



COMSATS Newsletter

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

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COMSATS was honoured to receive Secretary General Commonwealth and Minister for Science and Technology, Pakistan at COMSATS Secretariat and COMSATS Technology Park (Page 2)

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From the Executive Director's Desk

The integration of Science, Technology and Innovation (ST&I) in the development process is fundamental for socio-economic development and provides solutions to contemporary developmental challenges.

COMSATS has recently launched several groundbreaking initiatives to foster environment-friendly innovations and promote emerging technologies for transforming industries that are vital for sustainable development. One such endeavor is the conversion of Internal Combustion Engine (ICE) vehicles to Electric Vehicles (EVs) through retrofitting of kits developed by COMSATS. This initiative is aimed at reducing fuel consumption, minimizing GHG emissions, reducing noise & pollution, and contributing significantly to a cleaner environment, as well as boosting local employment and fostering indigenous technological development. Moreover, in the realm of clean energy, COMSATS has supported the development of Vertical Axis Wind Turbine (VAWT), offering a promising solution for generating decentralized renewable energy. The successful prototype of the VAWT is available to be scaled-up for household use and commercialization. Furthermore, COMSATS has launched the Cloud Computing Service by upgrading infrastructural capacity of COMSATS Internet Services (CIS) Data Centre. The Cloud

Computing Service is available for use by the Member States.

The interconnection between scientific inquiry and technological innovation has consistently driven progress, bringing about economic growth, and improving quality of life. During the recent times, major advancements in science and technology have taken place world-across, paving way for addressing various development challenges.

The Chinese Academy of Sciences (China) achieved the first successful cloning of a rhesus monkey, a breakthrough in genetics and neuroscience research. The Jiufengshan Laboratory (China) made significant strides in silicon photonics chip technology, enhancing data transmission efficiency. Moreover, the Mohammed VI Polytechnic University (Morocco) has introduced energy-efficient desalination technology, addressing water scarcity and supporting agriculture in arid regions. Such innovations taking place in the Member States underscore the enormous scientific potential the COMSATS' fraternity possesses, which if effectively and systematically put to use, can help address many socio-economic challenges at national and regional levels.

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HIGHLIGHTS FROM COMSATS SECRETARIAT

Secretary General Commonwealth and Minister for Science and Technology, Pakistan Visit COMSATS

The Secretary General of the Commonwealth, Rt Hon. Patricia Scotland KC, led a seven-member delegation that visited COMSATS Secretariat on July 30, 2024.

Federal Minister for Science and Technology and Federal Education & Professional Training, H.E. Dr. Khalid Maqbool Siddiqui, graced the occasion with his presence. The Commonwealth delegation met and had discussion with the Executive Director COMSATS, Ambassador Dr. Mohammad Nafees Zakaria and his team.

The two intergovernmental organizations have nine common member countries, and share the objective of facilitating international cooperation in science and technology for sustainable development. COMSATS is an accredited organization of the Commonwealth and is cooperating in various fields, including digital health, since 2018.

The Minister noted that Pakistan has a youth bulge of 64% of the population,



which needs to be converted into an asset through necessary skills enabling them to better contribute to the country's socio-economic development. The Secretary General Commonwealth stated that the future is technologically driven, and, therefore, important to provide opportunities to the youth for training and education. In this regard, she highlighted the Commonwealth's ongoing endeavors, such as AI Academy, training courses for leaders, Common Space initiative, etc.

The Executive Director recalled COMSATS' working relations and cooperation with the Commonwealth, as well as highlighted the organization's key programs and activities. He underscored COMSATS' commitment to facilitate its member countries in keeping pace with scientific and

technological developments. He expressed pleasure that COMSATS Telehealth was given an award in 2021 by the Commonwealth Centre for Digital Health (CWCDH) in telemedicine category.

The two sides held fruitful discussions on cooperation in various fields, including IT and AI, Cyber Security, Cloud Computing, Fintech, Tech-enabled Health Clinics, EV and Climate Change, and expressed a strong desire to work together for the benefit of developing countries.

They exchanged information on their ongoing and planned programs and activities. The Secretary General expressed keen interest in digital health and biotechnology related activities of COMSATS.





Ambassadors/Diplomats of Ghana, Jordan, Kazakhstan, Morocco, Nigeria, Palestine, Tunisia and Yemen graced the occasion to greet and meet the Secretary General Commonwealth. The delegation also visited COMSATS Technology Park and witnessed the functioning of COMSATS Telehealth Program.

The Secretary General and Minister MoST also planted trees at the Secretariat to mark the beginning of a strong and enduring relationship.

