



# Annual Report 2019

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







*Silver Jubilee Issue*

# ANNUAL REPORT 2019

February 2020



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





**Hon. Nana Addo Dankwa Akufo-Addo**  
**President of Ghana**  
**Chairperson COMSATS**

Hon. Nana Addo Dankwa Akufo-Addo became the 13<sup>th</sup> President of the Republic of Ghana after winning the country's Presidential Election in 2016. On 7<sup>th</sup> January 2017, he took charge as the President of Ghana (the country that holds COMSATS' Chair), by virtue of which he is the ex-officio Chairperson of COMSATS. The Chair of COMSATS was rotated in 2012 from Pakistan to Ghana through consensus among the members of COMSATS' Commission at its 2<sup>nd</sup> General Meeting held in Islamabad and stayed with Ghana after consensus in 3<sup>rd</sup> General Meeting.

As a lawyer, Mr. Akufo-Addo worked to champion the cause of human rights, rule of law, justice, freedom, and democracy in Ghana.



**H.E. Mr. Imran Khan  
Prime Minister of Pakistan  
Head of Government and Member  
of the Commission from  
the Host Country, Pakistan**

H.E. Mr. Imran Khan became the 22<sup>nd</sup> Prime Minister of Pakistan on 18<sup>th</sup> August 2018. Before his political career, Mr. Khan was a well-known figure as a cricketer and a philanthropist. Educated from top institutions of Pakistan and England, Mr. Khan is the Chancellor of the University of Bradford and has also received an honorary fellowship by the Royal College of Physicians.

Mr. Khan aspires to make Pakistan a technologically advanced country whereby it reaps the dividends of most modern R&D outcomes for national prosperity and well-being. His resolve to lift the nation from backwardness and poverty is manifest in his government's initiatives in health, education, judicial system reforms, science & technology and smart governance.



**Editors**

Ms. Farhana Saleem

Ms. Isra Mahmood

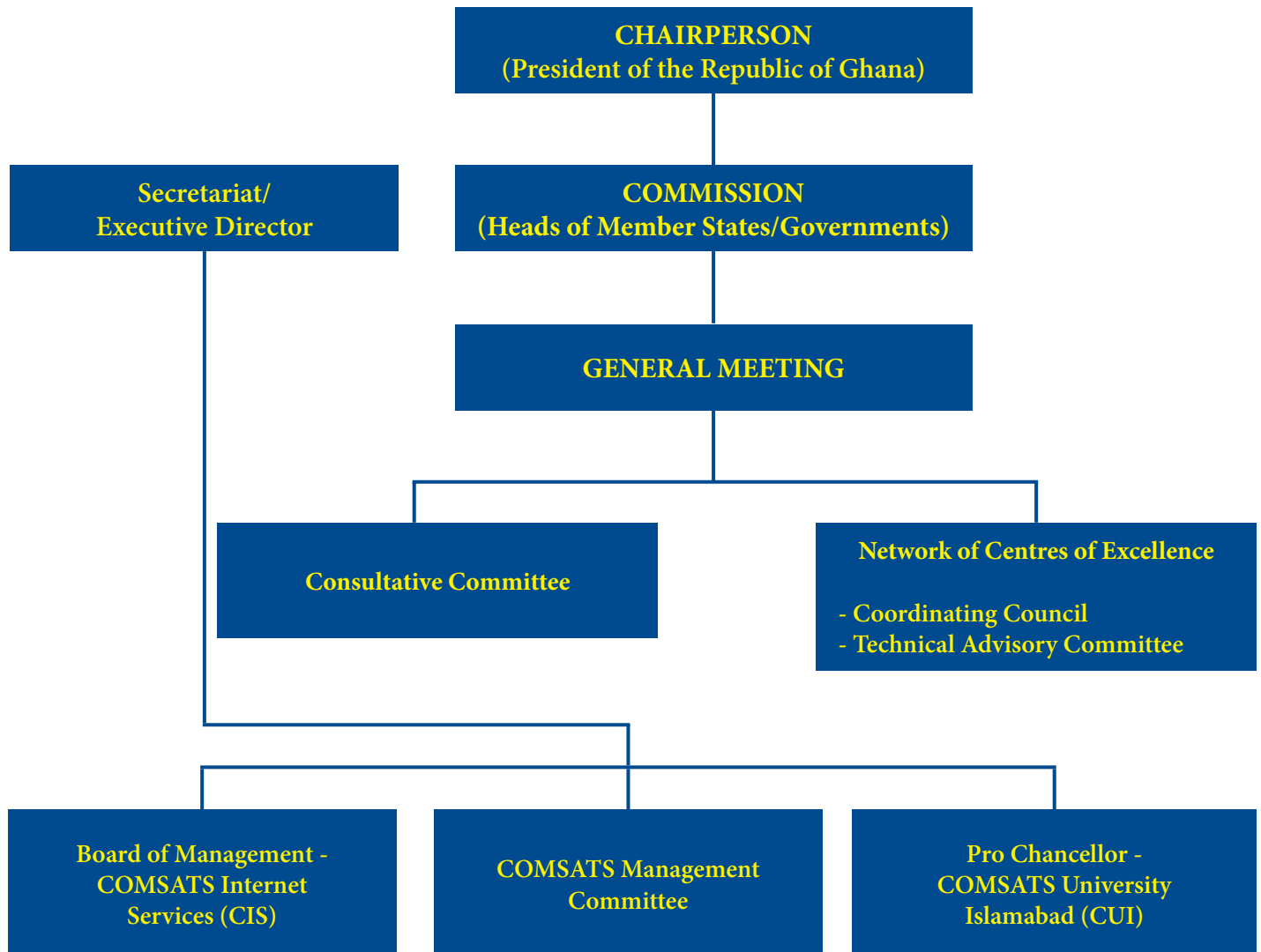
**Designing & Development**

Mr. Imran Chaudhry

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# ORGANOGRAM







# PROFILE

## COMSATS' PROFILE

The Commission on Science and Technology for Sustainable Development in the South (COMSATS) was established in October 1994 as an international/intergovernmental organization to act as a global forum of developing countries for their sustainable socio-economic uplift through applications of science and technology. COMSATS' current membership comprises of 27 countries located in the continents of Africa, Asia, Latin America (and Eurasia), representing a population of over one-third of the world's total.

