



*COMSATS and the Higher Education Commission of Pakistan Highlighted the Role of Universities in Realizing the 2030 Global Agenda*

Government officials, representatives from UNESCO and other relevant organizations attended the seminar having representation from around 100 Universities and HEIs.

(Details on page 6)

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## From the Executive Director's Desk

It would be fitting to mention, at the very onset, the leading figure of peace and diplomacy that passed away this August – Mr. Kofi Annan, former Secretary General. We express our deepest condolence to the President of the Republic of Ghana, the Chairperson of COMSATS, and the government and people of the country. Also, we join the world in the grief and in lending a voice to the current Secretary General, António Guterres, who rightly remarked that Mr. Kofi Annan was “a champion for peace and a guiding force for good”.

COMSATS' thrust towards strengthening the triangular aspect of its international cooperation has constituted the major part of its strategy for a year and a half or so. The aim is to introduce COMSATS at all relevant global fora as an ardent supporter and promoter of S&T-led development on regional and international levels, and to gather necessary networking and goodwill for due realization of its objectives. COMSATS' accreditation to the Commonwealth Secretariat and an MoU with the South Centre, Geneva, Switzerland, to collaborate in advancing South-South and Triangular Cooperation are a couple of latest important steps in this direction, that have notably enhanced COMSATS' outreach to the institutions in the North.

During the recent months, COMSATS has realigned its objectives towards promoting the United Nations 2030 Global Agenda for Development. The organization, among other things, is focusing on creating awareness on the objectives of SDGs and exploring ways and means towards facilitating their implementation for assuring their successful accomplishment. COMSATS' commitment to the 2030 development agenda was reflected in the seminar held in collaboration with the Higher Education Commission of Pakistan, on July 9. It resulted in an impressive moot of representatives from the higher education institutions of Pakistan, foreign diplomats, international organizations and government officials. We are confident that the seminar served as an effective means to facilitate understanding of SDGs that would evoke meaningful response of the academic and research community in exploring opportunities and tackling challenges in the localization from the 2030 Global Development Agenda.

This issue includes a special coverage of the event, which can be considered a pilot activity that would lead to more focused activities on SDGs in COMSATS' member countries.

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## HIGHLIGHTS FROM COMSATS SECRETARIAT

### Relations Strengthened with Foreign Missions in Pakistan

#### Ambassador of Vietnam (July 4, 2018)

The Ambassador of Vietnam, H.E. Mr. Kim Pham, visited COMSATS Secretariat on July 4, 2018.

The Executive Director COMSATS, Dr. S.M. Junaid Zaidi considered it important to have scientist exchange among the institutes of COMSATS and Vietnam. He also emphasized that Research and Development are key to a sustainable future for the South and asked the ambassador to help identify a few R&D institutes with good infrastructure and willing to collaborate with the member states.

Speaking on the occasion, Amb. (Rtd.) Shahid Kamal (Advisor) highlighted the importance of food security and accomplishments of Vietnam in the fields of rice production and agriculture as its potential for becoming COMSATS member state. Based on COMSATS' advantage in the field of IT and related technologies, Mr. Tajammul Hussain, Advisor Programmes, requested His Excellency to identify partner institutions in Vietnam that could work with the organization.



His Excellency, Mr. Kim Pham commented on Vietnam's relations with COMSATS Member State, Pakistan, which include the latter's cotton exports used in the latter's textile industry, as well as other exports, such as Iron ore and electronics. He expressed satisfaction over scholarship offers available through COMSATS, which Vietnam could benefit from once a Member.

The Ambassador was requested to forward relevant authorities of Vietnam the offer of COMSATS' membership, through a formal letter of invitation handed to His Excellency by the Executive Director, to the relevant government officials.

#### Ambassador of Egypt (July 05, 2018)

The Ambassador of Arab Republic of Egypt, His Excellency Mr. Ahmed Fadel Yacoub, visited COMSATS Secretariat on July 05, 2018.

During the meeting, Dr. Zaidi highlighted to the Ambassador the working relations between Egypt and COMSATS since 1994 and joint past achievements and future plans. He also highlighted the triangular collaborations (South-South and North-South), which are being actively sought and the National Research Centre (NRC), Egypt, a Centre of Excellence of COMSATS, is helping the cause.

His Excellency showed interest in COMSATS' flagship project, COMSATS University Islamabad (CUI) and its facilities. He hoped that more Egyptian students would also benefit from the attractive scholarship offer of CUI.

Dr. Zaidi explained to His Excellency the mechanism to secure the scholarships and hoped for more student intake from Egypt.

The meeting ended with both the sides pledging enhanced collaborations for the betterment of Global South.





**Ambassador of Poland (August 20, 2018)**

On August 20, 2018, the Ambassador of the Republic of Poland, H.E. Mr. Piotr Opalinski, called on the Executive Director at the COMSATS Secretariat. The Executive Director was pleased to refer to the culture and scholarly historical background of the country. Also present during the meeting were other senior officials of COMSATS including Ambassador (R) Fauzia Nasreen who delineated the benefits of joining COMSATS and how Poland can become a member or have an Institution can attached as a Centre of Excellence.

The Polish Ambassador informed them of his own association with Warsaw University of Oriental Studies. He mentioned that Poland was more focused towards Europe and wanted to join EU because of its colonial past. But now the focus has also shifted towards East as a policy matter.

The Ambassador expressed hope of partnering with COMSATS and establishing useful contacts with its Centres of Excellence. Dr. Zaidi handed over the invitation to join COMSATS as a membership and other relevant documents to the ambassador and thanked him for coming.

**High Commissioner of Mauritius (July 17, 2018)**

The High Commissioner of Mauritius in Pakistan, H.E. Mr. Rashidally Soobadar,

called on the Executive Director COMSATS, Dr. S.M. Junaid Zaidi, on July 17, 2018.