Cooperation Avenues Explored with President of the Islamic World Academy of Sciences

On July 23, 2024, the Executive Director COMSATS, Ambassador Dr. M. Nafees Zakaria, had a meeting with the President of the Islamic World Academy of Sciences (IAS), Prof. Adnan Badran, who was formerly the Prime Minister of Jordan. The meeting was also attended by the Secretary General, Arab Academy of Sciences, Prof. Dr. Elias



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COMSATS recognizes the urgency for its Member States to invest in emerging technologies. By promoting R&D collaboration, knowledge sharing and capacity building, COMSATS endeavors to facilitate its Member States in leveraging cutting-edge technologies for sustainable development.

COMSATS had the pleasure of hosting at its Secretariat, the Secretary General Commonwealth, Rt. Hon. Patricia Scotland KC, and Pakistan's Federal Minister for Science & Technology & Federal Education and Professional Training, H.E. Dr. Khalid Maqbool Siddiqui. Meaningful discussions were held, inter alia, on IT and AI, Cyber Security, Fintech, Tech-enabled Health Clinics, EV and Climate Change, and means to utilize latest technologies for progress of developing countries. Another important meeting was held with the former Prime Minister of Jordan, currently, the President of the Islamic World Academy of Sciences (IAS), Hon. Prof. Adnan Badran, during which the idea of signing a cooperation agreement transpired.

A Memorandum of Understanding signed between COMSATS and the Economic Cooperation Organization Science Foundation (ECOSF), based in Pakistan, has helped find common grounds for work on climate change. Discussions with the leadership of the Living Indus Initiative helped explore avenues of cooperation on environmental sustainability within the region. COMSATS' high-level panel discussion on UN World Environment Day advocated collective action to climate change related global emergency. Another stakeholder engagement was held in the form of a meeting with the officials of the National Disaster Management Authority (NDMA) of Pakistan, for integrating scientific advancements with disaster management.

Further details on these activities and interactions are given in this issue of the newsletter. Invaluable feedback of the readers is invited and welcome!



Baydoun besides officials of COMSATS.

Held in Islamabad, the two officials welcomed the idea of signing cooperation agreement to strengthen scientific ties between the two institutions.

Amb. Zakaria introduced Prof. Badran to COMSATS as an intergovernmental organization of 27 developing countries with a Network of 25 International S&T Centres of Excellence across the globe working for scientific and technical cooperation for sustainable development in the South, through South-South and North-South Cooperation mechanisms. He highlighted the importance of Jordan's

role in such pursuits by informing Prof. Badran of the long-haul membership and participation of Jordan's Royal Scientific Society (RSS) in COMSATS' programmes and activities.

Both sides agreed that the expertise and resources should be pooled to pursue the scientific development taking place rapidly. Scientific collaboration and R&D were seen as the key. Both recognized the need for greater intra-south cooperation and interdependence and undertook to make joint efforts to that end.

The idea of COMSATS working with Arab Academy of Sciences (AAS) was welcomed by Prof. Badran, who also

extended invitation to the Executive Director COMSATS to participate at the upcoming IAS Conferences to be held in Morocco and Uzbekistan.

COMSATS and ECOSF Sign MoU to Address Climate Change and STI Collaboration

On 2nd July 2024, COMSATS signed a Memorandum of Understanding (MoU) with the Economic Cooperation Organization Science Foundation (ECOSF) to collaborate for addressing common challenges faced by their respective member states by leveraging each other's expertise in Science, Technology, and Innovation (ST&I).

Climate Change that poses a serious global threat to sustainable socio-economic growth constitutes the main premise of the agreement, which aims to mobilize academia, S&T, and R&D institutes to promote innovation, capacity building, institutional strengthening, knowledge-sharing and expertise.

The MoU also facilitates the exchange of technological know-how, data, and good practices to strengthen the Sustainable Development Agenda.

The partnership this MoU entails will



build on the ongoing activities and commitment to R&D and innovation activities of both COMSATS and ECOSF. Expertise of the two organizations would be utilized for finding answers to emerging research questions pertaining to practical challenges in designing, adopting, and governing sustainable systems.

Both organizations will support each other in ST&I-based research and development and policy interventions for respective member countries.

Alongside officials from COMSATS and ECOSF, the signing ceremony was attended by representatives from the Ministry of Science and Technology (MoST), COMSATS' partner organizations, such as the National Institute of Disaster Management (NIDM) and the Climate Resourcing Coordination Centre (CRCC), as well as those from the diplomatic missions of Kazakhstan, Iran, Turkmenistan, and Syria in Pakistan.

Speaking at the event, Executive Director of COMSATS, Ambassador Dr. Mohammad Nafees Zakaria, remarked, "By combining our research strengths and technological expertise, both organizations will be able to have a stronger grip on development in S&T, an imperative for enabling society to effectively tackle significant challenges to self-reliance."