These countries have diverse social, cultural, economic, political, educational and religious backgrounds, and also differ greatly in their scientific and technological potentials. Their common aspirations for development through cooperation in S&T was the main driver of them coming together on the platform of COMSATS. COMSATS' major source of scientific and technological strength stems from its network of international S&T Centres of Excellence, which comprises of 22 reputed R&D and S&T, as well as universities.

As stipulated in the organization's statutes, COMSATS Secretariat is permanently located in Islamabad, Pakistan, with its operation and expenditures supported by generous grants from the Government of Pakistan. The membership of COMSATS is open to all developing countries. The organization also aspires to broaden its horizons to all countries and institutions, including those from the North.

### MISSION

The mission of COMSATS is to 'help create a world where all nations/states are at peace with

one another and capable of providing a good quality of life to their populations in a sustainable way, using modern scientific and technological means'.

### OBJECTIVES

Major objectives and functions of COMSATS are:

- To sensitize the countries in the South to the centrality of science and technology in the development process, to the adequate resource allocation for research and development, and to the integration of science and technology in the national and regional development plans;
- To support the functioning and activities of the Network of International Science and Technology Centres for Sustainable Development in the South, established at the foundation meeting of the Commission;
- To support other major initiatives designed to promote indigenous capacity in science and technology for science-led sustainable development, and to help mobilise long-term financial support from international donor agencies and from Government/Institutions in the North and the South to supplement the financing of international scientific projects in the South;
- To provide leadership and support for North-South and South-South cooperative schemes in education, training and research, such as the proposal to set up programmes of scholarships for research at centres of excellence in the South; and
- To support the relevant programmes and initiatives of major scientific organisations working for the development and promotion of science and technology in the South.







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

Dr. S. M. Junaid Zaidi assumed the charge as Executive Director in February 2017, by virtue of which he is also the ex-officio Secretary to the Commission, Coordinating Council and the Consultative Committee. He has rich and diverse experience spanning over forty years, ranging from his work for international and national organizations, educational institution-building, and research and teaching to foreign collaborative ventures. He has been the founding Rector of a Centre of Excellence of COMSATS, the COMSATS University Islamabad (CUI), which has phenomenally grown both nationally and internationally. He is recipient of two prestigious national awards of Pakistan, *Sitara-i-Imtiaz* and *Hilal-i-Imtiaz*.

## FOREWORD

The year 2019 has been significant for COMSATS in a number of ways. The organization continued its operations, expanded them and made headways with regard to the statutory bodies of COMSATS. The year also marked the Silver jubilee of COMSATS in October 2019. The landmark of 25 years is really encouraging and humbling at the same time. During the past two and half decades, there has been a paradigm shift in the Organization's character in that it has assumed an enhanced role in influencing development policies and economic planning in the South. Coming of age, COMSATS is not only growing in its operations with regard to its cardinal objective of South-South cooperation but is also coming to terms with its greater role as a strong conduit between the North and the South.

During 2019, I had the honour of twice calling on the Chairperson COMSATS, H.E. Nana Addo Dankwa Akufo-Addo, who gave his advice on a number of matters including COMSATS' programmes and rendered his complete support for convening and hosting the 4th General Meeting. While the culmination of the engagements with Ghanaian Presidency, and Focal Point is expected soon in the form of the General Meeting that is scheduled to be held in April 2020, the visits and sojourns in Ghana *per se* provided an excellent opportunity with regard to understanding the international stature of the President and Ghana itself as the continental and perhaps regional leader of Africa. Twelve countries from Africa – deemed as 'the continent of the future' constitute a prominent part of COMSATS' membership. Under the able leadership of the President Akufo-Addo, COMSATS is hopeful to further enhance operations and membership in Africa.

COMSATS' canvas of activities expands beyond Africa to include two major continents, Asia and Latin America, with a number of member states and partner organizations in the North. Engagements with a number of these, including ISESCO, UN development arms, Commonwealth Secretariat, EU, OWSD, AIPS, PIDF and TWAS, continued during the year. An MoU with the OIC was signed, while membership of the Alliance of International Science Organizations (ANSO) was endorsed. The cohort of partner organizations thus strengthening brings for COMSATS vigor and support as well as helps COMSATS in being duly recognized as a keen advocate of S&T-led development.

Looking back, we see that our activities have not only grown

in magnitude but also in scope to include new meaningful interventions. A number of such interventions, discussions and opportunities came during the Annual Coordinating Council meeting held in Tianjin, where participants including 18 centres of excellence met. The continued operations, growth and appreciation of COMSATS' flagship projects, the COMSATS University Islamabad, COMSATS Tele-Health Program and COMSATS Internet Service, are not only satisfying but also a long standing reminders of what COMSATS' membership entails for current and prospective members. A devoted chapter on activities of COMSATS Centres of Excellence showcases the technical strength in a number of areas that COMSATS is equipped with to help jointly address developmental challenges.

COMSATS' capacity-building activities during the year pertained to a number of important issues, including water resources, SDGs, peace and community building, international cooperation, agriculture, biotechnology, and food security. These encouraged necessary debates and helped producing a mass of talented researchers and professionals in these areas.

The joy of Silver Jubilee was enhanced thanks to the Presidency and Focal Ministry in the host country, the messages of facilitations received from COMSATS' international fraternity, and the small celebrations at COMSATS Secretariat. My special gratitude goes out to all of them.

Looking forward, the deliberations of COMSATS' three statutory bodies that are expected to meet during 2020 (the General Meeting to be convened by the President Akufo-Addo, the Consultative Committee meeting to be convened by the His Excellency Chaudhary Fawad Hussain and the 23rd Council Meeting to be hosted by ICCBS, Karachi) would be a great source of operational inputs and policy guidelines for COMSATS.