Dr. Zaidi briefed the distinguished guest about COMSATS and its evolution, with a special reference to the organizations flagship projects.

Sharing the key demographics of Morocco, H.E. Rashidally elaborated on the demographics, economy and socio-cultural and historical aspects of Mauritius that boasts 100% literacy rate and offers free education till college level.

His Excellency offered Mauritian Government's willingness to help Pakistan in boosting tourism.



*...continued from page 1*

The 21<sup>st</sup> meeting of Coordinating Council of COMSATS was held earlier this year. A number of decisions were taken that involve follow up by COMSATS Secretariat. In order to ensure their implementation, the Secretariat will play its due role. In this respect, this issue also highlights progress made so far. As part of our continued outreach initiatives, we had the privilege of receiving the

Ambassadors and High Commissioners of Poland, Vietnam, Egypt, and Mauritius.

Finally, we deeply appreciate the support extended by collaborating organizations, institutions and individuals for their unflinching support to our programmes and activities aimed at promoting the cause of science-led sustainable development in the South.

Highlighting the country's focus on development, the High Commissioner mentioned Information Technology, FinTech Blockchain, and Artificial Intelligence. He informed that the Government is now focused on Blue Economy and has established exclusive Economic Zones to facilitate foreign investors.

His excellency showed keen interest in Mauritian students acquiring scholarships in the fields of Artificial Intelligence.

Dr. Zaidi informed the High Commissioner that COMSATS Centre of Excellence ICCBS and COMSATS University work in close collaboration with the University of Mauritius.

At the conclusion of the meeting, Dr. Zaidi handed over the Membership documents and Annual Report of COMSATS to H.E. Mr. Rashidally Soobadar with a hope that Mauritius would consider joining COMSATS.

### Follow up on 21<sup>st</sup> Meeting of COMSATS Coordinating Council – The Road so Far

The Coordinating Council is a statutory body that meets on annual basis to allow technical cooperation at the fundamental level to help achieve the organization's objectives. The Council's decisions have a strong bearing on COMSATS' programmes under South-South cooperation in science and technology for building and sustaining.

The 21<sup>st</sup> Meeting of COMSATS Coordinating Council was held on 3-4 April 2018 in Almaty, Kazakhstan. Hosted by COMSATS' Centres of Excellence in Kazakhstan, the Al-Farabi Kazakh National University (KazNU), the meeting was attended by 14 Centres of Excellence and representatives of SESRIC-Turkey, Edibon International-



Spain and ICGEB-Italy.

The Council's advice to conduct capacity building activities in accordance with the needs of member states was seen realized through organization of the following two capacity-building events: i) Workshop on Water Resources: Expected Crises and Strategies of Predomination (11-12 March, 2019 Cairo, Egypt), and ii) Workshop on Metrology for Least Developed Countries (26-27 November 2018, Gebze Kocaeli, Turkey). The events resulted in enhanced capacity and facilitation in relevant regional and international partnerships.

COMSATS is making efforts to establish its Regional Offices for Latin America and Africa, which will be aimed at expanding the membership of the Commission and the programmes of the Network.

On the other hand, COMSATS is facilitating collaboration among its Centres of Excellence as per their pledges during the 21<sup>st</sup> Council Meeting through ongoing capacity building activities, and facilitating joint research projects. Other pledges from the Centres related to offer of scholarships/postdoctoral fellowships for COMSATS' Member States (information on the last page of this issue). The call for

nominations under these schemes is open and has been disseminated among the Centres of Excellence and the Focal Points.

During the afore-mentioned meeting, the Centres of Excellence pledged to initiate joint projects having relevance to the Sustainable Development Goals in order to address their common challenges. With this in view, COMSATS organized National Seminar entitled "Sustainable Development Goals: the Role of Universities", on 9<sup>th</sup> July 2018, in Islamabad, Pakistan, which was attended by relevant experts and officials from Pakistan physically while various Centres of Excellence participated via web-streaming (Page 6).

To strengthen ties with the International donor agencies, COMSATS in collaboration with Service Facility Wing, European Union, organized a one-day awareness seminar on Horizon 2020 on May 7, 2018, in Islamabad, Pakistan. The seminar was attended by local participants and foreign participants from CoEs and COMSATS' Member States via Web-Streaming.

The Council also advised the Centres of Excellence to benefit from the programmes and activities of COMSATS' International Partner organizations in order to achieve



common objectives. In this connection, COMSATS regularly circulated the information regarding research grants, capacity building opportunities and other funding opportunities among its Centres of Excellence and Member Countries for their benefit. Also, COMSATS is working closely with multiple International organizations for the socio-economic development of the developing countries. These organizations include Commonwealth Secretariat, South Centre, European Union, TWAS, ICGEB, SESRIC and UN agencies: UNESCO, UNESCAP, and UNOSSC.

### COMSATS' Accreditation to Commonwealth

On June 26, 2018, the Commonwealth Secretariat officially approved the accreditation of the Commission on Science and Technology for Sustainable Development in the South (COMSATS). The accreditation provides formal recognition of the organization becoming a part of a large network of accredited civil society and professional organizations associated with the Commonwealth.

Some of the priority areas where COMSATS and the Commonwealth could work hand in hand include

Science, Technology and Innovation, Sustainable Development and Climate Change. COMSATS' Member Countries and Centres of Excellence (COE) can greatly benefit through collaborations in the form of research and development projects within the network of Commonwealth's accredited organizations.

Later on July 31, 2018, the Secretary General Commonwealth Secretariat, Patricia Scotland, warmly welcomed COMSATS as an accredited organisation of Commonwealth Secretariat during a Dialogue with Accredited Organisations, held at Marlborough House, London, July, 31 2018.

