



Chairperson COMSATS Consultative Committee at World Science Day for Peace and Development 2020 event (page 8). He also chaired the Committee's Meeting in November 2020 (page 9).

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From the Executive Director's Desk

It is indeed a matter of great pleasure that the Chairman of the Commission, H.E Nana Addo Dankwa Akufo-Addo has been elected for the second time as the President of Ghana. While offering our warmest felicitation to him, I remain confident that with his continued active engagement, COMSATS will pursue its agenda of sustainable development through South-South and Triangular Cooperation even more vigorously.

We are coming to the close of the year 2020 under the shadow of the most challenging crisis defined by the COVID-19 pandemic. The lessons learnt have rekindled the desire for the pursuit of international solidarity and building back the future in a more sustainable fashion. Though 2020 can be somewhat regarded as a wasted year in terms of SDGs, it is heartening to note that the urgency of finding preventive solutions have been followed with speed. The public health frameworks and the gaps within the system have been identified and innovative ways are being experimented for finding efficient answers. The hectic R&D initiatives and scientific inquiries worldwide have resulted in breakthroughs in vaccine and drug development. This has raised hopes amid concerns that the inequitable access to the vaccines could further accentuate inequalities and jeopardize the achievement especially of SDGs 1, 2, and 3. This is where organizations like COMSATS, UNOSSC, UNESCO and others can play their part in consolidating the scientific gains. Public-private partnership has emerged as an important arrangement as also envisaged in SDG 17.

On its part COMSATS availed digital technology medium for consultations and discussions with its member states and scientific centres on various aspects of the challenges confronted amidst COVID-19 from different perspectives. I am happy to report that the virtual meeting of the Consultative Committee was convened during the period under the Chairmanship of the Federal Minister for Science and Technology, H.E. Chaudhry Fawad Hassan. His address outlined the priorities for scientific cooperation and the

urgency to deliberate on access to the COVID vaccine especially in the context of the developing countries. The success of the Meeting included the breaking of new ground of cooperation in addressing the 21st Century socio-economic challenges characterized by the nexus between climate change and planetary health and its debilitating impact on human existence as borne out by the outbreak of the COVID-19 pandemic. While appreciating the efforts of COMSATS' member states towards responses to COVID-19, I do want to emphasize that now more than ever collective endeavours and solidarity is needed in finding solutions to the problems confronted by humanity.

I want to applaud the spirit behind continued willingness and desire of the Network of CoEs to remain engaged in sharing information and working towards mutual collaboration activities. Their involvement is the most rewarding experience for COMSATS as their feedback provides a solid basis for more result-oriented engagements and activities. I thank them all.

Let me underscore the continued efforts of COMSATS in spreading widely our message of solidarity and mutual cooperation among all regions of the world. As an honored and singular manifestation of it I had a brief interaction with the H.E. Mr. Sefik Dzaferovic, Honourable President of the Republic of Bosnia and Herzegovina during his visit to Pakistan. It was an honour for me to apprise him of the activities of COMSATS and reaffirm the organization's vision of science and technology led initiatives for the socio-economic development of the countries of the South. At the dawn of the New Year, there is hope and optimism about the capacity of human beings to rise to the occasion and invest vigorously in saving humanity from the ultimate disaster. Let us all work together as our future and destinies are interlinked.

Happy New Year to all!

HIGHLIGHTS FROM COMSATS SECRETARIAT

COMSATS Extends Membership Offer to Bosnia and Herzegovina

Executive Director COMSATS, Dr. S. M. Junaid Zaidi, met the Chairman of the Presidency of Bosnia and Herzegovina, H.E. Mr. Sefik Dzaferovic, on 4th November 2020, at a dinner hosted by the Ambassador of Bosnia and Herzegovina to Pakistan, H.E. Mr. Sakib Foric, in the honor of Honourable Chairman.

During the brief meeting, H.E. Mr. Dzaferovic was apprised of COMSATS' programmes and was extended the offer of COMSATS' membership. On the occasion, the Honourable Chairman was also presented COMSATS' membership documents.

Head of COMSATS' Gambian Centre Visits COMSATS Secretariat

On 31st December 2020, Prof. Dr. Faqir

Muhammad Anjum Chaudhry, Vice Chancellor of the University of The Gambia (UTG), The Gambia, visited COMSATS Secretariat with a view to discuss prospects of collaboration with COMSATS' Network being the newly inducted Centre of Excellence. During his visit, Prof. Anjum held a meeting with Dr. S. M. Junaid Zaidi, Executive Director COMSATS. Also present during the meeting were Dr. Manzoor Tamimi from Computer Science Department of COMSATS University Islamabad (CUI), Pakistan, as well as senior officials of COMSATS Secretariat.

During the meeting, Prof. Anjum stated that UTG has recently established a department of computer sciences and aspires upgrading the same with patronage of CUI and other relevant COMSATS Centres of Excellence (CoEs). He also looked forward to faculty exchange in the fields of physics, chemistry, biology and mathematics between UTG and other CoEs. Furthermore, Prof. Anjum expressed keen interest in the scholarship

opportunities available from COMSATS' platform and informed that about ten faculty members of UTG have applied for scholarships at CUI.

It was agreed that CUI would facilitate UTG in the development of course curriculum, training of faculty and laboratory engineers/technicians, and chalking-out a roadmap for the department while COMSATS Secretariat would facilitate collaboration between UTG and relevant Centres of Excellence to this end.

Dr. Zaidi also assured Prof. Anjum of COMSATS' full support for replication of Telehealth Programme in The Gambia.

Activities of COMSATS Centre for Climate & Sustainability

During the November December 2020, COMSATS Centre for Climate and Sustainability (CCCS) continued advocacy of important global issues by holding webinars. Here is a look at these.

Webinar on Energy Efficiency and Cleaner Production Practices in Industry

The webinar was held in collaboration with the Environment and Cleaner Production Institute (ECPI) of the Scientific and Technological Research Council of Turkey (TUBITAK), Turkey, on 25th November 2020, the webinar had the overarching theme of Sustainable Development Goal 7 (SDG7) – Affordable and Clean Energy.

Following speakers from Asia, Africa and Middle East joined the webinar with their views and expertise: Prof. Zhiguang Zhu, Tianjin Institute of Industrial Biotechnology (TIB), Chinese Academy of Sciences (CAS), China; Ms. Jehan Haddad, Royal Scientific Society (RSS), Jordan; Dr. Farrukh Raza





Amin, Centre for Climate Research and Development (CCRD), COMSATS University Islamabad (CUI), Pakistan; Dr. Lugano Wilson, Tanzania Industrial Research & Development Organization (TIRDO), Tanzania; and Dr. Emrah SIK, TUBITAK, Turkey.

The event was moderated by Dr. Ozgur Dogan, Senior Researcher at ECPI, TUBITAK, Turkey.

During the technical proceedings of the webinar, Ms. Jehan from RSS shared ongoing projects of Resource Efficiency and Cleaner Production (RECP) Programme which is being run by RSS in partnership with UNIDO and funded by European Union. Dr. Emrah from TUBITAK shared some ongoing cleaner production projects of ECPI.

Prof. Zhiguang from TIB shared his expertise on biofuels and biocatalysis, and considered artificial electron transfer technique valuable for synthesis of biofuels for industries and transport sector usage. Dr. Farrukh Raza from CCRD delineated synthesis of methane from rice straw by anaerobic digestion technique.

Webinar on Food Security Challenges in the Global South

The webinar was organized within the

framework of Sustainable Development Goal 2 (Zero Hunger), on 30th November 2020. The webinar was co-hosted by the Uganda National Council for Science and Technology (UNCST), Uganda.

Prof. Dr. Anwar-ul-Hassan Gilani, Vice Chancellor of the University of Haripur, Pakistan, moderated the event. Prof. Dawei Zhang from Tianjin Institute of Industrial Biotechnology (TIB), China; Prof. Dr. Hesham Ali El Enshasy, Universiti Teknologi Malaysia (UMT), Malaysia; Dr. Francis Osei Amoaka-Andoh, Crop Research Institute, Council for Scientific and Industrial Research (CSIR), Ghana; Ms. Leslie Hoo Fung, International Centre Environment and Nuclear Sciences (ICENS), Jamaica; Prof. Dr. Azhar Rashid, University of Haripur, Pakistan; Dr. Ilmi Hewajulige, Industrial Technology Institute (ITI), Sri Lanka; and Dr. Ephraim Nuwamanya, Makerere University, Uganda, participated as panelists of the webinar.