Like every year, we have had steadfast support of COMSATS' host country that has been a source of great strength for us locally and internationally, for which we are truly grateful. My team at COMSATS Secretariat deserves special acknowledgement, without their hard work the activities included in this report would not have been possible.

## Focal Ministries in Member States

**Bangladesh**

Ministry of Science and Technology

**China**

Ministry of Science and Technology

**Colombia**

Ministry of Science, Technology and Innovation

**Egypt**

The Academy of Scientific Research and Technology

**The Gambia**

Ministry of Higher Education, Research, Science and Technology

**Ghana**

Ministry of Environment, Science, Technology and Innovation

**Iran**

Ministry of Science, Research and Technology

**Jamaica**

Ministry of Science, Energy and Technology

**Jordan**

Higher Council for Science and Technology

**Kazakhstan**

Ministry of Education and Science

**Korea DPR**

State Academy of Sciences

**Morocco**

Ministry of National Education, Vocational Training, Higher Education and Scientific Research

**Nigeria**

Federal Ministry of Science & Technology

**Pakistan**

Ministry of Science and Technology

**Palestine**

Ministry of Higher Education and Scientific Research

**Philippines**

Department of Science and Technology

**Senegal**

Ministère de l'Enseignement Supérieur

**Somalia**

Ministry of Education, Culture and Higher Education

**Sri Lanka**

Ministry of Higher Education & Technology and Innovation

**Sudan**

Ministry of Higher Education and Scientific Research

**Syria**

Ministry of Higher Education

**Tanzania**

Ministry of Education, Science & Technology

**Tunisia**

Ministry of Higher Education and Scientific Research

**Turkey**

The Scientific and Technological Research Council of Turkey (TUBITAK)

**Uganda**

Uganda National Council for Science & Technology

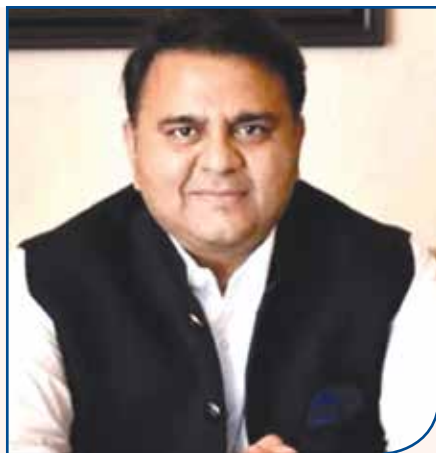
**Yemen**

Ministry of Higher Education and Scientific Research

**Zimbabwe**

Ministry of Higher and Tertiary Education, Science and Technology Development





### **H.E. Mr. Chaudhry Fawad Hussain**

Chairperson of COMSATS Consultative Committee

H.E. Mr. Chaudhry Fawad Hussain is the Federal Minister for Science and Technology of COMSATS host country, Pakistan. Mr. Hussain assumed the Charge as Pakistan's Federal Ministry for Science and Technology on 19th April 2019, by virtue of which he is the Chairperson of COMSATS' Consultative Committee. Under his leadership, the Ministry of Science and Technology has constituted three task forces on technology relating to Agriculture, Education and Renewable Energy Technologies (RETs) to help promote scientific innovation, R&D for development, science and skill based education in the country.

## **FROM THE CHAIRPERSON COMSATS CONSULTATIVE COMMITTEE**

It is indeed a matter of great pleasure for me to congratulate all the member states of COMSATS on the 25th Anniversary of COMSATS (the landmark achieved during the reporting period of this Annual Report). It is highly satisfying that during this period COMSATS has remained at the forefront to promote science and technology for sustainable development in the Global South. The role of COMSATS' focal ministries and Centres of Excellence in promotion of COMSATS' mission is commendable. They have always played a vital part in expanding the frontiers of STI in developing the South within the framework of United Nations 2030 Global Development Agenda.

I highly appreciate COMSATS' flagship initiatives, COMSATS University Islamabad (CUI), COMSATS Internet Services (CIS) and COMSATS Tele-health programme that have greatly contributed to the host country in their relevant niches. These have the potential to be replicated as models in the developing world. CUI has attained the status of a full-fledged university and is actively contributing in the fields of education, research, innovation and capacity building. CIS, Pakistan's pioneer Internet Service Provider (ISP), is operating in 19 cities of the country, whereas, the Tele-Health project is effectively extending healthcare to rural populations in remote areas of Pakistan. These programmes have received huge appreciation, which reflects COMSATS' recognition as a highly useful body contributing to socio-economic well-being of the masses in the developing countries.

Undoubtedly, the level of success and the standards of COMSATS' achievements are due to the continuous patronage of the Organization by the Member States. Pakistan, specifically, has done its best to live up to the honour of hosting the Secretariat of COMSATS since 1994. I urge the Member States to continue their support to COMSATS' programmes aimed at bringing peace and prosperity to the developing world.

Pakistan is a keen supporter of scientific and technical cooperation in the fields of education, health, communication, research and development for the benefit of the people in developing countries. Therefore, we greatly appreciate the Commission's focus on education, health and capacity building at the national, regional and global level as well as its efforts for strengthening South-South and Triangular Cooperation.

I would like to extend my compliments to my counterparts in member states and network members for their contribution to COMSATS' mission. In the end, my greatest appreciation goes to the human resource of COMSATS Secretariat that is the operational driving force behind the success of the organization.

I wish COMSATS continued success for many decades to come.