Speaking to the large gathering at the Dialogue, Dr. S. M. Junaid Zaidi, Executive Director COMSATS, stated that COMSATS had joined the Commonwealth at the right time with the new Innovation Hub. He hoped to work together on this initiative and looked forward to positive engagement with the Secretariat and other Commonwealth organisations.

This accreditation and the cooperation with COMSATS that has ensued are important for COMSATS' efforts to strengthen triangular cooperation and

programmes. The accreditation shall now enable COMSATS and its member countries to explore new avenues for collaborations, projects and networking with the North.

### COMSATS Page on UNOSSC Web-portal Launched

As part of the collaboration between COMSATS and United Nations Office for South-South Cooperation (UNOSSC), a dedicated page for COMSATS ([www.unsouthsouth.org/comsats/](http://www.unsouthsouth.org/comsats/)) has been established on UNOSSC web-portal.

The web-page was established to promote, coordinate and project South-South and Triangular cooperation globally and within the United Nations system. The web portal will be used to showcase the work of COMSATS to the international community and disseminate information on the organization's activities of the Commission in promoting South-South and Triangular Cooperation.

COMSATS' member countries and Centres of Excellence of COMSATS could benefit from the dedicated page by sharing their activities, inter alia, with many U.N. agencies and international institutions that access the UNOSSC website.

### Upcoming events of COMSATS in Member States

**12 –13 Nov. 2018**  
4<sup>th</sup> International Conference on Agriculture, Food Security and Biotechnology, Rabat, Morocco

**26 – 27 Nov. 2018**  
Workshop on Metrology for Least Developed Countries (LDCs), Gebze Kocaeli, Turkey

For details, please visit:  
[www.comsats.org](http://www.comsats.org)

## SPECIAL SECTION: COMSATS-HEC SEMINAR ON SDGs: THE ROLE OF UNIVERSITIES (9<sup>th</sup> JULY 2018, ISLAMABAD, PAKISTAN)

In realization of the United Nations' 2030 Global Agenda for Sustainable Development COMSATS is endeavoring to incorporate ways of facilitating SDGs implementation and integration. Particularly, the Commission has increased its focus to create awareness about the sustainable development objectives which are in line with the core aim of COMSATS. In view of this, and due to the fact that education and research could serve as potent means not only for the promotion and advocacy of SDGs but also for their successful implementation, COMSATS in collaboration with the Higher Education Commission (HEC) of Pakistan, organized a seminar to facilitate the understanding and response of the academic and research community to the opportunities and challenges in localization of 2030 Global Agenda.

The seminar having representation from around a 100 universities from across Pakistan was successful in generating a much needed momentum for devising action plans to streamline education and research with SDGs.

### Inaugural Session

The Executive Director COMSATS, Dr. S. M. Junaid Zaidi, in his inaugural address, highlighted the importance of UN 2030 agenda for sustainable



development across the globe and declared universities as important instruments for cultivating innovative practices and achieving Sustainable Development Goals (SDGs).

Mr. Tariq Banuri, Chairperson, HEC, in his opening remarks urged all stakeholders to cooperate for sustainable development and elaborated various dimensions and needs of the SDGs.

In his remarks, Mr. Neil Buhne, UN Resident Coordinator stressed upon the need to ameliorate the quality of education in universities along with utilizing and channeling the ideas and research into main stream.

### Technical Sessions

The technical proceedings of the

seminar were divided into the following three sessions:

#### Technical Session I – Promotion and Advocacy for SDGs

The session was chaired by Prof. Dr. John Thwaites, Chair of Sustainable Development Solutions Network (SDSN) Australia/Pacific, and Monash Sustainable Development Institute (MSDI), through video conferencing.

Prof. Thwaites opined that universities can play a key role in the implementation of SDGs by engaging in training and support in operations; active research in understanding the key to challenges; mobilization of young people in bringing entrepreneurship; encouraging innovations; supporting interdisciplinary research and collaboration between institutions, private sectors and government; capacity building and public guidance; and assisting in data collection and assessment.

Further, the session featured keynote talks of (i) Dr. Sania Nishtar, President Heartfile, Pakistan, who spoke on the relevance of SDGs for countries' national development by using their comparative advantage and advocated the need for reforms at institutional level to achieve the desired results





for SDGs; (ii) Mr. Shoaib Sultan Khan, Chairperson Rural Support Programmes Network, Islamabad, who apart from emphasizing the need to make best use of indigenous resources for achieving the SDGs, acknowledged the role of academic institutions in solving developmental challenges and advised creating linkages between universities and private sector; sharing ideas and making joint efforts for solving community problems; and (iii) Mr. Shoaib Ahmed Siddiqui, Ministry of Planning Development and Reforms, Pakistan, who stated that the Ministry for Planning, Development and Reforms needed to serve as a knowledge hub.

### Technical Session II – SDGs Implementation: Perspectives on Education, Research & Development

Dr. Max Paoli, Programme Coordinator, TWAS, Italy, chaired the second session and in his keynote talk strongly endorsed the need for bridging the gap between the scientist and the policy makers. Dr. Paoli also urged COMSATS to take the lead, in collaboration with UNESCO, to coordinate the Education 2030 agenda.

Dr. Abid Suleri, Executive Director, Sustainable Development Policy Institute (SDPI), Islamabad, in his featured talk commented that lack of quality research and national agenda

for SDGs implementation is a challenge for academic institutions. In her key note address, Dr. Asma Hyder, Member Planning Commission, Pakistan, elucidated the cross-cutting nature of the Sustainable Development Goals (SDGs), which require integrated policy approaches.

In his keynote talk, Mr. Ali Tauqeer Sheikh, Chief Executive Officer, Leadership for Environment and Development (LEAD), Pakistan, opined that the wide gap and weak connection between the universities and policy makers need to be addressed for the localization of SDGs within the country.