President of ECOSF, Prof. Seyed Komail Tayebi, expressed gratitude to COMSATS for this partnership, stating, "COMSATS has consistently demonstrated a strong commitment to supporting and enhancing the national capacities of developing countries in ST&I. Their dedication to promoting South-South cooperation is admirable and aligns perfectly with our goal of fostering economic and social development through regional and sub-regional collaboration".



COMSATS Officials Visit NEOC, NDMA

Executive Director Ambassador Dr. Mohammad Nafees Zakaria and Additional Director (International Organizations) and Head of CCCS, Dr. Mehwish Qayyum Durani, visited the National Emergencies Operation Center (NEOC) at the National Disaster Management Authority (NDMA), Islamabad, on July 22, 2024. The visit took place in response to the invitation of Chairman NDMA, Lt. Gen. Inam Haider Malik, for the demonstration of the state-of-the-art NEOC, the facility established by NDMA with a strategic vision to transition from reactive to proactive disaster management.

The visit was based on COMSATS existing collaboration with the National Institute of Disaster Management (NIDM) and aimed to foster this prevailing association. In April 2024, both organizations signed a Letter of Agreement to cooperate on areas such as climate resilience, adaptation, disaster management, ecosystem protection, health, agriculture, and water resources.

During this visit, Dr. Zakaria expressed keen interest in the Center's operations, which focus on innovative preparedness for climate-induced disasters in Pakistan. COMSATS' officials were introduced to the latest tools and technologies at NEOC, including real-time satellite feeds and the use



of GIS, remote sensing, climatology, meteorology, seismology, hydrology, and data sciences. These systems enable NEOC to monitor and analyze environmental hazards globally and locally, and anticipate disasters up to three months in advance – a crucial capability for a climate-vulnerable country like Pakistan.

Dr. Zakaria appreciated the center's vision, concept, and operational framework.

COMSATS and NDMA also agreed on joint representation at UNFCCC Conference of Parties (COP29) in Baku, Azerbaijan. Their partnership will focus on Research & Development (R&D) and Science, Technology, and Innovation (STI) based approach to tackle challenges related to food and water security, droughts, displacements, health, and other climate-related crises.

COMSATS-KTS Training on Cloud Computing Solutions Concluded Successfully

COMSATS Secretariat, in collaboration M/S KhasTech Solutions (KTS), organized a five-day training workshop

on 'Cloud Solution Implementation at Data Centre' that was successfully concluded on August 28, 2024.

The activity was organized under the framework of an MoU signed between the two organizations on May 16, 2024, aimed at developing IT enabled solutions and conduct professional capacity building programs. Human Resource Development in various fields including Information and Communication Technology (ICT), DevSecOps, Information and Cyber Security (I&CS), Management, Business, Health, Cloud Computing, Medicine and related technologies was the focus.

The workshop was a part of a technology upgrade measures under the initiative of Executive Director, Ambassador Dr. Mohammad Nafees Zakaria, for operational improvements in the existing infrastructure at CIS-Data Centre and as part of capacity building of technical team at CIS for upskilling their operational capabilities.

The training was designed to update the skills and expertise of the COMSATS Internet Services (CIS) to optimally use the newly installed and implemented infrastructure. The participants from

different operational departments benefited from the training.

The closing ceremony was held on August 28, 2024, Ambassador Dr. Mohammad Nafees Zakaria, Executive Director COMSATS along with Dr. Ashraf Masood, CEO KTS, distributed the training certificate among the participants.

Speaking on the occasion, the Executive Director expressed satisfaction over the completion of the training and hoped that skills and experiences gained during this training will prove to be invaluable for relevant human resource in performing their professional assignments.

COMSATS' initiative of datacenter upgradation with competent professionals has enabled CIS to offer a number of advantages to its current and potential users, including, enhanced data security and integrity; increased uptime; disaster recovery; high performance computing, high availability; scalability; increased reliability; and optimized networking.

These services are also being offered to COMSATS' Member States.





COMSATS-AGECO Collaboration in EV Showcased to Pakistani Government Officials

COMSATS' partnership with AGECO Ltd. has been resulting in indigenous EV solutions since mutual cooperation agreement signed in 2023. Furthering their joint vision of Clean and Green Pakistan under the agreement, the two organizations' work on EV has recently expanded to include Electric Golf Cart. Earlier, EV kits had been developed and successfully installed for converting the regular Internal Combustion Engine bikes in electric bikes.

The Executive Director COMSATS, Amb. Dr. Mohammad Nafees Zakaria, showcased the EV bike and Golf Cart to Honorable Speaker of the National Assembly of Pakistan, Mr. Sardar Ayaz Sadiq. Mr. Sadiq appreciated the outcomes of the collaboration between the two organizations and praised COMSATS for initiatives that could save millions in import bills for Pakistan with improvements towards environmental preservation in the form of zero emissions.