## Members of COMSATs Coordinating Council



**Mr. Md. Faruque Ahmed**  
Chairman BCSIR, Bangladesh



**Dr. Gustavo Ribeiro Xavier**  
DG Embrapa Agrobiologia, Brazil



**Prof. Lin Zhaohui**  
Director ICCES, China



**Prof. Dr. Yanhe Ma**  
Director General TIB, China



**Dr. Eduardo Posada F.**  
Director CIF, Colombia



**Prof. Mohamed Hashem**  
President NRC, Egypt



**Prof. Dr. Victor Agyeman**  
Director-General CSIR, Ghana



**Dr. Alireza Ashori**  
President IROST, Iran



**Mr. Charles N. Grant**  
Director General ICENS, Jamaica



**HRH Princess Sumaya bint El Hassan**  
President RSS, Jordan



**Prof. Dr. G. M. Mutanov**  
Rector KazNU, Kazakhstan



**Prof. Stephen E. Onah**  
Director NMC, Nigeria



**Prof. Dr. Raheel Qamar**  
Rector CUI, Pakistan



**Prof. Dr. M. Iqbal Choudhary**  
Director ICCBS, Pakistan



**Prof. Dr. Imad F. S. Abukishek**  
President AQU, Palestine



**Prof. Ibrahima Thioub**  
Rector/President UCAD, Senegal



**Dr. Radhika Samarasekera**  
Director General ITI, Sri Lanka



**Dr. Widad H. A. H. Hassan**  
Director General IRCC, Sudan



**Dr. Maher Suleiman**  
Director HIAST, Syria



**Prof. M. M.A. Mtambo**  
Director General TIRDO, Tanzania



**Prof. Ahmed Ghrabi**  
Director General CERTE, Tunisia



**H.E. Prof. Hasan Mandal**  
President TUBITAK, Turkey



**Prof. Dr. Ashraf Shaalan, Ph.D.**

Chairperson of COMSATS Coordinating Council

Prof. Ashraf Shaalan was elected as the Chairperson of COMSATS Coordinating Council during its 19th Meeting held in May 2016, in Islamabad, Pakistan, when he was the President of COMSATS Centre of Excellence in Egypt, National Research Centre (NRC). Later, the Council approved his life-time membership during its 22nd Meeting. Also, he was made the Chairperson for another term by unanimous approval.

A widely published academician, Prof. Shaalan is member of the Egypt's Presidential Specialized Council for Education and Scientific Research of Egypt and has previously served as the Vice-President of the Academy of Scientific Research and Technology.

## FROM THE CHAIRPERSON COORDINATING COUNCIL

Since the first meeting of COMSATS Coordinating Council in 1995, great efforts have been made towards amalgamation of the human resources and infrastructure in COMSATS' Centres of Excellence affiliated. Within the last few years, the Council worked on strengthening scientific capacity in the South by building network of centres of excellence and thematic research groups that are the backbone for collaboration between the member states.

Although many success stories have been reported over time of the collaboration among member states, but it would be a mistake to think that COMSATS has achieved all it can. Much more is being and needs to be done towards recognizing our real and powerful resources, diagnosis of our problems, and suggesting

solutions based on the integrative win-win concept.

This Report outlines COMSATS' activities main accomplishments through its secretariat and its technical resource represented by the esteemed Centres of Excellence. It also represents a platform for moving ahead to achieve the goal that COMSATS aims at, and furthermore, to build peaceful and prosperous societies.

I am indebted to the Executive Director of COMSATS, Dr. Syed Muhammed Junaid Zaidi, and his fellow colleagues in the Secretariat for all their efforts during the last year, and for devoting themselves for better COMSATS' future.









# 1. CORE ACTIVITIES OF COMSATS SECRETARIAT

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# CORE ACTIVITIES OF COMSATS SECRETARIAT

*COMSATS Secretariat provides secretarial assistance to both the Commission and the Network of Centres of Excellence. It is responsible for regularly holding statutory body meetings as well as following up on their deliberations and decisions. The Secretariat also executes COMSATS' programmes and activities in partnership with other inter-governmental agencies, national S&T institutions, R&D organizations, members of academia and scientific community across the world. Other core activities of the Secretariat relate to: pooling and management of financial resources; enhancing the membership of COMSATS and its Network; and special liaison with the host country, apart from regular engagement with all Member States*



## 22nd COMSATS Coordinating Council Meeting

The Coordinating Council is an important organ of COMSATS' Network of International S&T Centres of Excellence, which comprises the Heads of 22 Centres of Excellence. The Council is an effective platform for South-South and Triangular technical cooperation aiming at building and sustaining a critical mass of scientists and technologists in areas that are most relevant to the needs of developing countries for realizing the overall objective of achieving sustainable socio-economic development in the South. The Council meets once annually to take decisions on matters relating to the ongoing and future programmes and activities of the organization.

The 22nd Meeting of COMSATS Coordinating Council was successfully held on 16th - 17th April 2019 in Tianjin, China. The meeting was hosted by



COMSATS' most recently inducted Centre of Excellence, the Tianjin Institute of Industrial Biotechnology (TIB), China.

The meeting was attended by the Council members or their representatives from 18 Centres in Bangladesh, China, Colombia, Egypt, Ghana, Iran, Jamaica, Kazakhstan, Nigeria, Pakistan, Palestine, Sri Lanka,

Sudan, Syria, Tanzania, and Turkey.

Two officials belonging to COMSATS' international partner organizations, i.e., TWAS and UNESCO, as well as a representative of diplomatic mission of Pakistan in China also attended the meeting as observers.



## Inauguration

The event was inaugurated on the morning of 16th April 2019 by H.E. Laiying Yao, Vice Mayor of Tianjin Municipal Government, China. In addition to the Council members, representatives of international partner organizations and COMSATS' officials, the inaugural ceremony was attended by the senior officials of Chinese Ministry of Science and Technology (MoST), Chinese Academy of Sciences (CAS), other Chinese R&D organizations and universities, etc.

Mr. Laiying Yao stated that Innovation was the most important and lasting driving force for economic growth. Mr. Yao commended COMSATS' outstanding contributions towards South-South cooperation and scientific and technological development since its inception in 1994.



In his keynote address, Prof. Dr. Ashraf Shaalan, Chairperson COMSATS Coordinating Council, recalled the essence of COMSATS' foundation and activities, which is the promotion of South-South cooperation in S&T for facilitating

socio-economic uplift of developing countries. Speaking about his own Centre of Excellence, the National Research Centre (NRC), Egypt, Prof. Shaalan informed that the Centre is actively working to implement the MoUs with other Centres of Excellence signed during the last Council meeting.