On the other hand, the Vice Chancellor of Quaid-e-Azam University, Prof. Dr. Javaid Ashraf underscored the need to overcome intolerance and resistance to embrace diversity and to achieve

economic prosperity and attainment of SDGs in the country.

Dr. Khalid Riaz from COMSATS University, Islamabad, suggested that universities as the creators of knowledge must engage in data integration and building collaboration and serve as hubs of innovation to support and host businesses that provide technologies and services for sustainable development.

### Technical Session III – Frontier Technologies: Scientific Institutions driving Innovations

The last technical session was presided over by Dr. Adil Najam, Dean Pardee School of Global Studies, Boston University, Massachusetts. Dr. Najam recommended tackling the great global challenges through multi-disciplinary approach owing to their “global” nature. He further stated that interdisciplinary research centers should be established in Pakistan as instruments for finding solutions to societal problems.

Dr. Umar Saif, UNESCO Chair for ICTD, presented innovation driven projects launched by Punjab Information Technology Board (PITB) for sustainable agriculture and healthcare. Prof. Dr. Fazal Ahmed Khalid from UET Lahore considered technology an important and essential means for achieving progress.





In his talk, Prof. Masoom Yasinzai, Rector of International Islamic University Islamabad (IIUI) suggested that relevant PhD degree holders in Pakistan certified for independent research should join hands with think tanks, international organizations and NGOs to bring a positive change in the society.

Dr. Orkun HASEKİOĞLU, Vice President, Scientific and Technological Research Council of Turkey (TÜBİTAK), Turkey, who joined through video conferencing, highlighted the importance of High-Level Panel on Technology Bank for Least Developed Countries located in Turkey. He noted how the technology bank is not only the achievement of an important target of SDGs but is also an important platform for developing world striving to achieve more goals and targets.

A success story of innovative entrepreneur, Ms. Sadia Bashir was also presented showing practical application of innovation at grass-root level.

### Closing Session

The event was closed by Dr. Arshad Ali, Executive Director of HEC. In his vote of thanks, he appreciated the presence of the academic community, policy makers and relevant quarters on an important forum of global importance. Thanking COMSATS, he hoped that each participating university would take the process forward by creating their own agenda in line with the relevant SDGs.

### Key Recommendations

Some key recommendations of the event are as follows:

- To achieve SDGs and other relevant global initiatives, it will be useful for academia to familiarize the future policy makers and influencers to be aware of the concept and its dimensions.
- The research activities at the universities should be better aligned to the sustainable development

agenda and their results should help cater to relevant public policy needs in order to facilitate industrial and economic development.

- The campus operations at the universities should cater to the needs of sustainability, i.e., conservation of energy, water, paper, material, etc. Proper waste management and good quality of food should be ensured to practically demonstrate the needs for sustainability.
- Universities are encouraged to organize more workshops and joint projects to implement SDGs, through North-South Cooperation, and may increase the number of thematic research grants exclusively for topics related to SDGs.
- The universities and think tanks should complement each other's efforts in order to make policy recommendations relevant to SDGs.
- The government should pave way for incubation of ideas and convert data into learning. Data analysis and goal-wise availability of data as tool for accountability and policy initiatives should be ensured.
- The incentive structure at the universities should be made relevant to the efforts for achieving SDGs.
- Big role needs to be played by the HEC in research relating to SDGs. Purpose-based research should be promoted rather than emphasis on contributions to high impact factor journals.



## Some Views and Thoughts of the Speakers



"... education and research institutions must engage with people...to convey key messages and promote work towards sustainable solutions... the support of Science and Technology is particularly beneficial for developing countries to grow in the best possible way, following models of responsible growth guided by sustainability science... the gap between scientists and policy makers must be bridged..."

*Dr. Max Paoli, Programme Coordinator, The World Academy of Sciences (TWAS), Italy*



".....rather than adding new issues or distracting from things that are being done, SDGs try to package global development thinking around a set of key priority goals. This is also true in the area of science and technology innovation. In that sense, I think academia, including in Pakistan, is well positioned to respond to the SDGs through science and technology innovation, even where it may not think that it is doing so knowingly."

*Dr. Adil Najam, Dean, Frederick S. Pardee School of Global Studies, Boston University, USA*



"The UN Sustainable Development Solutions Network (SDSN) is a good way to foster university linkages within the framework of North South cooperation. There are now over 700 universities and knowledge institutions from all parts of the world those are part of the SDSN. Sustainable development and the SDGs will not be achieved without the active collaboration and involvement of universities working together."

*Prof. John Thwaites, Chair of ClimateWorks Australia and the Monash Sustainability Institute, Australia*



"UNESCO chair is a huge honour for Pakistan and is recognition of our work in using technology to solve problems of the developing world, including access to education, better healthcare, technology-enabled agriculture practices, rural Internet connectivity and digital financial inclusion."

*Dr. Umar Saif, Vice Chancellor Information Technology University, Lahore*



"To have sustainable rural communities the first need is to empower them by organizing them and fostering their institutions at various levels, such as, household groups, village and union council. Individually, the vulnerable rural poor can neither access public services and supplies nor have a voice to influence administrative and political pillars of state."

*Mr. Shoaib Sultan Khan, Chairperson Rural Support Programmes Network*

## SOME ACTIVITIES OF COMSATS' CENTRES OF EXCELLENCE

### RSS- Jordan Co-organizes a Regional Workshop with UNODA

Under the patronage of the President of the Royal Scientific Society (RSS) Jordan, HRH Princess Sumaya Bint El Hassan, RSS and the United Nations Office for Disarmament Affairs (UNODA) opened in Amman the Regional Workshop on the implications of recent developments in science and technology for the Biological Weapons Convention (BWC) in the Middle East and North Africa.