The technical proceedings highlighted the following:

- Synthesis of cell factories that help convert high-value chemicals (CO₂, cellulose and glucose) to natural products (sugars, protein, amino acids, and vitamins) at industrial scale;
- Need to encourage indigenous

food production to achieve self-sufficiency in food production;

- Need for minimizing food losses at all stages of food production cycle;
- Checks and balances on rapid urbanization, retail chains, lifestyles and diet patterns as contributory factors to food waste and loss;
- Good practices for reduction of food waste, including conversion of rice barn into oil, synthesis of vinegar from pineapple, extraction of pectin from pumpkin and tamarind seeds, and production of fish silage for piggery and poultry farms.

Post-Coordinating Council Meeting Sessions

After holding the 23rd Coordinating Council meeting virtually on July 14, 2020, COMSATS Secretariat continued interactions among the network members by holding virtual sessions. These continued during November-December 2020 with presentations from the nodes from Jordan, Indonesia, Jamaica, China, Tunisia, Sri Lanka, Gambia, Brazil, Sudan, and Bangladesh.

These presentations, inter alia, covered these Centres':

- history, structure, technical and human strength and capacities;
- research and other academic and development activities;
- aspirations of these centres with regard to various Sustainable Development Goals (SDGs);
- activities and achievements during last one year, as well as future prospects;
- collaboration among the Network and with other international counterparts and organizations.

A major outcome as these sessions that approach their tail-end is the initiation of COMSATS' Lecture Series on 'South-



South and Triangular Cooperation for Sustainable Development in the South' to be covered in later issues of this Newsletter. Here is glimpse at what was shared.

8th Session: RSS-Jordan and ITS-Indonesia

The session was held on 3rd November 2020. Royal Scientific Society (RSS) was represented by Engr. Abeer Arafat, Assistant to the President for Organizational Knowledge Documentation. She informed that RSS is actively supporting the development initiatives of Jordan with sound technical and policy advice, testing services and consultations for building a sustainable knowledge economy in the country.

Some major achievements and developments of RSS shared by Eng. Arafat, inter alia, included:

- Launching of Arab Charter of Ethics in Science at World Science Forum 2019 by HRH Princess Sumaya bint El Hassan, President of RSS;
- Designing of Multi-Level Integrated Monitoring, Reporting and Verification (MRV) System for Greenhouse Gas Emissions & Mitigation of Climate Change;
- Second Phase Launch of the EU Funded Project "Transfer of Environmentally Sound Technology (TEST)" in Cooperation with UNIDO;

- Election of RSS to Executive Board of IAP for Science, Seoul, South Korea;

Sharing progress with regard to SDGs, Engr. Arafat also shared RSS' aspirations for building cross-sectorial partnerships at national, regional and global level for achieving sustainable development.

Sepuluh Nopember Institute of Technology (ITS) presentation was made by Prof. Bambang Pramujati, Vice Rector of Research, Innovation, Partnership and Alumni; and Asst. Prof. Dr. Sri Fatmawati. ITS houses a Science Techno Park with its innovation centers in automotive, maritime, ICT and robotics, and creative industry. ITS also has one leading laboratory operated under the auspices of the directorate for research and community engagement (DRPM), called Energy and Environmental Laboratory.

Focused areas of ITS for research include: manufacturing, transportation, and logistics; sustainable energy; artificial intelligence and biomedical technology; advanced materials and nanotechnology; internet of things and defense technology; agri-food and biotechnology; climate change and disaster mitigation; maritime science and technology; fundamental sciences and infrastructure and sustainable environment.

A recent achievement of ITS includes

development of a robot for assisting the medical personnel during the COVID-19 pandemic.

9th Session: ICENS-Jamaica

On 17th November 2020, the International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica, made their presentation.

Mr. Charles N. Grant, Director General, ICENS, highlighted ICENS' technical capacity including: Spectro-analytical and X-ray fluorescence; coupled plasma mass spectrometry (ICP-MS) with lower detection limits and the ability to do speciation of elements and isotopic analysis.

Dr. Grant also introduced ICENS' work on enhancing nuclear analytical techniques to meet the needs of forensic science under IAEA Coordinated Research Project years (2019-2024) of worth €35,000.

ICENS' work on Climate Change and Biogeochemistry, it was informed, focuses on Soil carbon Land-use and land cover change.

While highlighting the potential and future areas of collaborations, ICENS showed interest in work on the following areas: environmental geochemistry, trace elements in air particulate, heavy metal pollution in Jamaica, trace elements in animal/human tissue/ health, biogeochemical cycles, forensics, and trace and heavy metals in the marine environment.

10th Session TIB-China and CERTE-Tunisia

COMSATS Centres of Excellence in China, Indonesia, and Tunisia made presentations during 10th follow-up session of COMSATS' 23rd Coordinating Council Meeting, on 24th November 2020.



Prof. Ahmed Ghrabi, Director General of CERTE-Tunisia informed that there are about 200 people working at CERTE including 89 researchers, 14 engineers, and 27 technicians. A hundred PhD students are also enrolled at the Centre. CERTE focuses on the following research areas: geo-resources; desalination and water valorisation; wastewater and environment; membranes and environment biotechnology; and treatment and valorisation of liquid wastes.

Since the 22nd Council meeting, CERTE's intellectual output included: 110 international research articles/publications, 03 books, and 17 PhD and 48 Master theses.

Presenting for Tianjin Institute of Industrial Biotechnology (TIB), China, the Institute's Deputy Director-General, Prof. Jibin Sun introduced TIB as a leading national research institute on industrial biotechnology acting as national base for international S&T cooperation in the country. A major focus of TIB has been eco-friendly development of industrial sectors and to link research and industry by addressing key challenges in integrating biotechnology in commercial applications. Prof. Sun noted that TIB has partnerships with 180 companies from 26 provinces in China.

Prof. Sun informed the Network members regarding National Technology Innovation Center of Synthetic Biology (NC-Synbio), which was officially approved by the Ministry of Science and Technology (MoST) of China in 2019, to be established at TIB. Recent undertakings mentioned also included:

- A 20-day International Training Course on Industrial Synthetic Biotechnology;
- Developments under Belt & Road Fellowship Initiative for Synthetic Biology and ANSO Scholarship for PhD /Master's programme.

11th Session: ITI-Sri Lanka and UTG-The Gambia

On 1st December 2020. Industrial Technology Institute (ITI), Sri Lanka; and the University of The Gambia (UTG), The Gambia, made their presentations.

In her presentation, Dr. Radhika Samarasekera, Director General ITI, Sri Lanka, informed that the institute is providing demand-driven scientific industrial R&D and internationally competitive technical services to catalyze rapid industrialization for the benefit of the people of Sri Lanka. She highlighted main functions of ITI that include: R&D and innovation, standard test services, customized test services,

contract projects, consultancy, training, and technology transfer.

Dr. Radhika informed that ITI has established 'China-Sri Lanka Joint Biotechnology Laboratory' under the MoU signed between Ministry of Science and Technology, China, and the Ministry of Higher Education and Scientific Research, Sri Lanka. ITI is undertaking R&D in medicinal plant for product development, bio-fertilizers; development of domestic red-clay water filter; and clean water- KIPO/ KIPA. Technology transfers were made for applications in fruit-vegetable based products; cereal-based products; herbal cosmetics; and herbal drugs and health supplements.

Other research output of ITI in 2019-20 included 26 scientific publications in referred journals, 90 international and local communications, 10 patents, and 05 book chapters. Dr. Radhika informed that ITI's scientists have won 10 national awards for Science and Technology achievements, and presidential awards.

In UTG's presentation, its VC, Prof. Faqir Muhammad Anjum, informed that UTG offers relevant, sustainable, and high quality tertiary education and research aligned to the socio-economic, scientific and technological needs of the country and the world. Prof. Anjum informed that UTG has nine schools & faculties

including a School of Graduate Studies and Research, and 12 laboratories including Microbiology Lab, Chemistry Lab, Physics Lab, Biology Lab, and ITC Labs, etc.

Prof. Anjum informed that UTG is serving as the powerhouse for the transformation of The Gambia through creation, application, and transfer of knowledge as well as leading government's capacity development and research projects.

Prof. Anjum solicited support from COMSATS and its other Centres of Excellence for capacity development in order to achieve the objectives of the Gambian Government's National Development Plan (NDP).