On 16 August 2024, the Hon. Minister for Science & Technology, H.E. Mr. Dr. Khalid Maqbool Siddiqui, was also given

a demonstration of COMSATS EV bike and Golf Cart, showcasing COMSATS' Innovative solutions for environmental preservation.

Training Workshop on Sustainable Water and Land- use in Arid Regions, held in Kazakhstan

COMSATS' supported – training workshop on 'Sustainable Water and Land-use in Arid Regions with RS-GIS Applications support based on Chinese Expertise', held from 12-16 August 2024, in Almaty, Kazakhstan. Key organizers of the event were COMSATS University Islamabad (CUI) and Xinjiang Institute of Ecology and Geography (XIEG) that also had the patronage of the Alliance of National and International

Science Organizations for the Belt and Road Regions (ANSO) that graciously funded the event. Collaborators from Kazakhstan included Kazakh British Technical University (KBTU) and Kazakh National Agrarian Research University (KazNARU).

About 350 researchers and subject experts from various countries, including, Benin, Belgium, China, Egypt, Ethiopia, Jamaica, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Palestine, Senegal, Sri Lanka, Tajikistan, and Tanzania, benefited from the training.

Speaking at the opening ceremony, Ambassador Dr. Mohammad Nafees Zakaria, Executive Director COMSATS, in his opening address, emphasized the importance of sustainable water and land-use in arid regions, highlighting the critical role of innovative technologies, such as RS-GIS. He acknowledged the wealth of expertise available with Chinese scholars and practitioners, urging the participants to make best use of the opportunity to leverage their knowledge for addressing the unique challenges faced by communities in arid regions.

The workshop featured 18 presentations, primarily focused on RS-GIS applications in agriculture, EE Mitigation, Disaster Risk Reduction (DRR), Emergency preparedness and the management of water and land resources.



SOME ACTIVITIES OF COMSATS' CENTRES OF EXCELLENCE

COMSATS University Islamabad, Pakistan, Scientists Awarded Grant for Innovative SRM Research

A team of social scientists from COMSATS University Islamabad (CUI) has secured a competitive grant from "The Degrees Initiative" to explore the socio-political implications of solar radiation modification (SRM). This emerging field aims to reflect sunlight away from Earth to mitigate global warming, but it raises significant ethical and environmental concerns.

The project will specifically focus on the health sector in Pakistan, marking the first social science study on SRM in the country and one of the first in South Asia. The research team plans to collaborate with experts from both the Global South and the Global North.

As global temperatures rise, understanding the implications of climate interventions like SRM is critical for vulnerable regions such as Pakistan. The team aims to connect scientific findings with policy development, creating a dashboard for policymakers that provides evidence-based insights on the links between climate change, SRM, and malaria.

The project will engage with the Directorate of Malaria at Pakistan's Ministry of National Health Services to conduct stakeholder consultations and policy analyses. This collaborative effort seeks to inform policy decisions and develop strategies that consider the risks and benefits of SRM technologies.

By contributing to the global discussion on SRM, the CUI team aims to support the development of balanced policies that align with public health and climate resilience objectives. This research represents a significant step toward understanding and addressing the



complex dynamics of climate change and its impact on health in Pakistan and beyond.

R&D Activity at COMSATS University Islamabad

Hemostat Dressing Development

A team at the Interdisciplinary Research Center in Biomedical Materials (IRCBM) at COMSATS University Islamabad has developed and patented KytoStat®, a groundbreaking hemostat dressing capable of stopping bleeding within seconds. This innovation, made from low-cost biopolymer chitosan, addresses a critical need in emergency care, especially in developing countries where access to advanced medical supplies is limited. Approved by the Drug and Regulatory Authority of Pakistan (DRAP) and the Intellectual Property Organisation of Pakistan (IPO), KytoStat® has the potential to save tens of thousands of lives annually, particularly in cases of traumatic injuries.

The product's effectiveness in rapidly promoting clot formation makes it a vital tool for first responders and hospitals alike. CUI team is collaborating with Cotton Craft Pvt Ltd for manufacturing and exploring global export opportunities.