In her welcome remarks on the occasion, Princess Sumaya highlighted the potential that the innovative capacity of the scientific community for advancement of peace and security. HRH highlighted the theme "Science for Peace", championed by Jordan as the host of the World Scientific Forum held in the Dead Sea in November 2017.

The Minister Counsellor of the European Union Delegation to the Hashemite Kingdom of Jordan, Koenraad Dassen, noted that the European Union attaches great importance to the promotion of closer interactions between the science and technology communities and the traditional BWC actors and processes.

The workshop brought together more than 50 participants, including



Jordanian participants from different national and academic institutions, as well as regional experts from different Middle Eastern and North African countries to participate in the workshop. The Middle Eastern and North African States Parties represented at the workshop included Algeria, Iraq, Morocco, Oman, Qatar, The State of Palestine, Turkey and the United Arab Emirates.

Also in attendance were representatives from The World Academy of Sciences (TWAS), the EU Centre of Excellence for the Middle East, the EU Centre of Excellence for North Africa and the United Nations Security Council resolution 1540 Committee of Experts, as well as independent experts from Algeria, Lebanon, Morocco and Saudi Arabia.

### RSS-Jordan signs Agreement on e-Services Quality Assurance

RSS-Jordan signed an agreement the Ministry of Information & Communications Technology (MoICT) and on the quality assurance of government e-services. The aim is to ensure quality e-services by the Jordanian Government, as well as improving the user experience for citizens. The agreement was signed by President of RSS, Her Royal Highness Princess Sumaya bint El Hassan, and H.E. Minister of Information & Communications Technology, Mr. Muthana Gharaibeh, in the presence of a number of officials from both sides.

The agreement will see to see carrying out quality assurance inspection in the National Software Quality Assurance Centre, which was established by RSS in partnership with MoICT in 2012. The Centre's main mission is quality assurance of functional and non-functional characteristics in terms of performance, speed, reliability, functionality, information security and internal and external network databases.

The Centre will functionally examine 50 to 100 e-services, in addition to testing user experience, security, and efficiency



ahead of their launch to ensure a smooth user journey for citizens.

In her remarks ahead of the signing, HRH Princess Sumaya bint El Hassan said: "this is the most comprehensive agreement to date on e-services quality assurance between the Royal Scientific Society, represented by National Software Quality Assurance Centre, and the Ministry of Information and Communications Technology."

Speaking on the occasion, the Minister expressed his appreciation for RSS, the expertise and the overall national talent it employs. He considered RSS one of the most important institutions of Jordan.

### Collaboration between RSS-Jordan and IBRD, World Bank Group

The Systems Engineering and Software Development (SESD) Department in RSS is working with the International Bank for Reconstruction and Development (IBRD), World Bank Group, for implementing a Multi-Level Integrated Monitoring, Reporting, Verification (MRV) System for Jordan. The MRV system is an integrated, multi-level system for Greenhouse Gas (GHG) emissions and climate change mitigation in Jordan. The system containing national, sectoral, institutional and project level data will enable climate change mitigation interventions in Jordan. The project is expected to be fully operational by the second quarter of 2019.

### Cooperation Agreements of ICCBS-Pakistan with Chinese and US Institutions

The International Center for Chemical and Biological Sciences (ICCBS), Pakistan, has signed an agreement

with the leading Chinese firm named Hunan Anbang Pharmaceutical Co. Ltd. The agreement entails cooperation on conducting clinical trials of "Yinhuang Qingfei Capsule" at ICCBS' Center for Bioequivalence Studies and Clinical Research (CBSCR). The agreement was signed by Dr. Xiaochun Chen, Director General, Health and Family Planning Commission of Hunan Province, China, and Prof. M. Iqbal Choudhary, Director ICCBS, in Karachi. It is hoped that after conduction of successful clinical trials on Pakistani population, the drug will be marketed in Pakistan on reduced rates.

An MoU was signed with Chapman University, USA, for developing and fostering cooperation in academics and research. Prof. Iqbal Choudhary, and Prof. Dr. Daniele C. Struppa, President of Chapman University, signed the MoU on behalf of their institutions in the ceremony held at the campus of Chapman University in Southern California, USA. The two parties have agreed to exchange research staff and provide joint supervision to graduate students in the areas of chemistry, biology, biotechnology, molecular medicine, pharmacology, natural and life sciences.

### Cooperation between CUI-Islamabad and ITI-Sri Lanka

A four-member delegation of

COMSATS University Islamabad (CUI) led by the University's Rector, Prof. Dr. Raheel Qamar, paid a four-day visit to Sri Lanka. The delegation included Prof. Dr. Arshad Saleem Bhatti, Dean Faculty of Science; Mr. Tahir Naeem, Director (P&D & HRD); and Mr. Waqas Afridi, Staff Officer to the Minister, Science and Technology. These officials held meetings with the Minister of Science, Technology & Research, Skills Development & Vocational Training, Sri Lanka; Secretary, Ministry of Higher Education, Sri Lanka; Vice Chancellor, University of Colombo; Chairman Board of Directors and Executive Director, Industrial Technology Institute (ITI), Colombo; and Managing Director, National Science Foundation.

A highlight of the delegation's visit was an exchange of Intent of Cooperation (IoC) between COMSATS University Islamabad and ITI, Colombo.

### Al-Farabi KazNU- Kazakhstan to Cooperate with ICRANet

On September 7 2018, al-Farabi Kazakh National University (KazNU), Kazakhstan, the Kazakh Physical Society and JSC "National Center for Space Research and Technology" signed an agreement on cooperation with the International Center for Relativistic Astrophysics (ICRANet).



A distinctive feature of ICRANet is its focus on assistance in the development of science in developing countries. ICRANet is financially supported by UNESCO and the EU.

