KazNU-Kazakhstan Participates in Scientific and Innovation Exhibition in Urumqi

On January 22nd, 2024, Al-Farabi Kazakh National University (KazNU) organized its first-ever scientific and innovation exhibition in Urumqi, People's Republic of China.

Hosted by the Ministry of Education of China, the event brought together 196 rectors and heads of research centers from local universities, representatives from over 600 Chinese universities, leaders of 40 major industrial enterprises, diplomatic corps of both countries, scientists, and entrepreneurs.

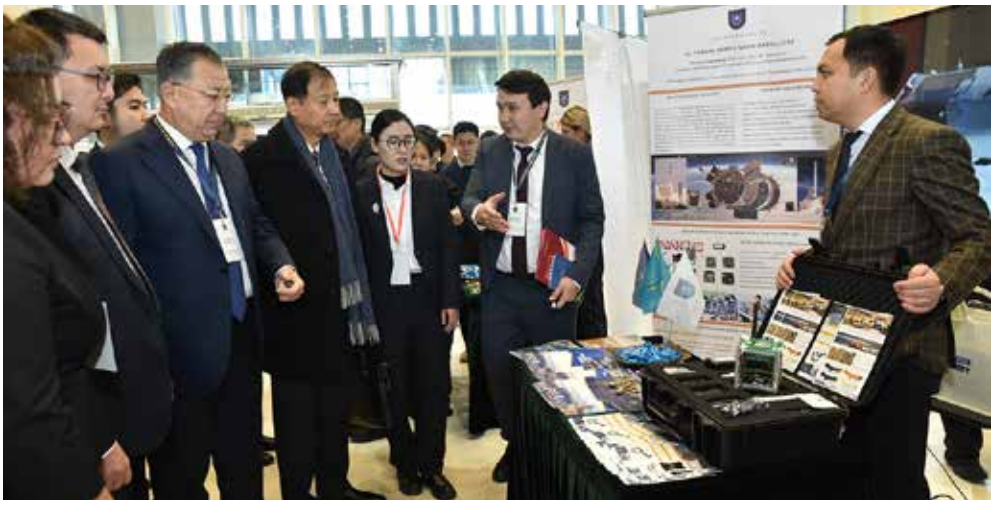
A particularly keen interest in KazNU's scientific and innovation projects was shown by the Chinese delegation led by Vice Minister of Education of the PRC, Mr. Sun Yao, Vice Chairman of the Xinjiang Uygur Autonomous Region Committee of the Chinese People's Political Consultative Conference, and Secretary of the Party Committee of Xinjiang University, Mr. Xue Xiani.

The Chemical Coating Innovations Research Center, specializing in chemical galvanic coating production that opened as part of KazNU's 90th anniversary celebrations, presented its products at the exhibition. KazNU scientists also introduced bioactive additives and herbal teas, new antibacterial drugs for treating sturgeon fish, and a nano-spacecraft, assembled and launched into space for the first time at KazNU.

The exhibition was followed by an international scientific symposium of universities from Kazakhstan and China.

Al-Farabi KazNU-Kazakhstan signs Agreements with Chinese Institutions

Al-Farabi KazNU and the Xinjiang Institute of Ecology and Geography



of the Chinese Academy of Sciences have entered into a collaboration agreement. The agreement envisages expansion of cooperation in the field of environmental sciences and sustainable development, as well as sharing of scientific centers and laboratories in educational institutions. Additionally, this memorandum will facilitate the exchange of faculty and students, the organization of joint academic meetings, symposiums, and the arrangement of professional development courses for the faculty. Articles, reports, and other scientific works by faculty and students will be published in periodic and scientific publications of partner educational institutions. The agreement also includes the development and implementation of joint educational programs, including dual-degree programs.

Furthermore, joint participation in grants announced by state, international, public, private funds, and organizations will be further explored.

Agreement Between Al-Farabi KazNU-Kazakhstan and Xinjiang Institute of Physics and Chemistry

The Medicinal Plants Research Center at Al-Farabi KazNU and the Xinjiang Institute of Physics and Chemistry, Chinese Academy of Sciences, have entered into a memorandum of understanding for collaboration.

Under this agreement, the center at KazNU and the Chinese institute will jointly train young scientists, exchange expertise in scientific research, implement collaborative innovative projects, and expand the material and technical production base.

Some R&D Activities at Al-Farabi KazNU-Kazakhstan

Self-adaptive Nanostructured Heterojunction: Scientists from Al-Farabi KazNU, in collaboration with colleagues from Kazakh-British Technical University (KBTU) and Nazarbayev University, have discovered unique capabilities of carbon nanotube-based photodiodes under the influence of ionizing radiation. The research yielded breakthrough results related to the radiation-induced and self-adapting features of the proposed heterojunction based on carbon nanostructures and cadmium-zinc telluride and its findings have been published in the prestigious journal 'Carbon' with an impact factor of 11, placing it in the top 1% of journals in the corresponding scientific field. Further investigations into the proposed devices are planned under the influence of space factors aboard the International Space Station (ISS) to develop new space technologies.