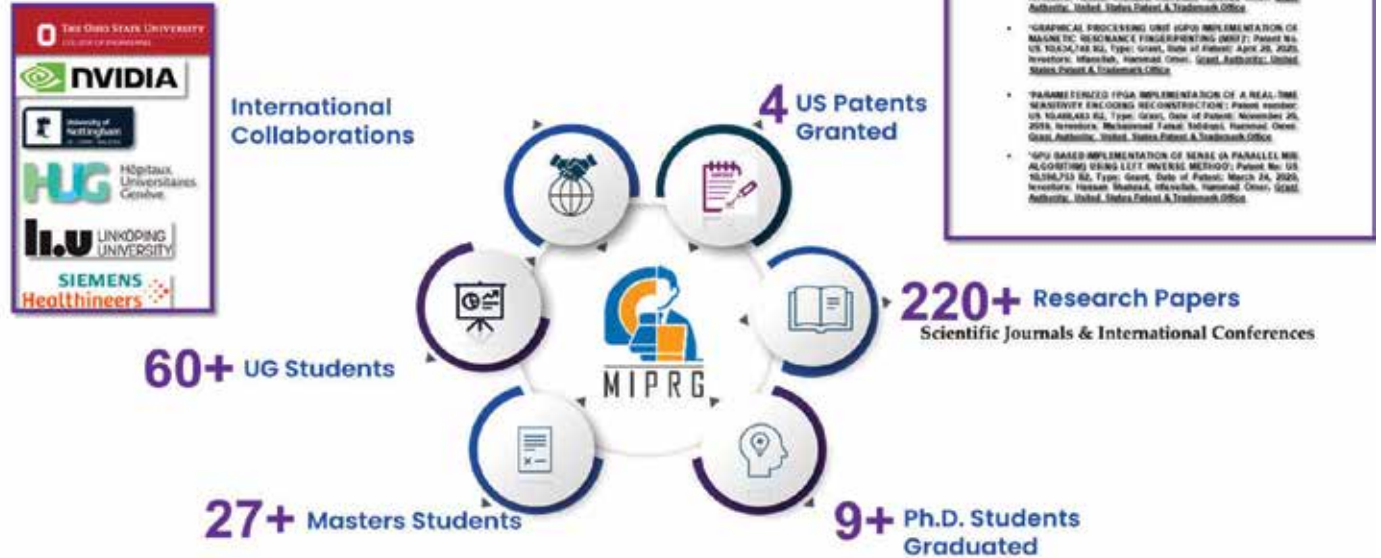
Baldness Treatment Research

Researchers at CUI have made a significant discovery in the treatment of hereditary baldness, known as androgenic alopecia. Led by Dr. Muhammad Yar and collaborating with Professor Sheila MacNeil from the University of Sheffield, the team found that a gel containing 2-deoxy-D-ribose promotes hair regrowth alongside its application in wound healing. Initial tests on mice showed impressive results, with thicker fur regrowth in areas treated with the gel. Plans are underway for further lab studies before advancing to human trials, expected within two years. This research not only addresses hair loss but also emphasizes the importance of translational research in bringing scientific innovations to market, which could enhance economic development in Pakistan.

Cutting-Edge MRI Research and Development at MIPRG

Since its founding in 2013 by Dr. Hammad Omer, the Medical Image Processing Research Group (MIPRG) at CUI, has made groundbreaking contributions to MRI research. The group has developed four MRI-related inventions, earning patents from the U.S. Patent & Trademark Office.

MIPRG Milestones



MIPRG's impact is evident through its success, with nine PhD completions, over 25 MS theses, and more than 50 undergraduate projects, resulting in over 200 publications in top international journals and conferences. The group has received prestigious awards, fellowships, and research grants, and its collaborations with institutions like King's College London and the University of Iowa highlight its global reach.

MIPRG continues to push the boundaries of medical imaging both nationally and internationally.

New Exploration Projects with TIRDO, Enhance Tanzania's Mineral Sector

The Tanzania Industrial Research and Development Organization (TIRDO) is set to enhance the country's mineral sector through a partnership between the University of Dar es Salaam (UDSM) and South Korea's YULHO Public Company. A Memorandum of Understanding (MoU) signed on August

20, 2024, will help establish a mineral exploration academy and the largest mineral analysis laboratory in Tanzania, with an initial budget of Sh27 billion.

These new facilities will reduce reliance on foreign laboratories by enabling local testing of minerals like graphite and gold, improving accuracy and efficiency. The initiative also includes scholarships from YULHO to develop UDSM staff and students, fostering a skilled workforce for the mineral sector.

TIRDO's existing laboratory has played a crucial role in auditing mineral quality, and the new facility aims to further enhance the capabilities of Tanzania's mining industry.

TÜBİTAK, Türkiye, Celebrates 61 Years of Innovation and Progress at Anniversary Ceremony

The Scientific and Technological Research Council of Türkiye (TÜBİTAK) marked its 61st Foundation Anniversary with a vibrant ceremony reflecting on

its past, present, and future. Hosted by TÜBİTAK President Prof. Dr. Hasan Mandal, the event was attended by notable figures including Minister of Industry and Technology Mehmet Fatih Kacir and KOSGEB President Ahmet Serdar İbrahimcioğlu, alongside TÜBİTAK executives and employees.

In his address, Minister Kacir emphasized TÜBİTAK's pivotal role since its establishment in 1963, particularly its contributions to Türkiye's National Technology Movement. He highlighted the successful launch of Türksat 6A, Türkiye's first indigenous communication satellite, as a significant achievement that places Türkiye among the elite nations capable of developing its own satellites. Kacir also announced the establishment of a new chip production facility aimed at creating domestic chips for various sectors, including renewable energy and electric vehicles.