Welcoming the participants, Dr. S. M. Junaid Zaidi, Executive Director COMSATS, thanked TIB for making excellent arrangements for the meeting and extending generous hospitality to foreign participants. Dr. Zaidi considered the Belt and Road Initiative (BRI) by China an extremely important enterprise and advised the Centres of Excellence to benefit from its vast opportunities. He believed that effective South-South and Triangular Cooperation in the fields of science and technology could greatly help achieve Sustainable Development Goals (SDGs).



In his opening remarks, Prof. Dr. Yanhe Ma, Director General, TIB, warmly welcomed the participants of the meeting and expressed his pleasure over hosting the Council meeting. He considered COMSATS as a facilitating platform for networking and scientific collaborations among developing countries and stated that the member countries could greatly benefit from COMSATS in achieving the UN 2030 Agenda. He informed that TIB had established a COMSATS' office to strengthen its links with Member States/ Centres of Excellence and for the promotion of COMSATS' mission in China. Prof. Ma further informed that TIB was developing the Technology Innovation Centre for Synthetic Biology to serve as a platform for COMSATS' member states and Centres of Excellence to engage in bilateral and multilateral collaboration in the relevant fields. He offered initiating joint research projects to other Centres of Excellence in synthetic biology for industrial bio-production, advanced microbial manufacturing and advanced bioprocess engineering.







## Technical Deliberations

The technical deliberations comprising of a 15-point agenda spanning over three sessions and two days were presided over by the Chairperson of the Council, Prof. Ashraf Shaalan.

After the approval of the previous meeting of the Coordinating Council, Mr. Farhan Ansari, Sr. Assistant Director (Programmes) COMSATS, briefed the Council on the implementation status of the decisions taken by the Council in its previous meeting, while Dr. S. M. Junaid Zaidi, Executive Director COMSATS presented COMSATS' Annual Activity Report (April 2018 – March 2019).

The Coordinating Council expressed satisfaction on the implementation status of the decisions of last Council meeting, annual activity report (2018-19) and future plans.

The Heads/representatives of the Centres of Excellence made presentations on their activities related to South-South and Triangular Cooperation during last one year, including the ongoing interaction and collaboration with other Centres of Excellence, as well as future plans for COMSATS' Network. The progress reports on COMSATS' International Thematic Research Groups were also shared by the respective Lead Centres. The Lead Centres and collaborating institutions of ITRGs

were encouraged to continue their research activities for the benefit of COMSATS' Member States and may jointly submit project proposals to international donor agencies for seeking financial support for the projects.

The representatives of TWAS and UNESCO also made presentations, in which they highlighted the ongoing programmes and activities of their respective organizations as well as possibilities of support and collaboration with COMSATS.

A key decision taken during the meeting was the induction of Prof. Dr. Ashraf Shaalan (Egypt) as Honorary Lifetime







Member of Coordinating Council, and his re-election as Chairperson Coordinating Council for another term of three years (2019 - 2022). Furthermore, the Scientific and Technological Research Council of Turkey (TUBITAK) was designated as COMSATS' Centre of Excellence in place of TUBITAK Marmara Research Centre (MAM), Turkey. Due to this development, all of the institutions under TUBITAK have come under the ambit of the Coordinating Council.

The Council also appreciated nomination of the Food and Nutrition Research Institute (FNRI) and Philippines Textile Research Institute (PTRI) by the Government of the Philippines for induction in COMSATS Network.

The Council was pleased to learn that COMSATS' delegation led by Prof. Dr.

Ashraf Shaalan had a productive meeting with the honourable Chairperson of COMSATS, President of Ghana, during which His Excellency's guidance was sought regarding the ongoing and future activities of the organization.

The Council members also deliberated upon the ongoing programmes of COMSATS, including Scholarships, Postdoctoral Fellowships, Telehealth Programme, capacity building activities, publications, etc.

The Council appreciated the efforts being made by COMSATS to establish new Centres of Excellence and Universities in the Member States in the cutting-edge fields of science and technology for addressing their socioeconomic needs. They were especially pleased to learn that eleven Member States have so far agreed

to participate in the COMSATS Centre for Climate and Sustainability (CCCS) network and extend support for the success of this important initiative.

Subsequently, Mr. Bilal Chohan, Director (A&E) COMSATS, presented the Administrative and Financial Matters of COMSATS, which were endorsed by the Coordinating Council. Moreover, the Council discussed matters related to financial sustainability of the organization and encouraged all Network members to sensitize their respective governments regarding the importance of regularly making annual membership contribution. The next meeting of the Coordinating Council will be hosted by the International Centre for Chemical and Biological Sciences (ICCBS), Karachi, Pakistan, during the first half of 2020. The meeting Communiqué (Page 7) encapsulates the