With the help of ICRANet, Kazakhstan will be able to attract leading scientists of the world to train scientific staffs in the field of astrophysics in Kazakhstan to: organize summer scientific schools ICRANet for young scientists and students in Kazakhstan together with advanced universities and scientific centers of Kazakhstan; jointly hold international conferences, scientific research; and invite Kazakhstani talented students for internships.

### UCAD-Senegal's Archeological Research Recognized in Paris

The archeological research of the Université Cheikh Anta Diop (UCAD), Senegal received a prize at the XVIII congress of Union Internationale des Sciences Préhistoriques et Protohistoriques (UISPP) that was held from 04 to 09 June 2018 at the Université Panthéon-Sorbonne, Paris. UCAD was represented by its faculty members, Moustapha Sall, Abdoulaye Camara and the University's doctoral students. UCAD is the only African university to have received the award.

This award is a distinction for archaeological research (shelly clusters, valley of the Senegal River and Falémé) conducted by the Department of History of the Faculty of Humanities and Letters and IFAN Cheikh Anta Diop in collaboration with international teams.

### Embrapa Agrobiologia-Brazil organizes Symposium on Biological Nitrogen Fixation

Embrapa Agrobiologia, Brazil, organized the XVI Symposium on Biological Nitrogen Fixation with Non-Legumes in conjunction with the IV Latin American Workshop of PGPR and the XIX Relare, in Foz do Iguaçu, Brazil, from 26<sup>th</sup> – 31<sup>st</sup> August 2018. The event was held with the objective to present the latest research concerning the theme of the event and to reconcile them with the needs of the Brazilian and international markets for agricultural inputs. Around 300 experts from across the globe presented work on the interaction of plant microorganisms and the benefits of the use of bacteria and fungi that promote plant growth.

A number of disciplines were covered in the event including evolution, ecology, genomics, biochemistry, physiology, crop production and engineering, and new uses of microorganisms in agriculture.

### NRC-Egypt Joins Hands with WorldFish-Malaysia for Increasing Fish Productivity

A protocol has been signed between National Research Center (NRC), Egypt, and the WorldFish Center, Malaysia, for mutual cooperation in the field of ichthyology (the scientific study of fish), through exchange of scientists, technology, scientific information, and research. Prof. Dr. Ashraf Shaalan, President of NRC and Dr. Gareth Johnstone, Director General of WorldFish, signed the protocol on behalf of their organizations. The protocol further aims to focus on the health of tilapia fish, which is a significant species of fish for Egyptian people due to its cheap price and wide availability in Egyptian waters.

### Al-Quds University-Palestine and Boston College Research Partnership

Dr. Najwa Safadi of the Department of Social Works Al-Quds University, Palestine, and her counterpart from Boston College, USA, Dr. Scott Easton, concluded a joint study entitled "Health and Well-being of Public Sector Social Workers in Palestine". The collaborative study between the two reputed institutes of Al-Quds University and Boston College is expected to yield recommendations which will reduce the pressures on social workers, examine the reality of the mental health of Palestinian social workers, and review the working conditions from the perspective of Palestinian social workers.

Vice President Al-Quds University, Dr. Hassan Dweik, hailed the university for its research team that contributed to the research that provided solutions to various challenges and problems facing Palestinian society and abroad.



## SCIENCE & TECHNOLOGY NEWS FROM MEMBER STATE

### Scientists in China Fabricate Wood from Synthetic Resins

A team of Chinese researchers, led by Professor Yu Shuhong, from the University of Science and Technology of China (USTC), China, has devised a method of fabricating wood from synthetic resins (*AsianScientist*, 20<sup>th</sup> August 2018).

In the said study, the researchers produced artificial polymeric wood, bearing close resemblance to the natural wood, by freezing and curing the phenolic and melamine resins. The composite synthetic wood also exhibits lightweight and high-strength properties with mechanical strength comparable to that of natural wood.

On the other hand, it possesses greater tendency, than natural wood, to thrive in harsh environmental conditions owing to its better corrosion resistance to water and acid. It has better thermal insulation, and improved fire retardancy.

### Nanotechnology Breathalyzer for Monitoring Glucose in Diabetic Patients

A PhD candidate researcher Valentine Saasa from the Council for Scientific and Industrial Research (CSIR), Ghana, has developed a chip from nanomaterials for detecting the glucose levels, in the blood of diabetic patients, which positively correlate with acetone levels (*Devdiscourse News Desk*, 31<sup>st</sup> August 2018).

The acetone is a ketone produced by the breakdown of fatty acids – a reaction that occurs at a much higher rate in diabetic patients due to the absence or low levels of insulin. When the patient breathes into the device, the chip is encapsulated inside a breathalyzer, detects acetone levels inside the person's breath and produces a signal.

This ground-breaking innovation is likely to reduce cost burden as well as the risk of infections associated with finger pricking in conventional glucose detection by glucometer.

### Quantum Dot White LEDs Achieve Record Luminous Efficiency

Research team lead by Sedat Nizamoglu from Koç University, Turkey, has demonstrated nanomaterial-based white-light-emitting diodes (LEDs) that exhibit a record luminous efficiency of 105 lumens per watt (*Science Daily*, 12<sup>th</sup> July 2018).

These LEDs use commercially available blue LEDs combined with flexible lenses filled with a solution of nano-sized semiconductor particles called quantum dots. Light from the blue LED causes the quantum dots to emit green and red, which combines with the blue emission to create white light. These energy-efficient LEDs are also expected to reduce greenhouse gas emissions.

As a next step, the researchers are working to increase the efficiency of the LEDs and want to reach high efficiency levels using environmentally friendly materials. The research team also plans to study the liquid LEDs under different conditions to ensure they are stable for long-term application.