Chemical Coating Innovations Center: As part of the 90th anniversary celebrations of Al-Farabi KazNU, a scientific-production center called Chemical Coating Innovations has been established on the university campus. The center focuses on production of chemical coatings for various purposes and applications. This scientific-production center was established with financial support from the Science Fund of the Ministry of Science and Higher Education, Kazakhstan. Scientists at the center produce both traditional and specialized coatings for the

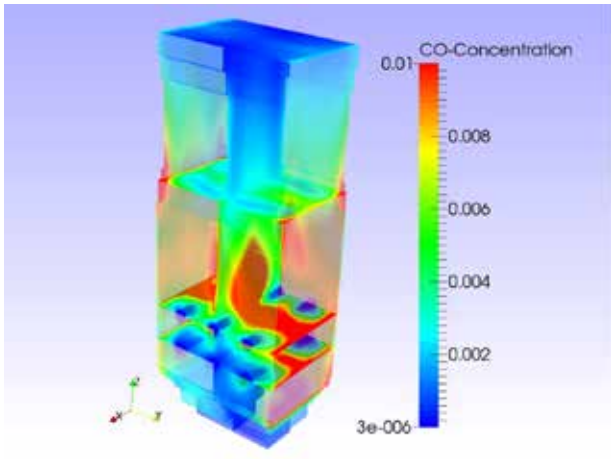
Al-Farabi KazNU Launches New Logo

At the latest session of the Academic Council of Al-Farabi Kazakh National University (KazNU), the updated university logo dedicated to its 90th anniversary was approved. The decision was made following an open vote by all members of the Academic Council.

needs of mechanical engineering, instrumentation, as well as for the souvenir and jewelry industries.

Project for Clean Energy Production Technologies: Scientists from Al-Farabi KazNU are undertaking the project "Implementation of environmentally friendly energy production technologies at Kazakhstani thermal power plants" with the goal of reducing harmful emissions into the atmosphere. This new development will contribute to addressing pressing issues in thermal power engineering.

The team of scientists has developed and proposed an innovative two-stage combustion technology for burning high-ash Kazakhstani coal at Kazakhstani thermal power plants. Using state-of-the-art information technologies and 3D computer modeling methods, they have conducted research on heat and mass transfer processes and the formation of harmful substances in the combustion chamber of the BKZ-75 boiler at the operating Shakhtinskaya Thermal Power Plant.



Innovative Water Sampler: Scientists at Al-Farabi KazNU have conceptualized and designed a vacuum water sampler. This device is engineered for water sample collection and the detection of organic pollutants in aquatic environments. This product is energy-independent, making it convenient to use. It marks the first Kazakhstani water sampler capable of collecting approximately 300 samples. While counterparts exist in foreign countries such as Germany, the United States, and others, they primarily rely on electricity. In contrast, KazNU's product operates independently of energy sources and natural zones, significantly easing the sample collection process. This water sampler has already been employed by scientists in monitoring the ecological conditions of the Syr Darya river valley, revealing the presence of several chloroorganic pesticides, fungicides, and herbicides in the water bodies. A prototype of the water sampler is undergoing testing in the United States. If successful, the university researchers intend to bring this new product to market for commercialization purposes.

Biofertilizers to Combat Soil Salinization: Young scientists at Al-Farabi KazNU have developed biofertilizers based on low-grade coal and coal-solubilizing bacteria. The main objective of the project is to address soil salinization issues in Kazakhstan and to better utilize low-grade coal.

Experts at the Kazakh-German-Chinese International Research Laboratory of Applied Microbiology have produced the product in two forms: liquid and powder. These fertilizers are environmentally friendly, not only enhancing agricultural productivity but also posing no harm to humans or the environment. Soil salinization is a significant global environmental problem that adversely affects soil health and plant productivity. KazNU's product is safe and beneficial not only for the economy but also for the agricultural sector.

In the near future, mass production of the biofertilizers will be established. Recently, scientists have signed a contract for the commercialization of the project.

TIRDO-Tanzania Seeks to Boost Local Biomass Briquettes Industry

A project of Tanzania Industrial Research and Development Organisation (TIRDO) is helping address the technology gaps and lack of awareness to facilitate high adoption rate of biomass briquettes in the country. The project takes stock of

the studies conducted in Tanzania East Africa region, that identify the quality issues, untrained workforce lack of expertise, and awareness as barriers for the industry to boost.

Aiming to reduce or eliminate the use of wood fuel to combat Climate Change, the project has made progress through biomass briquette plant furnished with simple machines including Eco-carbonizer, Mixer and Millers to develop biomass briquettes. Challenges and opportunities of biomass briquettes have been identified through a study of 58 biomass briquettes producers in twelve regions of Tanzania. A hand book guide for production of biomass briquettes has been developed and guidelines on mixing ratios using different biomass materials and laboratory testing of its quality have been generated. Focused efforts have also resulted in training of 30 biomass briquettes producers.