## Members of the Council or their Representatives and other Participants

- Prof. Dr. Ashraf Shaalan, Chairperson Coordinating Council
- Dr. Md Sarwar Jahan, Chief Scientific Officer, Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh
- Prof. Lin Zhaohui, Director, International Center for Climate and Environment Sciences (ICCES), China
- Prof. Dr. Yanhe Ma, Director General, Tianjin Institute of Industrial Biotechnology (TIB), China
- Prof. Jibin Sun, Deputy Director-General, Tianjin Institute of Industrial Biotechnology (TIB), China
- Ms. Qianqian Chai, Officer of Foreign Affairs and Academic Exchange, Tianjin Institute of Industrial Biotechnology (TIB), China
- Dr. Eduardo Posada F., Director, Centro Internacional de Fisica, Colombia
- Prof. Hosam El-Sayed, Assistant Vice President for Research, Head of Proteinic and Man-Made Fibres Department, Professor of Textile Chemistry and Technology, National Research Centre (NRC), Egypt
- Prof. Dr. Victor Agyeman, Director-General, Council for Scientific and Industrial Research (CSIR), Ghana
- Dr. Foad Farhani, Acting President for International Cooperation, Iranian Research Organization for Science & Technology (IROST), Iran
- Mrs. Sandra Hunter, Director of Finance and Administration, International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica
- Prof. Dr. Tlekkabul Ramazanov, Vice-Rector for Research & Innovations, Al Farabi Kazakh National University (KazNU), Kazakhstan
- Prof. Stephen E. Onah, Director/Chief Executive, National Mathematical Centre (NMC) Nigeria
- Prof. Dr. M. Iqbal Choudhary, Director, International Center for Chemical and Biological Sciences (ICCBS), Pakistan
- Prof. Dr. Raheel Qamar, Rector, COMSATS University Islamabad (CUI), Pakistan
- Prof. Dr. Imad F. S. Abukishek, President, Al-Quds University, Palestine
- Dr. J. K. R. R. Samarasekara, Director General, Industrial Technology Institute (ITI), Sri Lanka
- Dr. Widad Hassan Abdel Halim Hassan, Director General, Industrial Research and Consultancy Centre (IRCC), Sudan
- Dr. Maher Suleiman, Director, Higher Institute for Applied Science and Technology (HIAST), Syria
- Dr. Lugano Wilson, Director of Engineering Development and Head, Energy Technologies Division, Tanzania Industrial Research and Development Organization (TIRDO), Tanzania
- Dr. Murat MAKARACI, Acting Vice President, Strategy, Technology & Corporate Development, TUBITAK Marmara Research Center (MAM), Turkey
- Dr. Max Paoli, Programme Coordinator, The World Academy of Sciences (TWAS), Italy
- Ms. Marielza Oliveira, Director, UNESCO's Office, China
- Dr. Ata ur Rahman, Counsellor of Scientific & Technical Affairs, Embassy of Islamic Republic of Pakistan in Beijing, China
- Dr. S. M. Junaid Zaidi, Executive Director COMSATS Secretariat
- Mr. Bilal Chohan, Director (A&E), COMSATS Secretariat
- Mr. Farhan Ansari, Sr. Assistant Director (Programmes), COMSATS Secretariat

resolve of the Council with regard to COMSATS' activities in the preceding and proceeding months.

## Visit to TIB Laboratories

The participants of the Council meeting visited the laboratories of TIB on the

morning of 18th April 2019. Prof. Jibin Sun gave introduction on the laboratories and facilities of the institute, which include:

- National Engineering Laboratory for Industrial Enzymes;
- Laboratory of Systems Microbial Biotechnology;
- Laboratory for Industrial Biological Systems and Bioprocessing Engineering; and
- Tianjin Engineering Center for Biocatalytic Technology.

Faculty members at TIB made presentations to show the impact made by the Institute for sustainable development of China. The visitors took great interest in the technologies and products developed by TIB, and had in-depth exchanges with the scientists of the Institute.

The visit encouraged the Council Members to further strengthen communication and exchanges with TIB and help promote bilateral and multilateral cooperation among COMSATS' member states in the field of biotechnology.

## Follow-up of the Decisions of the 22nd Coordinating Council Meeting of COMSATS

The Council took a number of decisions during the 22nd meeting, which are being followed-up by COMSATS Secretariat. As per the Council's advice to continue building capacity of the Member States and Centres of Excellence in the fields of science and technology, COMSATS Secretariat conducted a number of capacity building events (Chapter 4). These events were in line with the needs and priorities of the scientific workforce of the Centres of Excellence and Member States for the achievement of the UN Sustainable Development Goals (SDGs).

In this connection, COMSATS in collaboration with The World Academy of Sciences (TWAS), organized an International Workshop titled 'Learning

## Communiqué of the 22nd Meeting of COMSATS Coordinating Council (16-17 April 2019, Tianjin, China)

The participants of the 22nd meeting of COMSATS Coordinating Council, including the representatives of eighteen Centres of Excellence, deliberated upon the fifteen-point agenda of the meeting during 16-17 April 2019, and are pleased to unanimously adopt the following:

- The Coordinating Council appreciates the excellent arrangements made by the Tianjin Institute of Industrial Biotechnology (TIB) for the 22nd Council meeting and for providing generous hospitality to its participants. The preparation of necessary documentation by COMSATS Secretariat and the administrative support provided to TIB for the successful organization of the meeting is praiseworthy.
- The Council is grateful to the representatives of the Chinese Ministry of Science and Technology as well as Chinese Academy of Sciences for briefing on the key activities and action plan of the Chinese government under Belt and Road Initiative (BRI). The Centres of Excellence are urged to benefit from the opportunities of collaboration and funding available under this initiative.
- The Council pays gratitude to the Government of China for increasing its Annual Membership Contribution (AMC) to COMSATS from US\$ 20,000/- to US\$ 50,000/-.
- The outstanding leadership provided by Prof. Dr. Ashraf Shaalan as the Chairperson of the Council during the period (2016 – 2019) and his services for the cause of COMSATS are duly acknowledged and highly applauded.
- The Coordinating Council is pleased to elect Prof. Dr. Ashraf Shaalan, as its Chairperson for another term of three years (2019 - 2022), and hopes that he will be able to provide a new thrust to the COMSATS' Network with regard to achieving its objectives.
- The Council is delighted to learn that a delegation of COMSATS Headquarters led by Prof. Dr. Ashraf Shaalan, Chairperson Coordinating Council, had a very productive meeting with the honourable Chairperson of COMSATS, President of Ghana. The guidance of the honourable Chairperson would enable the organization to achieve its mission and objectives. The COMSATS Secretariat is advised to keep close contact with the office of the Chairperson to receive guidance regarding the on-going and future programmes of COMSATS, from time to time.
- The Council warmly welcomes the Republic of Yemen as the 27th Member State of COMSATS. It is hoped that Yemen will actively participate in the programmes and activities of the organization. In this regard, request will be made on behalf of the Council to the Government of Yemen to nominate one of its renowned R&D organizations, for induction in COMSATS' Network of Centres of Excellence. The consistent efforts being made by COMSATS Secretariat for extending COMSATS' membership to other developing countries is noted with approbation.
- The Council welcomes the designation of the Scientific and Technological Research Council of Turkey (TUBITAK) as COMSATS' Centre of Excellence. The addition of TUBITAK and its 15 research institutes has further added strength to COMSATS' Network. TUBITAK is expected to play a significant role in the achievement of COMSATS' objectives.
- The Council appreciates the nomination of the Food and Nutrition Research Institute (FNRI) and Philippine Textile Research Institute (PTRI) by the Government of the Philippines for induction in COMSATS Network. The endeavour would now be to complete the necessary formalities for induction of the nominated institutes in COMSATS' Network before the next Council meeting. COMSATS Secretariat is encouraged to continue its efforts to extend the membership of COMSATS' Network to all Member States.
- The Council appreciates the efforts being made by COMSATS to establish new Centres of Excellence and Universities in the