12th Session: Embrapa-Brazil and IRCC-Sudan

On 8th December 2020, the 12th session of presentations covered presentations from Embrapa Agrobiologia, Brazil, and Industrial Research and Consultancy Centre (IRCC), Sudan.

Making his presentation during the session, Dr. Robert Boddey, Research Scientist at Embrapa Agrobiologia shed light on the agriculture sector of Brazil. To support agriculture sector as well as sustainable practices in the country, Embrapa Agrobiologia focuses on generating knowledge, technologies and innovation supported by agrobiological processes.

Dr. Boddey informed that Embrapa houses National Research Center for Agrobiologia which conducts research, inter alia, in the areas of biological nitrogen fixation (BNF) in legumes and non-legumes; molecular biology (genomics and proteomics) of soil and nitrogen fixing microorganisms; microbial diversity of microorganisms and soil fauna; organic agriculture; rehabilitation of degraded areas; bio-

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energy crops; nutrient cycling; and greenhouse gas emissions in agro-ecosystems.

Dr. Boddey also informed that Embrapa Agrobiologia has established a network of experiments for research and technology-transfer and also offers training in microbiology and molecular biology.

In IRCC's presentation, Dr. Omer Kamal, mentioned industrialization awareness, training, research & development, technology transfer associated with investment analysis, and quality-assurance, as some of the Centre's services.

While highlighting the progress and ongoing research activities of the Centre in 2019, Dr. Kamal informed that IRCC has established three new institutes: 1) cleaner production centre; 2) energy design centre; and 3) mining & building material lab (River Nile State). Some other achievements during the year included: capacity-building activities, including 3 short training courses, and 21 institutional and technical trainings.

Future plans of IRCC shared by Dr. Kamal pertained to: bringing structural reforms; assisting government's industrial policies; establishing industrial incubators; strengthening industrial liaison and public-private partnership; as well as developing cooperation with the relevant institutions, universities and

international organizations.

13th Session: BCSIR-Bangladesh

On 15th December 2020, Dr. M. Nashir Uddin, Director Planning and Development of Bangladesh Council of Scientific and Industrial Research (BCSIR) made the presentation.

Major R&D areas of BCSIR highlighted by Dr. Nashir, inter alia, included: food science and technology; chemical metrology; bioscience and biomaterials; biogas technology; leather technology; microbiology; mining, mineralogy and metallurgy; pharmaceutical chemistry; herbal medicine; natural products fiber; and renewable energy.

BCSIR has established new a institute, namely Bangladesh Reference Institute for Chemical Measurement (BRICM), for proficiency testing, CRM development and other works relating to chemical measurements. A recent development of BCSIR's Genomic Research Laboratory was sequencing of more than 300 whole-genomes of SARS-CoV-2 strains.

BCSIR has international partnerships and affiliations with various international organizations, belonging to Australia; India; Japan; and Portugal.

Dr. Nashir identified following areas for collaboration: nanotechnology,



renewable energy, food safety, essential oil and industrial surfactant, herbal medicine and medicinal plant, biotechnology, biomedical, leather/shoe technology biomaterials, biochemical and bio fuel (bio refinery) materials, and metallurgical science and engineering.

COMSATS' Network Members Establishing New COMSATS' Centres

Two new projects of COMSATS, COMSATS Joint Centre on Industrial Biotechnology (CCIB) and COMSATS-ITS Center of Advance Research and Innovation on Artificial Intelligence, IoT and Robotics (CISARI – AIR) are underway to be established in China and Indonesia.

In a recent presentation session, senior officials from COMSATS Centres of Excellence, Tianjin Institute for Industrial Biotechnology (TIB), China, and Sepuluh Nopember Institute of Technology (ITS), Indonesia, shared developments with regard to the new Centres.

Director-General TIB, Prof. Jibin Sun, announced the establishment of CCIB under the framework of the National Technology Innovation Center of Synthetic Biology (NIC-Synbio). CCIB is being set-up at TIB with support of the Chinese Ministry of S&T and Tianjin local government. CCIB is a comprehensive, integrated, open and shared platform to promote industrial biotechnology cooperation and bio-industry development among COMSATS' Member States.

Prof. Bambang Pramujati, Vice Rector of Research, Innovation, Partnership and Alumni, Sepuluh Nopember Institute of Technology (ITS), presented details on proposed CISARI-AIR.

ITS and COMSATS are establishing CISARI – AIR with support from multi-

stakeholders, and would serve as an effective platform to share expertise for other Network Members and Member States through capacity building, trainings and certifications, joint publications, joint graduate programmes, formation of international network.

Events with Partner Organizations

World Science Day for Peace and Development 2020

COMSATS in collaboration with UNESCO Pakistan, the Organization of Islamic Cooperation Standing Committee on Scientific and Technological Cooperation (COMSTECH), the Economic Cooperation Organization Science Foundation (ECOSF), the Pakistan Science Foundation (PSF) and the Pakistan Academy of Sciences (PAS) held a seminar to commemorate World Science Day for Peace and Development, on 10th November 2020. The event bore this year's WSDPD theme, "Science for and with Society".

Federal Minister for Science & Technology, H.E. Mr. Chaudhry Fawad Hussain, was the Chief Guest on the occasion, who considered the day important for furthering the cause of

science for peace and development, and advancing scientific knowledge and its practical applications.

Speaking on the occasion, Prof. Dr. M. Iqbal Choudhary, Coordinator General COMSTECH, considered WSD a reminder to start looking science from the perspective of a philosopher, embrace the characteristics of logic, reasoning, and conceptual rigor.

Dr. M. Aslam Baig, Secretary General of PAS; Dr. Mirza Habib Ali, Director Research Support and Member Finance at PSF; Prof. Dr. Manzoor Hussain Soomro, President of ECOSF; Amb. (R) Fauzia Nasreen, Advisor (SDGs) at COMSATS; and Dr. Zabta Khan Shinwari, Professor Emeritus at Quaid-e-Azam University Islamabad also spoke on the occasion.

The Guest of Honour, Ms. Patricia McPhillips, UNESCO Representative in Pakistan, in her remarks on the occasion advocated open science through sharing of scientific data and information among all stakeholders.

During the event, two young talented science students, Ms. Kasak Bather from Nawabshah, and Mr. Oun Azhar from Sargodha shared their views on the importance of science while also sharing their stories of success.

TWAS' Virtual Events on Big Data, Artificial Intelligence and Machine Learning

COMSATS partnered with the World Academy of Sciences (TWAS) Young Affiliates Network (TYAN), TWAS Sub-Saharan Africa Regional Partner (TWAS SAREP), TWAS Latin America and the Caribbean Regional Partner (TWAS LACREP), TWAS Arab Regional Partner (TWAS-AREP), and Association for Computing Machinery – Women Europe (ACM-W) to organize the 2nd African Symposium on Big Data,



Analytics and Machine Intelligence and the 6th TYAN International Thematic Workshop “Data Science for Solution-driven and Sustainable Response to current developing world challenges”. The two events were virtually held on 3rd and 4th December 2020, and had the participation, inter alia, of over 50 researchers, scientists, faculty members and data scientists.

Dr. Bolanle Ojokoh, Executive Board Member of the TWAS Young Affiliates Network (TYAN) & Associate Professor, Department of Information Systems, Federal University of Technology, Akure (FUTA), Nigeria, inaugurated the event.

Speaking on the occasion, Executive Director COMSATS, Dr. S. M. Junaid Zaidi, regarded artificial intelligence based solutions central to accelerating and sustaining socio-economic growth in current age. He looked forward to building collaboration with relevant stakeholders in the fields of big data and artificial intelligence.

Through various topics covered during the two-day event, the participants learned about the latest advancements in the field of data science and artificial intelligence. The event provided a networking opportunity to the participants to collaboratively work out effective internet/information security solutions for the masses; as well as



integrate data science in development process.

Participation in International Fora

3rd Asia-Pacific Forum on South-South and Triangular Cooperation

COMSATS participated in the 3rd Asia-Pacific Forum on South-South and Triangular Cooperation held under the theme “The Role of South-South Cooperation in Building Back Better from COVID-19 Pandemic in the Asia and the Pacific” held on 25th November 2020. The forum was jointly organized by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP); the United Nations Office for South-South Cooperation (UNOSSC); the Government of Indonesia; and the Thailand International Cooperation Agency (TICA), Ministry of Foreign Affairs of Thailand.