University of Granada, Spain, Develops Nanoparticles to Boost Pancreatic Cancer Treatment

A multidisciplinary team at the University of Granada (UGR), Spain has developed biocompatible nanoparticles (NPs) capable of adsorbing the drug Olaparib (OLA) - a medication indicated for the treatment of various cancers, such as prostate cancer, pancreatic cancer, breast cancer, or ovarian cancer - and ascorbic acid (AA) on their surface. These nanoformulations have shown to be useful for the treatment of pancreatic cancer by presenting greater effectiveness compared to free Olaparib, both in *in-vitro* and *in-vivo* assays where the survival of mice is higher.

Additionally, the nanodrug improves the availability of the antitumor agent by being attached to the NPs, so that it is slowly released, increasing its bioavailability, thus improving the efficacy and efficiency of the treatment with this drug. An increase in survival has been observed compared to treatment with free Olaparib.

TIB-China Scientists Succeed in Converting Coal into Protein

New research at Tianjin Institute of Industrial Biotechnology (TIB), China, seeks to address through biotechnological synthesis China's heavy imports soybeans for animal feed. A cheaper alternative approach involves production of methanol from coal. The research is being led by Professor Wu Xin of TIB. His team has developed a protein production technology that is cheaper than traditional protein biosynthesis. The findings were published on November 17 last year in the peer-reviewed journal 'Biotechnology for Biofuels and Bioproducts'.

CSIR and MESTI Ghana Facilitate Workshop on Patent Drafting

Heritors Labs Limited, in partnership with RISA Fund, Ministry of Science, Technology and Innovation, and Council

for Scientific and Industrial Research (CSIR), Ghana, hosted a one-day workshop on patent drafting and filing in Accra. The event, themed "Innovate, Protect, Prosper: Navigating the Patent Landscape," aimed to empower scientists, researchers, and innovators in maximizing value through patents and intellectual property rights.

Funded by RISA Fund, FCDO, and UKAID, the workshop facilitated discussions among state agencies, business owners, and innovators to develop a draft charter for research product development.

The workshop covered the following topics: Patent drafting and Filing; IPR management; commercialization strategies for research products; patents in innovation ecosystems; and case studies and best practices.

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and LHVs (Lady Health Visitors), are women. This deliberate staffing choice aims to create a comfortable environment for female patients to discuss their health concerns openly.

Operating in rural areas where access to healthcare and literacy rates among women are low, CTH has been a lifeline for many. The project boasts a team of dedicated female doctors specializing in various fields, including gynecology, pediatrics, dermatology, and family medicine operating from CTH resource centre at the heart of Pakistan's Capital City. This ensures that women of all ages have access to quality medical consultations from the comfort of their communities. CTH's commitment to prioritizing well-being of mothers and children, coupled with its sensitivity to gender-specific needs and its exploration of social empowerment initiatives, underscores its holistic approach to healthcare and community development. Sensitivity to the cultural norms and preferences of its female patients is the hallmark of CTH.

Developing countries' challenges related to women empowerment are manifold, from access to basic services and social freedom to participation in STEM fields, careers and leadership. Addressing these, we can unlock the full potential of women and achieve sustainable and equitable development by 'investing in women, accelerating progress'.

"You cannot hope to build a better world without improving the individuals. To that end each of us must work for his own improvement, and at the same time share a general responsibility for all humanity, our particular duty being to aid those to whom we think we can be most useful."- Marie Curie

GLIMPSES OF SOME EVENTS

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

To promote academic excellence, COMSATS offers scholarships and fellowships to the students and researchers from Member States at its International S&T Centres of Excellence.

Scholarships offered by COMSATS University Islamabad (CUI), Pakistan

COMSATS University Islamabad (CUI), Pakistan, offers MS & PhD Scholarships for students and researchers belonging to COMSATS' Member States and prospective members. The scholarships are offered in the following key programs: Computer Science, Management Science, Electrical Engineering, Biosciences, Mathematics, Physics, and Meteorology.

The relevant details, including terms and conditions, eligibility criteria, admission procedure and schedule, application form, etc., are available on CUI website: http://ww2.comsats.edu.pk/internationalstudents/COMSATS_HQ.aspx.

For further details on the scholarships and fellowships, please visit www.comsats.org or write to farhan@comsats.org.

CUI-Pakistan – Admissions Open for International Students

Admissions are now open for the Fall 2024 semester at COMSATS University Islamabad (CUI) for international students. Under this incredible opportunity to pursue academic aspirations, the university offers scholarships, including exclusive scholarships for students from COMSATS' member countries.

Deadline for application submission: June 30, 2024

More details on application process at:
http://ww2.comsats.edu.pk/internationalstudents/

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