Kacir pointed out TÜBİTAK's substantial financial support for innovation, announcing that in the past year alone, 4.2 billion liras were allocated to over 3,600 projects. He noted initiatives like



<https://www.janes.com/osint-insights/defence-news/air/turkiye-successfully-launches-first-domestic-communication-satellite#:~:text=T%C3%BCrkiye's%20first%20indigenously%20developed%20communication,in%20Florida%20on%209%20July.>

the Artificial Intelligence Ecosystem Call, which supports national product development in AI, and pledged ongoing support for young scientists and researchers, highlighting that 3.1 billion liras had been awarded to over 91,000 individuals.

Prof. Mandal expressed pride in TÜBİTAK's long-standing mission to produce knowledge and train the next generation of scientists. He reiterated the importance of involving youth in research and innovation from an early age, showcasing initiatives such as science fairs and technology workshops.

The ceremony concluded with

the presentation of certificates of appreciation to long-serving employees and innovators, followed by a celebratory cake cutting and a performance by a choir of TÜBİTAK employees, marking a proud milestone in the council's ongoing journey of scientific advancement.

TÜBİTAK, Türkiye, Participation in Electric Vehicle Competitions at TEKNOFEST

TEKNOFEST, the world's largest aviation and space festival, hosted the International and High School Efficiency Challenge Electric Vehicle

Competitions, organized with the support of TÜBİTAK RUTE and TÜBİTAK BİTO. Held at TÜBİTAK's Gebze Campus, the competitions aimed to promote environmentally friendly vehicles and raise awareness about electric vehicle technologies.

Opened by Minister of Industry and Technology Mehmet Fatih Kacır and TÜBİTAK President Prof. Dr. Hasan Mandal, the event emphasized training young innovators in mobility technologies. This year, over 600 teams participated, with 73 qualifying for the finals. Kacır noted that participants from previous years have established their own tech enterprises, contributing to Turkey's national technology journey. TEKNOFEST Chairman Selçuk Bayraktar highlighted the festival's growth and its role in fostering high-tech development among youth. The competitions included 36 electromobile and 14 hydromobile teams in the international category, while 23 teams competed in the Inter-High School branch. Awards will be presented at the upcoming TEKNOFEST festival, taking place from October 2 to 6, 2024, with a total prize pool exceeding 1 million TL. These competitions aim to raise awareness of alternative energy sources among university and high school students and to cultivate skilled human resources in this critical field.



TUBITAK Participates in WAITRO's 94th Board Meeting Hosted by CSIR in Accra, Ghana

The 94th Board Meeting of WAITRO (World Association of Industrial and Technological Research Organizations) took place in Accra, Ghana, hosted by the Council for Scientific and Industrial Research (CSIR). Prof. Dr. Hasan Mandal, President of TÜBİTAK and Chairman of WAITRO, attended the meeting, where members reviewed activities planned for 2024 and discussed the upcoming WAITRO Summit, scheduled for November 13-15, 2024 in China.

During the meeting, Prof. Mandal highlighted TÜBİTAK's contributions in sessions focused on Resilient Cities and Green and Digital Transformation. He also engaged in discussions about enhancing collaboration between TÜBİTAK and Ghana, meeting with Vice President Dr. Mahamudu Bawumia to explore opportunities for partnership.

In a significant development, Prof. Mandal signed a protocol with Minister Ophelia Mensah Hayford aimed at strengthening cooperation in science, technology, and innovation between Turkey and Ghana. This initiative underscores the commitment to fostering international collaboration in research and technological advancement.

TÜBİTAK UZAY Plays Key Role in Türkiye's First Indigenously Developed Communication Satellite Launch

Türkiye successfully launched its first indigenously developed communication satellite, Türksat 6A, on July 9, 2024, from Cape Canaveral Space Force Station in Florida. The satellite was deployed aboard a SpaceX Falcon 9 rocket and is designed to operate in



geostationary orbit, providing critical communication support for both military and commercial users.

TÜBİTAK UZAY (The Scientific and Technological Research Council of Turkey's Space Technologies Research Institute) played a pivotal role in the development of Türksat 6A, collaborating with key partners including Turkish Aerospace (TUSAŞ), Aselsan, and CTech. The satellite, which has a lifespan of 15 years, features advanced Ku- and X-band payloads developed by Aselsan, and will orbit at 42° east, ensuring coverage over the Anatolian peninsula, most of Europe, the Middle East, and parts of Russia.

The successful launch of Türksat 6A follows the earlier deployment of Türkiye's first indigenously developed Earth observation satellite, Imece, in April 2023. The indigenous development of Türksat 6A and its subsystems will significantly inform the design and construction of future satellite projects, reinforcing Türkiye's capabilities in space technology and satellite communications.