Ambassador (R) Fauzia Nasreen, Advisor (SDGs) at COMSATS Secretariat, gave a talk at the Forum that highlighted good practices and policies of Asian Pacific States as well as regional and sub-regional responses to help build back better from COVID-19 through South-South cooperation. She also shared COMSATS’ key activities that helped share information, knowledge and experience as well as built relevant synergies among COMSATS’ Member States to aid individual countries’ responses to COVID-19. She informed that COMSATS Telehealth scaled-up its activities and provided training to telehealth professionals providing maternal health services to the vast rural community throughout Pakistan.

UNOSSC’s 2020 UN Regional SSC and TrC Focal Points Network Retreat

As a regional player advocating South-

South and Triangular Cooperation, COMSATS was invited to participate in United Nations Office for South-South Cooperation (UNOSSC)’s event on 2020 UN Regional South-South and Triangular Cooperation Focal Points Network Retreat, held on 15th December 2020.

Amb. (R) Fauzia Nasreen, Advisor (SDGs) at COMSATS Secretariat, shared COMSATS’ stance during the session on “Digitalization as a cross-cutting issue in United Nations programmes and the role for South-South and Triangular Cooperation” of the event. Speaking on the occasion, she shared COMSATS’ ongoing and future initiatives for leveraging digital technologies for the betterment of the South and noted that such initiatives based on creative approaches have promoted capacity building, helped share knowledge, experience and good practices, as well as technological and scientific resources. A glimpse at her talk on the occasion can be found on page 17.

Webinar on “Digital Health Challenges, Opportunities, and Solutions”

Dr. Azeema Fareed, Principal Medical Officer at COMSATS Secretariat, participated as an invited speaker in a webinar on “Digital Health Challenges, Opportunities, and Solutions” organized by CIT Health Solutions with the collaboration of Digital Lahore, on 21st December 2020.

As the coordinator of COMSATS Telehealth (CTH) Programme, Dr. Fareed shared the efforts being made by CTH in providing digital health facilities to marginalized communities of Pakistan. She highlighted CTH as an initiative that rose above the challenges faced through finding solutions to gaps in healthcare system.

SPECIAL SECTION: FOURTH MEETING OF COMSATS CONSULTATIVE COMMITTEE

The Fourth Meeting of COMSATS Consultative Committee chaired by H.E. Mr. Chaudhry Fawad Hussain, Chairperson COMSATS Consultative Committee and Federal Minister for Science and Technology, Government of Pakistan, was held virtually on November 11, 2020.

The Meeting was attended by 30 country delegates from 19 countries: Bangladesh, China, Colombia, Egypt, Ghana, Iran, Jordan, Kazakhstan, Nigeria, Pakistan, Palestine, Somalia, Sri Lanka, Sudan, Tunisia, Turkey, Uganda, Yemen, and Zimbabwe. The meeting also had the participation from international organizations, including the South Centre, Switzerland; International Centre for Genetic Engineering and Biotechnology (ICGEB), Italy; United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), Thailand; The World Academy of Sciences (TWAS), Italy; and the United Nations Educational, Scientific and Cultural Organization (UNESCO), Pakistan.

COMSATS Centres of Excellence in China, Colombia, Egypt, Gambia, Iran, Indonesia, Jordan, Jamaica, Kazakhstan, Nigeria, Pakistan, Syria, Sri Lanka,

“COVID-19 pandemic has exacerbated pre-existing social and economic vulnerability in all countries, but also has paved the way for innovation and advancements in sciences, economy, health and governance systems”.

Dr. S.M. Junaid Zaidi, Executive Director COMSATS

Tunisia, and Turkey, as well as diplomatic missions of Jordan, Sri Lanka, Tunisia, and Yemen in Islamabad also attended the meeting virtually.

Inaugural Session

The Meeting was inaugurated by the Secretary to the Committee and Executive Director COMSATS, Dr. S.M. Junaid Zaidi, on behalf of the Chairperson COMSATS Consultative Committee.

In his remarks on the occasion, Dr. Zaidi considered scientific collaboration an important area for South-South and Triangular cooperation and encouraged

COMSATS' Member States to use COMSATS' platform for incubating partnerships and finding new and innovative approaches to support and speed up implementation of Sustainable Development Goals (SDGs).

In his message read out at the beginning of the event by Dr. Muhammad Tariq Masood, Joint Scientific Adviser at the Ministry of Science and Technology of Pakistan, the Chairperson Consultative Committee highlighted Pakistan, the host country of COMSATS Secretariat, as an ardent supporter of COMSATS' mandate since inception. Mr. Fawad lauded COMSATS' efforts for implementing the decision of the previous meeting and urged his counterparts in the 26 other Member States to duly support COMSATS' operations by all means, especially more regular Annual Membership Contributions.

The Honourable Minister who later joined the meeting through video conference informed the Committee about the STI related interventions of the Government of Pakistan that include constitution of the Task Force on Technological Driven Knowledge Economy and formulation of





country's first Digital Pakistan policy. He mentioned that Pakistan has established cooperative relationships with COMSATS' Member States and the establishment of various centres of excellence of research, innovation and entrepreneurship in artificial intelligence, applied technologies, advanced technologies and biomedical materials, mineral resources, engineering, agriculture, food technologies and railway engineering are in pipeline under the knowledge economy initiative. Mr. Fawad urged COMSATS' Member States to work collaboratively and pool their indigenous resources for development of vaccine against coronavirus.

COMSATS, Dr. S.M. Junaid Zaidi, delivered a brief presentation on COMSATS' programmes, activities and achievements during the period since the last Consultative Committee meeting. The presentation highlighted the outcomes of COMSATS' campaigns for enhancing the membership of the Commission and the Network of Centres of Excellence; capacity-building programmes held in collaboration with partner organizations; measures taken to strengthen collaborative ties with international partner organizations for facilitating South-South and Triangular cooperation; activities of COMSATS' flagship projects; visits and activities of COMSATS' officials; and publications

brought out during the reporting period, among others.

The presentation by the Executive Director was followed by remarks by each of the country delegate highlighting the various S&T related initiatives of their respective governments for addressing the contemporary challenges, including the coronavirus pandemic. The delegates also shared their future aspirations in the light of their countries' priority areas. The highlights of the remarks are as below:

Prof. Jibin Sun, Deputy Director-General of Tianjin Institute of Industrial Biotechnology (TIB), China, looked forward to collaborating with COMSATS in the areas of research, technology and innovation under the aegis of the recently signed Memorandum of Understanding between the two sides.

Recalling the visit of COMSATS' delegation to Colombia in 2019, Dr. Eduardo Posada F., Director of Centro Internacional de Fisica (CIF), Colombia, showed keen interest in advancing South-South Cooperation from the platform of COMSATS and hoped to build stronger ties with other Member States of COMSATS.

Technical Proceedings

During the proceedings, the Meeting deliberated upon a nine-point agenda that, inter alia, pertained to COMSATS' programmes and activities during 2016-2020; financial matters; and new initiatives for enhancing COMSATS' science-led South-South and Triangular Cooperation.

The Meeting approved the 9-point Provisional Agenda and the Minutes of the previous Meeting of COMSATS Consultative Committee (26th October 2015, Accra, Ghana). As per regular practice, the Executive Director





Prof. Gena Elfeky, Supervisor of the Scientific & Cultural Relations Sector, Academy of Scientific Research and Technology (ASRT), Egypt, informed about the strategic studies conducted by ASRT on the post pandemic preparedness plan in multiple sectors, including health, education and economy and expressed Academy's willingness to share it with other Member States of COMSATS. She also proposed affiliating more Egyptian scientific and research institutions with COMSATS as Centres of Excellence and looked forward to COMSATS' support for establishing a university of Information Technology in Egypt. The other representative of Egypt expressed willingness to share the indigenously developed products (vaccines and diagnostic kits) with other Member States.

Mr. Mbakeh Camara, Director of University Relations, The University of The Gambia, The Gambia highlighted agriculture, food security and biotechnology as few priority areas of his government as part of its development plan. He invited other Member States of COMSATS for partnerships in achieving Gambia's development goals.

Considering food, energy and water related challenges a regional issue, Hon. Dr. Dia-Eddin Arafah, Secretary General, Higher Council for Science and Technology (HCST), Jordan, proposed

initiating a joint R&D programme for combating the carbon emissions. He emphasized building partnerships to help advance the initiatives taken by COMSATS.