Member States in the cutting-edge fields of science and technology for addressing their socio-economic needs. The Centres of Excellence and international partner organizations are requested to play a facilitative role in this regard.

- The activities undertaken by Centres of Excellence during the period since the last Council meeting are highly appreciated.
- The Council while recognizing the significance of the linkages between climate change and sustainable development is pleased to note with appreciation the progress made with regard to the establishment of COMSATS Centre for Climate and Sustainability (CCCS). The Council expressed appreciation that eleven Member States have so far agreed to participate in the CCCS network and urges other Member States to join COMSATS Centre for Climate and Sustainability and extend support for the success of this important initiative.
- The Council recognizes that South-South cooperation and triangular cooperation enable developing countries to achieve sustainable development through close cooperation. It is heartening to note that the work and activities of the Centres of Excellence are aligned with the SDGs. The Centres of Excellence are encouraged to strengthen collaboration and partnership for the realization of the Sustainable Development Goals (SDGs) in the framework of the 2030 Agenda for Sustainable Development.
- The Council is pleased to learn that COMSATS Secretariat is making preparations to hold the 4th Consultative Committee Meeting (June 2019, Turkey) and 4th General Meeting of the Commission (August 2019, Ghana). The Centres of Excellence are requested to provide inputs for the afore-mentioned meetings, as well as to share joint proposals for projects and programmes to be considered during these meetings for support/funding.
- The Council appreciates the standing offer of 100 postgraduate scholarships made by CUI-Pakistan; and the post-doctoral fellowships offered by NRC-Egypt, ICCBS-Pakistan and BCSIR-Bangladesh. While this effort should be continued, other Centres of Excellence may beneficially make use of these opportunities.
- The Lead Centres and collaborating institutions of ITRGs are encouraged to continue their research activities for the benefit of COMSATS' Member States. They may jointly submit project proposals to international donor agencies for seeking financial support for the joint research projects.
- The payment of AMC by Pakistan, Sri Lanka and Jamaica during the period since the last Council meeting is also noted with appreciation. The Council encourages all other Network members to sensitize their respective governments regarding the importance of regularly making AMC for the financial sustainability of COMSATS.
- The Council appreciates the following efforts/achievements of COMSATS Secretariat with regard to fulfilling the objectives of the organization:
  - i. Continuous expansion of COMSATS Member States and Centres of Excellence;
  - ii. Steady growth of COMSATS flagship projects, i.e., COMSATS University Islamabad (CUI), COMSATS Internet Services (CIS) and COMSATS Telehealth Programme;
  - iii. Organization of six (06) capacity building events in collaboration with Centres of Excellence and international partner organizations, which benefited the scientists, researchers, academicians, engineers and technicians belonging to the Member States;
  - iv. Increased interaction and collaboration among the Centres of Excellence for the exchange of human and technological resources;
  - v. Outreach to the institutions of the North and conclusion of various MoUs/Agreements;
  - vi. Regular publication of COMSATS' Annual Report, Newsletter and other information material. The inputs and support of the Centres of Excellence in this regard is highly appreciated.
- The Council accepts and highly appreciates the offer made by ICCBS-Pakistan to host the next (23rd) Meeting of COMSATS Coordinating Council in Karachi, Pakistan, during March/April 2020.



about Sustainability, SDGs and Global Challenges' which was held on 3 – 5 December 2019, in Gebze, Turkey. The aim of the workshop was to provide an overview and training on the concept of sustainable development; the rationale of SDGs; importance of targets set as benchmarks for monitoring the progress of the implementation processes; and on the planetary boundaries. The workshop was hosted by TUBITAK, Turkey.

Similarly, COMSATS in collaboration with the Islamic Educational, Scientific and Cultural Organization (ISESCO), the Inter Islamic Network on Information Technology (INIT), and TWAS Young Affiliates Network (TYAN), organized 5th COMSATS-ISESCO-INIT International Conference on 'Agriculture, Biotechnology and Food Security: Role of ICTs', in Monastir, Tunisia, from 4th to 6th November 2019. The Conference provided an interactive platform to academicians, scientists and researchers to deliberate upon the burning issues related to Agriculture, Food Security and Biotechnology, and applications of ICTs in this regard.

Other local events held during the period include:

- i. Seminar on Science Diplomacy at COMSTECH Secretariat Islamabad, (27th November 2019, Islamabad, Pakistan);
- ii. Seminar on 'Pakistan China Industrial Cooperation', (9th October 2019 Islamabad, Pakistan);
- iii. Talk on "Community Building in ASEAN" organized at COMSATS Secretariat (July 2019 Islamabad, Pakistan);
- iv. Seminar on "Second Belt and Road Forum: Achievements and Prospects" held at COMSATS (3rd May 2019 Islamabad, Pakistan);
- v. Seminar on 'The Role of Youth in the Implementation of the SDGs' (24th April 2019 Islamabad, Pakistan); and
- vi. Consultative dialogue on "Air Pollution in Pakistan" in



commemoration of the Earth Day 2019 (22nd April 2019 Islamabad, Pakistan).