### A Non-Invasive Innovative Testing Device for Bloodless Malaria Diagnosis Developed

A Ugandan software engineer, Brian Gitta, has won the Africa Prize for Engineering Innovation worth £25,000 for designing a non-invasive innovative malaria testing device named as Matibabu (*SciDev.Net*, 29<sup>th</sup> June 2018).

When the device is clipped onto the

patient's finger, a red beam of light is shone through the finger which detects changes in the colour and concentration of red blood cells that have been affected by malaria.

The results are shown on a mobile phone that is linked with the device. The inventors have signed an agreement with the Ugandan government for clinical trials to enable them establish the device's effectiveness in accurately identifying patients who have malaria and those without the disease.

After clinical trials to determine the kit's readiness for the market, the device is expected to reduce the burden of malaria on Africa.

### Senegal Hosted the First Africa Summit for Peace, Security and Sustainable Development

The First Africa Summit for Peace, Security and Sustainable Development was held at Dakar, Senegal, from 18<sup>th</sup> – 19<sup>th</sup> Jan 2018, with the theme "New Africa: Interdependence, Mutual Prosperity and Universal Values" (*Washington Times*, 23<sup>rd</sup> August 2018).

The Summit attracted around 1200 people from more than 60 nations and was successful in launching three important peace initiatives for peace and human development at the national and continental level namely The International Association of Parliamentarians for Peace (IAPP); The Interreligious Association for Peace and Development (IAPD); and The International Association of Chiefs for Peace and Prosperity (IACPP).

After this event, Senegal has been made continental headquarters for Universal Peace Federation (UPF) and its affiliated organizations, including Youth and Students for Peace and the International Peace Highway project.

## SCIENCE, TECHNOLOGY AND DEVELOPMENT

### Photoacoustic Tomography to Improve Diagnostics

Researchers from Purdue University are working to develop a novel biomedical imaging system, which will combine optical as well as ultrasound technology to enhance the diagnosis efficiency of life threatening diseases (*Purdue University website, 28<sup>th</sup> August 2018*). The technique known as Photoacoustic tomography is a non-invasive technique, which uses the absorbed optical energy and converts it in to acoustic signal. The pulsed light is then sent in to the tissues of body, leading to increase in temperature, causing expansion in tissues and creating an acoustic response. This response is then analyzed through ultrasound transducer, which helps in visualization of the tissue.



This technique provides information about the location of blood and lipid as well as essential information, which helps in enhancing the clinical care of patients. The results of this study appeared in the August 28 issue of the journal *Photoacoustics*.

### New and Easier Imaging Systems in Agricultural Fields

Farmers and plant breeders can now build their own automated field camera track system to collect data on dynamic plant traits, such as crop lodging and movement. (*Science Daily, 18<sup>th</sup> July 2018*).

Researchers developed a specific



camera track to photograph small grains under direct wind stress. The camera track system is made of commercial hardware and electronics accommodating 360-degree cameras. It can be adapted to various field dimensions, crops, and sensor systems to get high throughput phenotypic data immeasurable by other systems.

This system is open source, less expensive, and easier to construct.

### Innovations in Science using Telemedicine

A group of researchers has observed that telemedicine interventional management not only reduces hospitalizations, but also increase the life expectancy of patients with heart failure (*Science Daily, 30<sup>th</sup> August 2018*). The primary aims of the study were to help avoid unplanned hospitalisations for cardiovascular reasons, continue outdoor treatment for as long as possible, and increasing life expectancy.

The study involved 1,538 patients with chronic heart failure. Half of the patients were in remote patient management group and were provided with four measuring devices including ECG monitoring unit, blood pressure monitor, scales to measure body weight, and tablet computer to record self-reported health status data. The patients' data was automatically transferred to centre's computer, where a team of doctors and nurses reviewed the transmitted data.

This led to reduction in unplanned

hospitalizations. In a period of 1 year, the mortality rate of patients due to cardiac arrest in remote management group was reduced significantly.

### An Antimalarial Decreases in Deaths in Zambia

The trials conducted under rural Zambia revealed that the suppository form of common antimalarial artesunate has reduced child mortality from severe malaria (*SciDev.Net, 28<sup>th</sup> August 2018*).

During a 12-month trial with a suppository formulation of the common antimalarial artesunate, deaths from severe malaria cases declined from eight to 0.25 per cent despite identifying 225 and 1,215 cases, respectively, at the study's baseline and end line.

### Artificial Intelligence to Help Solve Developmental Problems

Vast quantities of data are manipulated using statistical systems, but using this for solving the problems is a tedious task. Researchers, however, have produced a road map to guide future projects to deal with these developmental problems.

Machine learning or artificial intelligence has been used to solve developmental problems with promising results (*SciDev.Net, 4<sup>th</sup> July 2018*). The technique has the potential to predict hunger, crop productivity and displacement.



## PROFILE OF A MEMBER OF COMSATS' TECHNICAL ADVISORY COMMITTEE

**PROF. DR. MUSTAFA OMARI NAWARI, UNIVERSITY OF KHARTOUM, KHARTOUM, SUDAN**

Prof. Dr. Mustafa Omari Nawari is the Executive Director of National Digital Certification Authority, Sudan, and Professor of Dynamical and Information Systems at University of Khartoum. Upon nomination from the COMSATS' Centre of Excellence in Sudan, the Industrial Research and Consultancy Centre (IRCC), he was included as a member of COMSATS Technical Advisory Committee after approval from the 20th Coordinating Council Meeting held in National Research Center (NRC), Cairo, Egypt, in 2017.