Prof. Dr. Tlekkabul Ramazanov, Vice-Rector for Research & Innovations, Al Farabi Kazakh National University (KazNU), Kazakhstan, apprised of the national efforts against COVID-19 pandemic, including the development of two vaccines against coronavirus. He also mentioned that three students from COMSATS' Member States (Iran, Pakistan, and Syria) are availing PhD scholarship through COMSATS' platform at COMSATS Centre of Excellence in Kazakhstan, the Al-Farabi Kazakh National University (KazNU).

Pharm. Abayomi Oguntunde, Director (Bioresources Technology Research & Development), Department of Bioresources Development, Federal Ministry of Science & Technology (FMST), Nigeria, showed interest in COMSATS' Telehealth programme as well as the establishment of a COMSATS university in Nigeria. Prof. Stephen E. Onah, Director/Chief Executive, National Mathematical Centre (NMC), Nigeria, looked forward to collaborating with COMSATS' Network for prevention, testing and treatment of COVID-19 and also to promote research and innovation through scientific exchanges.

Considering COVID-19 as the greatest challenge of the present time, Dr. Ahmed Othman, Director General (R&D), Ministry of Higher Education & Scientific Research, Palestine, expressed keen interest in collaborating with other Member States of COMSATS for finding solution to this challenge and hoped to benefit from the various programmes and activities of COMSATS.

H.E. Dr. Intisar Sigheiroun Alezein (Ms.), Minister of Higher Education and Scientific Research, Government of Sudan, informed that COVID-19, floods and famine are on her Government's priority as development challenges and emphasized on building research collaboration for dealing with COVID-19 crisis. Further, she proposed establishing a crisis fund to help deal with unprecedented challenges such as the current pandemic.

Ms. Deepa Liyanage, Additional Secretary, State Ministry of Skill Development, Vocational Education, Research and Innovation, Sri Lanka, appreciated the role of COMSATS in promoting scientific and technological education in its Member States. She informed that Sri Lanka is promoting scientific knowledge to aid the transformation of country's various economic sectors. Also, the Government of Sri Lanka has introduced vocational training and skill development programmes to help reduce the unskilled labour force



in the country. She reiterated her government's interest in establishing a COMSATS university in Sri Lanka and hoped to establish ties with COMSATS' Member States for joint research work.

Prof. Samia Charfi Kaddour, Director General of Scientific Research, Ministry of Higher Education and Scientific Research, Tunisia, informed that science and technology is the priority of the Tunisian government for the achievement of Sustainable Development Goals (SDGs). She emphasized the need for building multilateral scientific collaborations to find sustainable solutions for the society.

Dr. Orkun Hasekioğlu, Advisor to the President of the Scientific and Technological Research Council of Turkey (TÜBİTAK), Turkey, appreciated COMSATS' support in the form of research grants, scientific exchanges and capacity building activities. He informed that Turkey, is working on the development of vaccine and therapeutic interventions for COVID-19 and expressed willingness to share these resources with other Member States of COMSATS. He also looked forward to collaborating with COMSATS for the establishment of a research center on artificial intelligence.

Dr. Martin Patrick Ongol, Deputy Executive Secretary, Uganda National Council for Science and Technology (UNCST), Uganda, proposed holding

a webinar on food security challenges in COMSATS' Member States. He looked forward to collaborating with COMSATS' Network for research management and development of diagnostic kits for COVID-19. He informed that Uganda has three Centres of Excellence which have been established with the support of the World Bank. He expressed interest in collaborating with other Member States of COMSATS for skill development and establishment of innovation centers in the country.

Participating in the Meeting as a representative of new Member State, Dr. Adnan Zain Alsaggaf, Ministry of Higher Education and Scientific Research, Yemen, expressed hoped to build collaborative ties with other Member State of COMSATS in areas such as internet and cyber security, artificial intelligence and robotics as well as biomedical engineering.

Hon. Prof. Fanuel Tagwira, Permanent Secretary, Ministry of Higher and Tertiary Education, Science and Technology Development, Zimbabwe, informed that his country is aiming for Education 5.0 involving innovation and industrialization along with education, research, and community service. He went on to say that Zimbabwe has virtually established 06 virtual Innovation and 05 Industrial hubs for the commercialization of scientific research and innovation related initiatives.

He further informed that education, research and industrialization are the priority areas for Zimbabwe and looked forward to active collaborations in this connection with COMSATS' Network.

On the occasion, Prof. M.H.A. Hassan, the Honorary Member of COMSATS Technical Advisory Committee (TAC), stated that COMSATS is well placed to undertake trainings and capacity building in areas of SDGs and Science Diplomacy niche. Further, he proposed showcasing the efforts, progress and achievements of COMSATS' Member States with regard to COVID-19 for information and prospective collaboration.

Representatives of other international partner organizations participating in the Meeting appreciated the role of

Collaboration Offers

- **The Gambia:** Agriculture and food technology
- **Jordan:** Food and water security, energy, and carbon emissions around Red Sea.
- **Nigeria:** Mathematical modeling for climate/ environmental studies
- **Turkey:** Science diplomacy, and food systems.
- **Uganda:** Climate (flooding and displacement), data sciences, geo-spatial imaging, wind and biomass energy.
- **Zimbabwe:** Research, innovation and industrialization.



COMSATS in South-South Cooperation and expressed willingness to advance the cooperation under the aegis of the signed agreements with COMSATS.

Meeting Outcomes

The meeting resulted in revitalized commitment from the focal ministries of COMSATS' Member States for supporting COMSATS.

The delegates called for and agreed on having stronger ties among scientists and researchers for solving common development challenges; effective cooperation and initiatives at highest levels for emergent situations, such as COVID-19 pandemic; scientific and academic exchanges; as well as developing strategies for addressing issues such as food security and climate change.

Participating countries showed support towards COMSATS' role in providing a strong S&T cooperation platform to developing countries. The areas identified for cooperation and mutual support included: multilateral research, refugee management, Science Diplomacy training, data science, climate sciences, energy, post-pandemic preparedness, agriculture, biotechnology, food security and nutrition, capacity building, knowledge economy, and SDGs. The next meeting of COMSATS Consultative Committee was scheduled to be held in May 2021.

Other Participants of the Meeting

1. Hon. Mr. Md. Anwar Hossain, Senior Secretary, Ministry of Science and Technology, People's Republic of Bangladesh;
2. Ms. Qianqian Chai, Foreign Affairs Officer, Tianjin Institute of Industrial Biotechnology (TIB), Chinese Academy of Sciences, People's Republic of China;
3. Prof. Lin Zhaohui, Director, International Centre for Climate and Environment Sciences (ICCES), People's Republic of China;
4. Dr. David Gabriel Motta Quintero, Advisor, Ministry of Science, Technology and Innovation (Minciencias), Republic of Colombia;
5. Prof. Dr. Ashraf Shaalan, Advisor to the President, National Research Centre (NRC), Arab Republic of Egypt;
6. Prof. Hosam El-Sayed, Assistant Vice President for Research, Professor of Textile Chemistry and Technology, National Research Centre (NRC), Arab Republic of Egypt;
7. Mrs. Cynthia Asare Bediako, Chief Director, Ministry of Environment, Science, Technology and Innovation (MESTI), Republic of Ghana;
8. Dr. Alireza ALLAHYARI, General Director for International Cooperation and Khwarizmi Awards, Iranian Research Organization for Science & Technology (IROST), Islamic Republic of Iran;
9. Prof. Bambang Pramujati, Vice Rector of Research, Innovation, Partnership and Alumni, Sepuluh Nopember Institute of Technology (ITS), Republic of Indonesia;
10. Mr. Charles N. Grant, Director General, International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica;
11. Ms. Rasha Smadi, Acting Director, International Cooperation Department, Higher Council for Science and Technology (HCST), Hashemite Kingdom of Jordan;
12. Eng. Abeer Arafat, Assistant to the President for Organizational Knowledge Documentation, Royal Scientific Society (RSS), Hashemite Kingdom of Jordan;
13. H.E. Maj. Gen. (Retd) Ibrahim Almadani, Ambassador, Embassy of the Hashemite Kingdom of Jordan in Islamabad, Pakistan;
14. Ms. Aiganym Baiguzhina, Specialist, Department of Research and Innovation Activities, Al-Farabi Kazakh National University (KazNU), Republic of Kazakhstan;
15. Prof. Dr. M. Iqbal Choudhary, Director, International Center for Chemical and Biological Sciences (ICCBS), Karachi, Islamic Republic of Pakistan;
16. Dr. Farzana Shaheen, Associate Professor, H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), Karachi, Islamic Republic of Pakistan;
17. Prof. Dr. Muhammad Tabassam Afzal, Rector, COMSATS University Islamabad (CUI), Islamabad, Islamic Republic of Pakistan;
18. H.E. Mrs. Khadija M. Almahzoumi, Ambassador, Embassy of Federal Republic of Somalia in Islamabad, Pakistan;
19. Dr.(Ms.) J K.R Radhika Samarasekara, Director General, Industrial Technological Institute (ITI), Democratic Socialist Republic of Sri Lanka;
20. H.E. Vice Admiral Mohan Wijewickrama, High Commissioner, Democratic Socialist Republic of Sri Lanka in Islamabad, Pakistan;
21. Dr. Maher Suleiman, Director, Higher Institute for Applied Science and Technology (HIAS), Syrian Arab Republic;
22. Prof. Ahmed Ghrabi, Director General, Water Researches and Technologies Centre of Borj-Cedria (CERTe), Republic of Tunisia;
23. H.E. Mr. Borhene Kamel, Ambassador, Embassy of Republic of Tunisia in Islamabad, Pakistan;
24. Dr. Esra SAGLAM, Scientific Programs Assistant Expert, International Cooperation Department-Bilateral and Multilateral Relations Division, The Scientific and Technological Research Council of Turkey (TUBITAK), Republic of Turkey;
25. Mr. Edward Tujunirwe, Head of Corporate Affairs and International Collaborations, Uganda National Council for Science and Technology (UNCST), Republic of Uganda;
26. Mr. Mtisi WS, Ministry of Higher and Tertiary Education, Science and Technology Development, Republic of Zimbabwe;
27. H.E. Mr. Mohammed Motahar AlaShabi, Ambassador Extraordinary and Plenipotentiary, Embassy of Republic of Yemen in Islamabad, Pakistan;
28. Mr. Raza Shah, National Professional Officer (Natural Sciences), United Nations Educational, Scientific and Cultural Organization (UNESCO), Islamabad, Pakistan;
29. Dr. Carlos María Correa, Executive Director, The South Centre, Geneva, Switzerland;
30. Ms. Marianna Maculan, Chief External Relations, International Centre for Genetic Engineering and Biotechnology (ICGEB), Trieste, Italy;
31. Mr. Tengfei WANG, Economic Affairs Officer, Trade, Investment and Innovation Division, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), Bangkok, Thailand.