This landmark achievement underscores TÜBİTAK UZAY's commitment to advancing Türkiye's technological independence and enhancing its strategic position in the global space arena.

CSIR-SARI, Ghana, Trains Agricultural Extension Agents to Boost Rice Production

The Council for Scientific and Industrial Research – Savanna Agricultural Research Institute (CSIR-SARI) recently conducted a two-day workshop for Agricultural Extension Agents (AEAs) in northern Ghana. The training focused on the System of Rice Intensification (SRI) technology to enhance rice production sustainably.

This initiative is part of the Scaling up Climate Resilient Rice Production in West Africa (RICOWAS Project), which aims to strengthen the capacity of AEAs to train farmers in their districts. The goal is to improve yields while promoting environmentally sustainable practices.

The workshop emphasized the importance of incorporating technologies that enhance climate resilience and food security. AEAs were encouraged to train at least 100 farmers each on SRI methodologies.

SRI technology has been shown to save 30-50% of water in rice fields and can increase yields by 20-50%. The training aimed to equip AEAs with essential knowledge to effectively disseminate information and best practices to farmers, addressing challenges such

as water management and overall productivity.

CSIR-SARI Leads the Way to First Biotech Crop in Ghana with Pest-Resistant Cowpea

On July 25, 2024, Ghana made a significant advancement in agriculture with the commercial release of its first biotech crop, the Pod Borer Resistant Cowpea (PBR Cowpea), developed by the Council for Scientific and Industrial Research – Savannah Agricultural Research Institute (CSIR-SARI), Ghana. This innovative variety is designed to combat the destructive Pod Borer pest (*Maruca vitrata*), set to enhance yields for farmers by significantly reducing pod damage.

The PBR Cowpea, also known as “Songotra T” was developed after 12 years of rigorous regulatory and field-testing. This initiative is part of a public-private partnership coordinated by the African Agricultural Technology Foundation (AATF), aimed at boosting cowpea productivity across sub-Saharan Africa.

The release followed the National Seed Council’s approval for commercial cultivation, contingent on the National Biosafety Authority’s green light for environmental release. This milestone not only marks a new chapter for Ghana’s agricultural landscape but also showcases the crucial role of CSIR-SARI in driving biotechnological innovations that promise to enhance food security in the region.

CSIR Calls for Mainstreaming Biotechnology to Advance Ghana’s Agricultural Sector

The Ghana Chapter of the Open Forum on Agricultural Biotechnology (OFAB), in collaboration with the Council for Scientific and Industrial Research (CSIR)



and the African Agricultural Technology Foundation (AATF), organised a capacity building for influencers to strengthen advocacy on biotechnology and genetically modified (GM) products.

This initiative aims to empower key stakeholders, promote public awareness, and encourage the adoption of biotechnology as a vital tool for advancing agricultural productivity and supporting smallholder farmers.

Held in Accra, the workshop highlighted the importance of biotechnology in addressing food security and environmental sustainability. The workshop also addressed the need to attract young graduates into the agricultural sector by providing clear information on biotechnology, thereby dispelling misconceptions.



ITS, Indonesia, Robotics Excels at 2024 Indonesian Robot Contest

Institut Teknologi Sepuluh Nopember (ITS), Indonesia, achieved remarkable success at the 2024 Indonesian Robot Contest (KRI), securing first place in six out of seven categories, including the Indonesian Search and Rescue Robot Contest (KRSRI), the Indonesian Humanoid Soccer Robot Contest (KRSBI), the Indonesian Art Dance Robot Contest (KRSTI), the Indonesian Thematic Robot Contest (KRTMI), and the Indonesian Underwater Robot Contest (KRBAI), while also earning second place in the ABU Indonesian Robot Contest (KRAI).

The Vi-Rose Team specifically excelled



in the KRSTI category, showcasing significant enhancements in their robot's design, such as advanced movement capabilities and dynamic features like eye movement and adjustable fan functionality. Their preparations began in March and culminated in a performance at the national competition held from July 2-6 at Universitas Muhammadiyah Surakarta.

The team emphasized three key technological aspects for their success: robust robot components, stability to prevent falls, and adaptability in design based on judging criteria. This commitment to innovation

underscores ITS's role in advancing robotics technology in Indonesia, with plans to compete internationally while promoting their robotic performances at public events.

RSS, Jordan, Hosts Workshops to Advance Circular Economy in Jordan's Industry

The Royal Scientific Society (RSS), Jordan, in collaboration with the Jordan Chamber of Industry, recently conducted workshops with leaders from all ten national industrial sectors to promote a circular economy in Jordan.

The sessions focused on identifying initiatives aligned with circular economy principles and addressing legal, technical, and marketing challenges.