Prof. Nawari completed his PhD degree in Optimal Multivariable Computer Control Industrial (Chemical) Processes from University of Aston Birmingham UK, in 1984. His earlier degrees include MSc. Cybernetics and Instruments Technology from the University of Reading, UK, (1979) and B.Sc. (Hon.) in Electrical Engineering from University of Khartoum, Sudan (1976). His research and academic interests include: Systems Dynamics and Control; Computer and Information Systems Security; Mathematical Modelling and Stability Analysis; Computers and Electronic Communications Systems; Computer Architecture; Medical Physics; and Cybernetics.

Immediately after completing his PhD, he got appointed as a university lecturer and Head of Department with the University of Gezira, Khartoum, where he helped establish a branch for medical physics.

A major project in his career was consultancy for assessment of energy needs of UK for its program 2020 as part of the UK government initiative towards its commitment to reduce the carbon emissions. As managing director of Sudan Shipping Lines from 1999 to 2004 he oversaw the Management and Technical Maintenance of The National

Fleet which trades internationally. From 1996, as Chairperson SUDANET he helped design the service to cover all of the country through VSAT and fibre optic links for the first internet provider, IPS in Africa and the Middle East. Being the first ISP service introduced in the region, it opened many opportunities for investment and employment.

Positions earlier held by him in Industrial and public sectors include Managing Director of Sudan Civil Aviation, Chairman of Air Express Aviation (Sudan). He also introduced the first radar in Sudan for controlling and managing the aviation traffic over the largest aerospace in Africa and the Middle East, and redesigned the Sudanese flight air space by introducing modern navigation facilities. He also drafted the Sudan Telecommunication Act that liberated the market and caused the real communication revolution in Sudan.

Moreover, he also helped establish state-of-the-art workshops for maintenance of advance equipment and calibration; design data security and data encryption for the public and private sectors; introduce and implement modern methods of management at various government departments and public companies.

Prof Nawari is also contributing to other government and other institutions of Sudan in advisory and consultant roles at the National Information Centre, and Ministry of Communications and Information Technology. He is also been a PKI and Network Security consultant.

In the past, Prof. Dr. Mustafa Omar Nawari has been a member of the Board of Directors of the following organizations:

- Computer and Communication

system, CCS Co.

- Institute of future studies, Economic studies and ICT impacts.
- The National Telecommunication Council: the Sudan's Telecom Regulator.

He was also the chairman of the advisory Committee National Computer Information Network, Sudan Academy of Science (the country's largest postgraduate technical University).

His contributions in the scientific arena won him places in important scientific international bodies including Membership of IEE, MIET; British Computer Society, MBCS, CITP; IEEE; ACM, Charter Engineer, UK, CEng.; and the New-York Academy of Science; and honorary fellowship of the University of Birmingham, UK.

Also, Prof. Dr. Nawari is founding member of: the Islamic Relief Charity (Second largest relief agency) in UK after OXFAM; Soft (UK) Charity support for Research of Chromosome Disorder in Babies; GENDI Valley Charity for the Reconstruction of Darfur Region in Sudan; and International agency for development (presently under establishment in UK with branches in Africa).

Prof. Nawari is also the member of the British-Sudanese Forum Society; ambassador for PEACE; the Interreligious and International Federation for world peace and the Woodland Trust UK.

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## Scholarships offered by COMSATS' Centres of Excellence for Member States

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

- Hundred scholarships for students/researchers for postgraduate studies and ten for post-doctoral fellowships at all campuses of COMSATS University Islamabad (CUI), Pakistan.
- Ten doctoral scholarships/post-doctoral fellowships at the International Center for Chemical and Biological Science (ICCBS), Pakistan.
- Five post-doctoral fellowships at the National Research Centre (NRC), Egypt.
- Postgraduate Scholarships and Post-doctoral Fellowships at International Centre for Climate and Environment Sciences (ICCES), China, and PFIF programme.
- One post-doctoral fellowship at Bangladesh Council for Scientific and Industrial Research (BCSIR), Bangladesh.

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

## Selected Forthcoming Scientific Events in COMSATS' Countries

- 24-26 Oct. 2018 16<sup>th</sup> GLOBELICS International Conference Accra 2018, Accra, Ghana  
([www.globelics.org/16th-globelics-international-conference-accra-2018/](http://www.globelics.org/16th-globelics-international-conference-accra-2018/))
- 26-28 Nov. 2018 SAICON 2018, Islamabad, Pakistan  
([ww2.comsats.edu.pk/](http://ww2.comsats.edu.pk/))
- 04-07 Dec. 2018 10<sup>th</sup> International Perspectives on Water And Environment Cartagena, Colombia  
(<https://ipwe2018.uniandes.academy/index.php/es/>)
- 06-08 Dec. 2018 IEEE 6<sup>th</sup> Region10 Humanitarian Technology Conference, Malabe, Sri Lanka  
([www.wasrti.org](http://www.wasrti.org))

## COMSATS Network of Centres of Excellence



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Embrapa Agrobiologia-Brazil  
[embrapa.br/grobiologia](http://embrapa.br/grobiologia)



ICCES-China  
[english.icces.ac.cn](http://english.icces.ac.cn)



TIB-China  
[english.tib.cas.cn](http://english.tib.cas.cn)



CIF-Colombia  
[www.cif.org.co](http://www.cif.org.co)



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[www.nrc.sci.eg](http://www.nrc.sci.eg)



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[www.rss.jo](http://www.rss.jo)



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IRCC-Sudan  
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HIAST-Syria  
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TIRDO-Tanzania  
[www.tirido.org](http://www.tirido.org)



CERTE-Tunisia  
[www.certe.rnrt.tn](http://www.certe.rnrt.tn)



TÜBITAK MAM-Turkey  
[www.mam.gov.tr](http://www.mam.gov.tr)

Honourable mentions: Mr. Tila Mohammad, Mr. Kehinde Musodiq Sanni, and Mr. Anya Augustine Igwebuike



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