SOME ACTIVITIES OF COMSATS' CENTRES OF EXCELLENCE

Biomedical Research Center Inaugurated at KazNU-Kazakhstan

Al-Farabi Kazakh National University (KazNU), Kazakhstan, has opened a biomedicine research center with a view to conduct research on infectious diseases and cancer; natural drugs and biologically active substances against diseases; and comprehensive study of the human immune system.

In addition, the Centre is to train young scientists from leading universities to master the methods used in the field of biomedicine, robotics, bioinformatics, and operation of preventive medical equipment.

Currently, the Biomedical Research

KazNU, Kazakhstan, held a meeting with the Ambassador of Austria to Kazakhstan, H.E. Willy Kempel, and discussed the prospects of cooperation in the fields of science, education, and innovation development.

During the meeting, Prof. Mutanov regarded the close collaboration between KazNU and Austrian universities, in particular, the Vienna University of Economics and Business, the universities of Innsbruck and Klagenfurt, where Kazakhstani students undergo training courses and internships in academic exchange and research.

Appreciating the activities of KazNU as a Global hub of the UN "Academic Impact", Mr. Kempel looked forward

The main purpose of the School will be to train highly qualified personnel and increasing the competitiveness of graduates to help improve their employment prospects in leading companies worldwide.

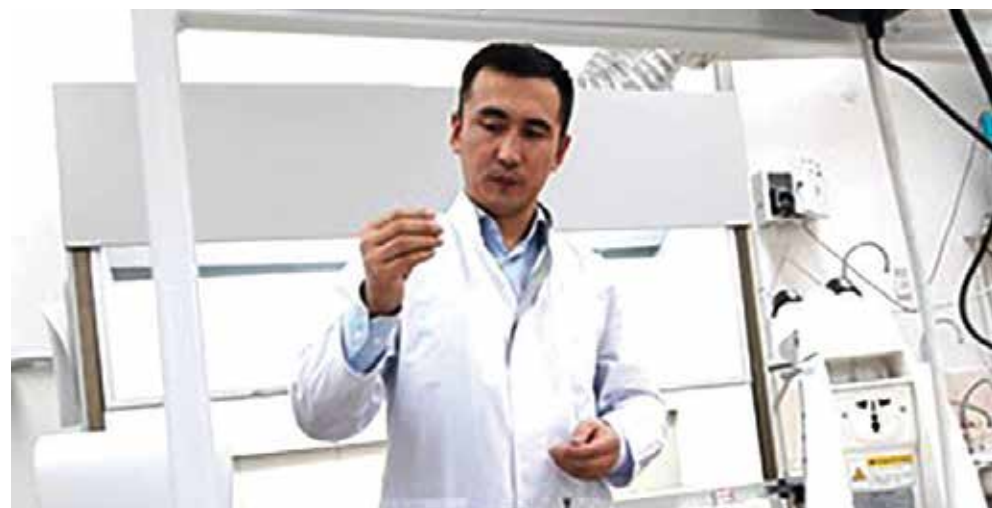
CSIR-Ghana Spearheads Partnership for Recycling Waste Water

The Council for Scientific and Industrial Research (CSIR), Ghana, is leading a four-year partnership project to apply water-smart solutions, such as recycling to recover resources from waste water for reuse. Titled "Achieving Wider Uptake of Water-Smart Solutions," the project is being funded by the European Commission under its Horizon 2020 Research and Innovation programme.

The implementation of water-smart solutions in the country is limited due to the technological, organizational, regulatory, social and economic barriers. The project would facilitate industrial cooperation as means to increasing resource efficiency, limiting carbon emissions, and developing sustainable businesses based on water-smart solutions.

CSIR-INSTI Designs Digital Apps to Support Ghana's MAG Programme

As part of the Modernizing Agriculture in Ghana (MAG) programme, the Institute for Scientific and Technological Information of CSIR (CSIR-INSTI) has designed four digital applications to promote demand-driven research and support alternative methods of extension delivery. The four applications, namely the CSIR Technologies; CSIR Space; Kuafo Market Place; and Agritech Mobile Advisor, shall be hosted on the Digital Agriculture Innovation Hub (DAIH) set



Center is also studying the role of immunoregulatory cells in tumors and chronic inflammation as well as the effects of medicinal plant extracts on animals.

KazNU-Kazakhstan Expands Linkages with European Countries

Prof. Dr. G. M. Mutanov, Rector of

to having close collaboration between KazNU and universities in Austria for initiating joint projects on Sustainable Development Goals.

During a meeting with the Ambassador Extraordinary and Plenipotentiary of the French Republic to Kazakhstan, H.E. Didier Canesse, a consensus was reached on the establishment of Kazakh-French Research School of Mathematics.



up by the CSIR-INSTI.

The applications have been designed to provide all kinds of research information as well as help farmers interact with both local and international buyers through marketing of products and services by producers in the agricultural value chain.

RSS-Jordan and UNIDO Review Progress of EU-funded 'TEST III' Project

The Royal Scientific Society (RSS) of Jordan and the United Nations Industrial Development Organization (UNIDO) organized a teleconference to highlight the progress made toward the implementation of the second phase of the EU-funded project "Transfer of Environmentally Sound Technology" (TEST III). The teleconference was attended by representatives of the European Commission's delegation in Amman and other national stakeholders.

The second phase of TEST III aims to extend the progress achieved in the MED TEST II project (2015-2018) to demonstrate the effectiveness and economic growth potential of Resource Efficient and Cleaner Production (RECP)/TEST methodology to additional

industry sectors, companies and service providers in Jordan.

As per the activities conducted until now, 7 companies from the chemical sector, 2 companies from the plastic sector and 6 companies from the food and beverage sector signed agreements with the RSS to demonstrate RECP/TEST assessment. Ten additional service providers signed agreements with the RSS to participate in the demonstration of RECP/TEST assessment in the food industries to be qualified to offer the TEST methodology services in Jordan.

Certified RETScreen® Expert (CRE) Training held at RSS-Jordan

Training Center and National Energy Research Center (NERC) at RSS, Jordan, in partnership with the German Development Cooperation office (GIZ) and Jordanian German Centre of Excellence for solar energy conducted two three-day online RETScreen training courses. A total of 30 Jordanian electrical, mechanical and energy engineers benefitted from the training programmes.