The workshops highlighted the industrial sector's crucial role in achieving a circular economy, supported by various RSS projects for sustainable practices. A representative from the Jordan Chamber of Industry emphasized the need for green practices to enhance competitiveness in local and global markets.

KazNU, Kazakhstan, Launches Branch of Northwestern Polytechnical University under Kazakhstan-China Education Cooperation

A new branch of China's Northwestern Polytechnical University (NPU) has officially opened at Al-Farabi Kazakh National University (KazNU), marking a significant advancement in Kazakhstan-China education cooperation. This initiative, made possible by an agreement signed in May 2023 during President Kassym-Jomart Tokayev's state visit to China, aims to offer Kazakh students access to a world-class education in high-demand technical fields.





The NPU branch will provide programs in Electronics and Communication Technologies, Materials Science and Engineering, and Computer Science and Technology. Students will complete their first year at KazNU and their second year at NPU, earning dual diplomas from both institutions, with NPU ranked among the top 200 universities globally.

This collaboration also includes the establishment of a “5G/5.5G Communication Technologies” laboratory and a joint agreement for microsatellite research, enhancing Kazakhstan’s technological and scientific capabilities. Admission to the master’s program requires candidates to pass a comprehensive test, with additional scholarships available to make education more accessible. This initiative reflects Kazakhstan’s commitment to integrating into the global scientific community and adopting advanced educational practices from China.

UTG, Uganda, and SCSU Sign MoU to Enhance Agricultural Education

On August 8, 2024, the University of The Gambia (UTG) signed a Memorandum of Understanding (MoU) with South Carolina State University (SCSU) to

promote student and staff exchanges and enhance agricultural research.

The partnership aims to develop knowledge in agricultural science through practical experiments. UTG has two farmlands designated for research, which may also support commercial farming initiatives.

The collaboration underscores the significance of agriculture in education, with both universities planning to refine their focus and expand the scope of assistance to foster mutual growth in agricultural development.

ICCBS, Pakistan, Workshop on Echocardiography Addresses Urgent Need for Enhanced Cardiac Care in Pakistan

A recent workshop on echocardiography at the Stem Cell Research Laboratory of the Dr. Panjwani Center for Molecular Medicine and Drug Research (PCMD) of International Center for Chemical and Biological Sciences (ICCBS) focused on the urgent need for improved cardiac care in Pakistan. The World Health Organization reported that the country experienced 240,720 deaths from heart attacks in 2020, highlighting the necessity for advanced diagnostic techniques.

The workshop aimed to enhance understanding and application of echocardiography, a critical ultrasound method for assessing heart function. Clinicians, researchers, and technologists convened to discuss the alarming rise in cardiovascular diseases (CVDs), which accounted for approximately 17.9 million deaths globally in 2019, predominantly due to heart attacks and strokes.

Experts underscored echocardiography’s vital role in diagnosing and managing cardiac disorders, emphasizing its importance for timely medical interventions. The event concluded with a strong call for ongoing collaboration between clinicians and researchers to effectively tackle the growing challenge of CVDs in the country.

In a complementary initiative, the Vice Chancellor of Karachi University stressed the need to leverage scientific research to combat prevalent health issues such as diabetes and cardiovascular diseases. This was part of the inaugural ceremony for the International Conference on “Pharmacology & Allied Sciences,” organized by the ICCBS, which aims to address critical health challenges and promote international collaboration among researchers.

Participants examined initiatives such as reusing raw materials, improving resource efficiency, and adopting sustainable procurement. They also discussed barriers like limited incentives, knowledge gaps, and low public awareness of circular economy benefits.

These workshops are part of RSS’s initiative to develop a National Circular Economy Roadmap under the Green Action in Industries (GAIN) project, aligning with the Royal vision for economic modernization.

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.

TÜBİTAK-Türkiye Open Calls

TÜBİTAK and the Chinese Academy of Sciences (CAS) have announced the 2024 bilateral cooperation call for joint research projects. Under the TÜBİTAK 1071 Program, this call supports collaborative research between scientists from Türkiye and China in the fields of "Advanced Materials" and "Energy." Detailed information on sub-thematic areas is provided in the call document.

For details: <https://tubitak.gov.tr/en/announcement/2568-tubitak-cas-china-bilateral-cooperation-call-open-application>

The TÜBİTAK-ANAS Bilateral Cooperation Call for Proposals is now open. Under this call, joint research and development (R&D) projects between Turkish and Azerbaijani scientists will be supported. The thematic areas include Urbanization and Regional Planning, Intercultural Interaction, Linguistic Unity, Economy, Seismology, and Digital Transformation.

More details at: <https://tubitak.gov.tr/en/announcement/2542-tubitak-anas-azerbaijan-bilateral-cooperation-call-open-applications>

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UTG-The Gambia
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