Certified by the Canadian Institute for Energy Training (CIET), the training was aimed to develop the skills of

participants in the analysis of all types of energy efficiency and renewable energy technologies.

Furthermore, the training helped develop a sound understanding of the new analysis functions provided by the software, such as the Virtual Energy Analyser and the Portfolio Analysis Module as well as the monitoring of energy performance data.

RSS-Jordan Gives ICT Training to Syrian Refugees

The Training Center and Systems Engineering & Software Development Department at RSS, Jordan, in collaboration with the German Development Cooperation Office (GIZ) and Kuwait Foundation for the Advancement of Sciences (KFAS) conducted online nationally accredited training courses for 204 Syrian refugees that concluded in November 2020. The training project was aimed to provide support to young vulnerable Syrians by providing customized intensive ICT training programs (digital marketing or comprehensive web development), English language and soft skills courses to enhance their employability and equip them with the required knowledge, skills and competencies needed in local, regional and international labor markets.

CUI-Pakistan Develops Diagnostic Tool for Brain Tumor Detection

With a view to build the necessary infrastructure and technical human resource in AI, a National Center of Artificial Intelligence (NCAI) consisting of six universities, including COMSATS University Islamabad (CUI), Pakistan, was launched by the Government of Pakistan. CUI, would host the Medical Imaging and Diagnostics (MID) laboratory and is working on



the identification of different diseases through different medical imaging modalities, such as MRI, CT-Scan, and X-rays.

Recently, a team from the MID Lab participated in the prestigious MICCAI BraTS challenge 2020 hosted by the Perelman School of Medicine at University of Pennsylvania, USA. Teams from all around the world participated in the challenge and submitted their algorithms for brain tumor segmentation, overall survival prediction, and uncertainty.

The team from MID Lab at CUI, Pakistan, had their algorithm ranked at third-position. The lab is now aiming to develop a prototype for commercial purpose. This would help reduce the cost of diagnosis by almost a quarter and can also reduce the lead time thus contributing to early diagnosis and saving lives.

QS and THE Rankings of CUI-Pakistan

According to QS University Rankings Asia 2021, COMSATS University Islamabad (CUI), Pakistan, has been ranked at 146 position among Asian Universities moving 5 places up from last year.

The Times Higher Education (THE) UK in its international Subject Rankings has placed CUI in the category 301-400 in Business & Economics, 301-400 in Engineering & Technology, 401-500 in Life Sciences, 401-500 in Computer Science, and 501-600 in Physical Sciences for the year 2021.

Honors and Awards of Centres of Excellence

Al-Farabi Kazakh National University (KazNU), Kazakhstan, is being recognized as the Leader in the Web of Science Core Collection in the "Physics" subject field over the last three years at "Science Leader - Web of Science Awards 2020".

Prof. Alibek Issakhov, Head of the Department of Mathematical and Computer Modeling at Al-Farabi Kazakh National University (KazNU), Kazakhstan, has been recognized as the "Highly cited Kazakhstani author" at "Science Leader - Web of Science Awards 2020".

Prof. Bulat Kenessov, Director of KazNU's Center of Physicochemical Methods of Research and Analysis, has been conferred award for the "contribution to the development of scientometrics and evaluation of scientific activity in Kazakhstan".

Scientists at Al-Farabi Kazakh National University (KazNU), Kazakhstan, Prof. Dr. Habibulla Kussainovich Ospanov, Head of Department of Physical Chemistry and Electrochemistry; and Prof. Dr. Vladimir Jumakadyrovich Junushaliyev, Doctor of Physical and Mathematical Sciences, have been recognized as distinguished academicians of the National Academy of Science of the Republic of Kazakhstan.

A consortium led by Dr. Muhammad Yar of Interdisciplinary Research Center in Biomedical Materials (IRCBM), CUI Lahore Campus; and Dr. Sheila MacNeil of Sheffield University UK has recently won a grant from the British Council and HEC Innovative and Collaborative Research Partnership Grants Scheme under the Pakistan-UK Education Gateway, for the development of advanced Pro-Angiogenic Wound Dressings for patients in Pakistan with diabetic ulcers and injuries.

Dr. Muhammad Shahid, Associate Professor, Environmental Sciences Department of CUI Vehari Campus, has been listed in the "Highly Cited Researchers 2020" by Clarivate, Web of Science.

The Department of Computer Science of CUI Vehari Campus has been certified as a Huawei ICT Academy partner.

DIGITALIZATION AS A CROSS-CUTTING ISSUE IN UN PROGRAMMES AND THE ROLE OF SOUTH-SOUTH COOPERATION AND TRIANGULAR COOPERATION*

By Ambassador Fauzia Nasreen

In the wake of the fourth industrial revolution and the momentous transformation underway particularly in information and communication technology, digital and technical cooperation have assumed greater significance. The Artificial Intelligence (AI) coupled with machine learning and cloud computing are potentially potent force for addressing development challenges. The outbreak of the pandemic, COVID-19 and its fall-out for governments and people has further reinforced the imperative for creating Digital Society. However, the gap in the diffusion of digitalization that existed prior to COVID-19 seems to be accentuating inequalities and widening of the gap because of resource constraints.

What we need to explore is the question how digital technology can be leveraged in a constructive manner and how it can spur innovation in the developing countries to eradicate poverty, fight hunger, promote health and food security, combat climate change, support resilient and smart cities, provide safe drinking water, and protect our glaciers and snow cover and seas. Digital technology can and has continued to provide solutions to some of these challenges. Through fusion of indigenous knowledge in the developing societies and adapting of technologies of the developed world practical and workable solutions can be found within the SDGs paradigm. Satellite imaging, data analytics, early warning and monitoring can provide foresight and obviate the adverse consequences of the impending dangers. To bridge the gap and overcome the North-South digital divide, SSC and TrC can play a vital role by, for example:

- Creating multi-stakeholder forums of countries of the South can potentially address digitalization needs;
- Strengthening digital literacy and capacity building initiatives of the developing countries;
- It is heartening to note that Turkey and UN have set up a Technology Bank for the LDCs (refers to SDG 17.8). Similar initiative could be useful for other interested developing countries for accessing joint funding for digitalization;
- Inclusion of gender and youth through dedicated programmes for building capacity.

With the above background, in the 1990s, efforts were galvanized by the Commission on Science and Technology for Sustainable Development in the South (COMSATS) to utilize science and technology for encouraging sustainable development through South-South Cooperation and North-South partnerships. Established in 1994, COMSATS is an example of cooperation through synergetic cooperation. One of the first tasks undertaken by the organization was to build human and material resource for ICT. Setting up of the Institute of Information Technology (now CUI) and IT Centre in Syria were undertaken. The former has made tremendous contribution in popularizing ICT in the developing world through scholarships, faculty exchanges and other means.

In its 26 years of overarching initiatives based on creative approaches, COMSATS has promoted capacity building, sharing of knowledge, experience and good practices, technological research outcomes and education, know-how and scientific resources. The organizational structures

of COMSATS integrate both the levels of decision and policy makers and generating scientific resources in the centres of COMSATS' Network.

Some digital related activities carried out under the auspices of COMSATS are as under:

1. In the area of capacity building Internet Security workshops and training have been organized for some COMSATS' member states (7 in total). So far, more than 300 participants from the South have been trained. A number of regional organizations, including ICESCO collaborated in the execution of the workshops
2. ICTs has also been leveraged for augmenting education, healthcare and agriculture collaboration through a number of workshops in COMSATS' member countries in cooperation with COMSATS' regional partners. The aim has been to enhance and expand knowledge and capabilities of scientists, researchers and relevant professionals in cutting-edge innovative ICT-based technologies and techniques used in these sectors.
3. In regard to international cooperation,
 - i. A "Protocol of Cooperation" was signed between The Oman Computer Emergency Readiness Team (OCERT) for cooperation in cyber security and computer emergency response programme;
 - ii. Two MoUs were signed between COMSATS and the Statistical, Economic and Social Research and Training for Islamic Countries

(SESRIC) aimed at sharing expertise and capacity building in ICTs.

4. An international thematic group has been constituted on ICTs which has carried out research projects in collaboration with other counterpart regional and international institutions. For example, one research project related to 'e-Solutions for Community using Low-Cost Connectivity' was jointly arranged by eight Centres of Excellence. The project focused on addressing some of the most fundamental challenges at the community level in health, education and agriculture sectors.

5. Lately, the Centre for Climate Change and Sustainability (CCCS) has been set up. A network of centres, CCCS is a hybrid arrangement with both virtual and physical aspects combining centres, institutions and organizations working on environmental risks to achieving SDGs. It works within the framework of SSC and TrC. Nodes are established at national focal points and Centres of Excellence. The aim is to promote regional and global partnerships, discussions on adaptation and mitigation, enhancing scientific knowledge, and creating knowledge bank of information and data.

6. A Webinar on Telemedicine: Sharing of Experiences amidst COVID-19 was organized with the participation of Bangladesh, Sri Lanka and

Pakistan in collaboration with Commonwealth Centre for Digital Health. Information was shared on the use of digital technologies in the health sector especially during the COVID pandemic.

7. A devoted webpage for COVID-19 covering COMSATS' countries and centres' news as well as other useful information has also been prepared: comsats.org/?page_id=6712.
8. COMSATS has established linkage with South-South Galaxy to share its good practices as well as to benefit from the other such material on the website.

Future programmes of COMSATS aim at establishing specialized international centres on cutting edge technologies including: nanotechnology; AI and Robotics; Climate change; Nano Bio Technology; Cyber security. Initiatives are planned for leveraging ties with international organizations for enhancing digital capacity.

As a part of ongoing collaboration with the Commonwealth Digital Health Centre, a virtual event is planned in January 2021 on Strengthening Health Systems through Digital Health.

COMSATS is exploring possibilities of establishing institutes in the above cutting edge technologies in COMSATS' member countries. ITS (Institute of Technology) of Indonesia, has agreed to upgrade its existing AI and Robotics centre. A University and

China (Industrial and Biotechnology Centre) has offered to make its facility available for COMSATS' member states. Other member states have also shown their willingness in this connection. For funding of these centres it is expected that international public and private sectors will be approached.

In conclusion, the following observations and recommendations are made:

- South-South Cooperation and Triangular Cooperation is an indispensable vehicle for promoting stability, peace and security regionally and globally;
- The SDGs vision and objectives cannot be realized without abiding by the principle of international solidarity through cooperation and knowledge sharing;
- Digital paradigm cannot be overlooked as it has become a fact of life. Its beneficial use and leverage will enable the world community to meet some of the most pressing problems of today and in ensuring inter-generational stability;
- Transnational nature of global interactions and interconnectedness is a determining characteristic of the global environment. All societies and peoples have mutual stakes in preserving the planet. Digitalization has solutions for a number of challenges we confront, from trade to health and food security just to mention a few.

* Delivered during 2020 UN Regional South-South and Triangular Cooperation Focal Points Network Retreat, held on 15th December 2020, in a session on "Digitalization as a cross-cutting issue in United Nations programmes and the role for South-South and Triangular Cooperation".



Ms. Fauzia Nasreen is a former diplomat with an extensive experience as a practitioner of diplomacy, researcher, trainer and manager. Her area of expertise is public policy, policy analysis, peace and conflict resolution and defence and strategic issues. Previously, she has served in various capacities in a number of missions. She has been ambassador to Nepal and Poland and High Commissioner for Australia. Ms. Nasreen has also been teaching as visiting faculty at prestigious higher education institutes of Pakistan. **Email: fauzia.nasreen@comsats.org**

DEVELOPMENT AND S&T NEWS FROM MEMBER STATES AND BEYOND

Pakistan Rolls out Software for COVID-19 Detection

Scientists at National Electronics Complex of Pakistan (NECOP) have developed an AI-based software to help detect COVID-19 within a minute (Tribune, 22nd November 2020).

The software named 'COV-RAID' has an accuracy of more than 90%, is cost-effective and universally accessible diagnostic tool. It will "employ Convolutional Neural Networks" to diagnose COVID-19 in suspected individuals by using X-rays and it has been approved for "secondary detection" of the virus.

Ghana Signs Agreement with Switzerland to Complete its NDCs to Paris Agreement

The Government of Ghana and Switzerland have signed a bilateral agreement to enable the adoption of green and low carbon technology solutions across the country resulting in a plethora of social and environmental benefits (UNDP, 23rd November 2020).

The partnership will catalyze private sector investment into Ghana's national energy access programme (NCEP), complementing the Nationally Determined Contributions (NDCs) of Ghana to the Paris Agreement. The



NCEP will benefit up to five million households through technologies like improved cook stoves and solar PV installations. Ghana is also exploring further projects under the agreement.

Turkish University Developing Breath Test to Detect COVID-19

Scientists at Bandırma Onyedi Eylül University, Bandırma, in collaboration with the Scientific and Technological Research Council of Turkey (TÜBİTAK) and the National Natural Science Foundation of China (NSFC) are developing a landmark test kit to detect COVID-19 by scanning the user's breath in only 15 seconds (Daily Sabah, 1st December 2020).

TÜBİTAK will produce sensors and the NSFC will provide a data set for the project. China will help collect breath samples both from COVID-19 patients and those not infected. The rapidity of the test as well as its method of implementation is its biggest pluses, unlike the polymerase chain reaction (PCR) test most commonly used by clinicians in screening for the disease.

Morocco Signs Agreement to Support Green Transportation

The transport sector of Morocco accounts for 38% of the country's total

energy consumption and is the second largest contributor (contributing 31%) to carbon emissions in Morocco. To help tackle this issue, the Moroccan Ministry of Equipment, Transport, Logistics, and Water and Germany's International Cooperation Agency, GIZ Morocco, have entered into a bilateral agreement to reduce greenhouse gas (GHG) emissions in the transport sector (Morocco World News, 20th November 2020).

Under the signed agreement, the two sides shall execute "The Advancing Transport Climate Strategies" project (TraCs). The TraCs Morocco project focuses on four main axes: Improving data collection methods in the transport sector, implementing best practices in recording and forecasting emissions, developing and implementing effective climate policy measures in transport, and sharing knowledge in order to encourage the development of local expertise.



President of Ghana Re-elected for the Second Term

Hon. Nana Addo Dankwa Akufo-Addo has been re-elected as the President of Ghana after winning the country's Presidential Election 2020 for the second time in a row. By virtue of his position, he has been given the charge of ex-officio Chairperson of COMSATS.

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

Students from COMSATS' Member States are welcome to benefit from the following offers from COMSATS' Centres of Excellence:

- Hundred (100) scholarships for students/researchers for postgraduate studies at all campuses of COMSATS University Islamabad (CUI), Pakistan.
- Five (05) post-graduate scholarships, for Masters of Science in Mathematics at Lahore Campus of COMSATS University Islamabad (CUI), in collaboration with the International Centre for Theoretical Physics (ICTP), Italy.
- Five (05) post-doctoral fellowships at the International Center for Chemical and Biological Science (ICCBS), Pakistan.
- Five (05) post-doctoral fellowships at the National Research Centre (NRC), Egypt.
- Two (02) PhD scholarships at the Al-Farabi Kazakh National University (KazNU), Kazakhstan.
- Long-term (1-2 years) and short-term (less than 6 months) fellowships for foreign scholars for collaborative research at Tianjin Institute of Industrial Biotechnology (TIB), Chinese Academy of Sciences.

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

At the end of 2020, COMSATS remembers two of its trusted employees, Manzoor Hussain and Faraz Ahmad Kiyani, who lost their lives to COVID-19.



Mr. Manzoor served COMSATS Secretariat for 12 years as a driver.



Mr. Kiyani served COMSATS Internet Services (CIS) for almost 22 years as Manager (Billing).

COMSATS Network of Centres of Excellence



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www.bcsir.gov.bd



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english.icces.ac.cn



TIB-China
english.tib.cas.cn



CIF-Colombia
www.cif.org.co



NRC-Egypt
www.nrc.sci.eg



UTG-The Gambia
www.utg.edu.gm



CSIR-Ghana
www.csir.org.gh



ITS-Indonesia
www.its.ac.id



IROST-Iran
www.irost.org



ICENS-Jamaica
www.icens.org



KazNU-Kazakhstan
www.kaznu.kz/en/



RSS-Jordan
www.rss.jo



ICCBS-Pakistan
www.iccs.edu



NMC-Nigeria
www.nmcabuja.org



CUI-Pakistan
www.comsats.edu.pk



AQU-Palestine
www.alquds.edu/en



UCAD-Senegal
www.ucad.sn



ITI-Sri Lanka
www.iti.lk



IRCC-Sudan
www.ircc.gov.sd



HIAST-Syria
www.hiast.edu.sy



TIRDO-Tanzania
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