The aforementioned events played a key role in building the capacity of participants belonging to Centres of Excellence and Member States as well as facilitated in promoting national, regional and international partnerships.

Moreover, in order to enhance capacity of the researchers / scientists from Member Countries as well as to facilitate collaboration, COMSATS provided sponsorship to the following scientists / experts:

- i. One official from CUI was sponsored by COMSATS to visit KazNU (11-15 November 2019) to explore the opportunities of academic collaboration between CUI and KazNU.
- ii. Three (03) experts from IROST, KazNU, and ITI were sponsored by COMSATS to participate in the 5th COMSATS-ISESCO-INIT International Workshop on 'Biotechnology, Agriculture and Food Security: the Role of ICTs' which was held in Tunisia in November 2019.
- iii. Two eminent scientists from KazNU were sponsored by COMSATS to participate in the inaugural ceremony of 'Pak-Kazakh Joint Laboratory

for Innovation in Natural Products Research and Development' at ICCBS, Pakistan.

- iv. One scientist from China was sponsored by COMSATS to participate in the 4th TYAN International Thematic Workshop and 1st African Symposium on "Big Data, Analytics and Machine Intelligence for Financial, Health and Environmental Inclusion in Developing Countries (10-14 June 2019, Akure, Nigeria).
- v. Two (02) experts from Kazakhstan and Sri Lanka were sponsored by COMSATS to participate in the 7th International Symposium-cum-training course on molecular medicine and drug research (MMDR-7) (4 - 7 November, 2019 Karachi, Pakistan).
- vi. One expert from CUI was sponsored by COMSATS to participate in 'Geo-engineering the Climate: Impacts and the Developing World' (12-16 August 2019, Beijing, China).
- vii. One expert from CUI (Abbottabad Campus) was sponsored by COMSATS to participate in the 'Symposium (PP19) on Purine and Pyrimidine Metabolism in Man' (12-14 June, 2019 Lyon, France).
- viii. Three experts belonging to Iran and one expert from ICCBS (Pakistan) were sponsored by COMSATS to participate in the International Workshop on 'Challenges and

Innovations in Nano-science (18– 19 December 2019, Damascus, Syria).

Furthermore, on recommendation of COMSATS, 19 candidates belonging to COMSATS member states (Bangladesh, Iran, Egypt, Kazakhstan, Nigeria, Pakistan, Sri Lanka, Syria, and Turkey), were fully sponsored by TIB for their participation in the International Training Course on Industrial Synthetic Biotechnology (October 2019 hosted by TIB). Apart, 7 scientists belonging to Pakistan were sponsored by the Ministry of Agriculture and Rural Affairs (BIOMA), China, to participate in various training programmes, particularly in the fields of rural wastewater treatment, agricultural waste, biogas, biomass energies, feed formula promotion, new fertilizers, ecological governance and ecotourism development.

The Council had 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 Secretariat has been regularly circulating information regarding the partner organizations' research grant programmes, capacity-building activities and other funding opportunities among its Centres of Excellence and Member Countries.

In light of the decisions made during 22nd Council meeting, COMSATS has been facilitating collaborations among the Centres of Excellence enabling them to collectively address the common challenges. In this connection, the collaborative undertakings among the Centres of Excellence are listed below:

- i. TIB-China is providing support to ITI-Sri Lanka in establishing an Industrial Biotechnology Center.
- ii. TIB-China and ICCBS-Pakistan are interacting to initiate collaboration in the form of joint projects on natural products sciences, traditional medicines and bio-transformation.



- iii. The 'Al-Farabi Corner' has been established at the Junaid Zaidi Library, COMSATS University Islamabad (CUI), following the partnership arrangements reached during the 21st and 22nd Coordinating Council meetings.
- iv. The "Pak-Kazakh Joint Laboratory for Innovation in Natural Products Research and Development" has been inaugurated at ICCBS-Pakistan in collaboration with KazNU-Kazakhstan.

During the last Council meeting, a few Centres of Excellence had offered postgraduate scholarships/postdoctoral fellowships to the students/researchers belonging to COMSATS' Member States. In this connection:

- COMSATS University Islamabad (CUI), Pakistan, has a long standing offer of 100 postgraduate scholarships. Recently, CUI has reviewed the term and conditions for the aforementioned scholarships (provided complete fee waiver), which has made it more convenient for the qualifying candidates. In this regard, currently, twelve (12) students are availing these scholarships and are enrolled in MS and PhD programmes.
- CUI (Lahore Campus), in collaboration with the International

Centre for Theoretical Physics (ICTP), Italy, has offered five (05) additional post-graduate scholarships (Masters of Science in Mathematic) to the students belonging to COMSATS' member countries. Four (04) nominations received from Nigeria and Tanzania are under consideration.

- The Al-Farabi Kazakh National University (KazNU), Kazakhstan, had offered 05 postgraduate scholarships for COMSATS Member States. In this regard, one student from Pakistan is availing this opportunity, while two more candidates belonging to Syria and Iran have been accepted during the reporting period.
- The Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh had offered one (01) postdoctoral fellowship, which has been availed by a researcher belonging to Nigeria. Similarly, the National Research Centre (NRC), Egypt, had offered 05 short-term (1-2 months) postdoctoral fellowships. A nomination received from IRCC-Sudan is under consideration.
- ICCBS-Pakistan has also offered five (05) scholarships per year to the member states, for which the call for nominations has been disseminated among the Centres of Excellence and Focal Points.

Following the decisions made during the 22nd Coordinating Council meeting, and in light of the requests received from some of the Member States, COMSATS is collaborating with its Centres for acquiring technical support in establishing top-class universities / research centres / S&T Parks in the member states. In this regard, consultations are being made with TIB (China), IROST (Iran), and TUBITAK (Turkey). During the period, the Executive Director COMSATS held meetings with the Honourable Minister for Higher Education, Technology & Innovation, Sri Lanka, and Director General ITI in Colombo, regarding the possibility of establishing an S&T University in Sri Lanka.

As another follow-up of the 22nd Coordinating Council meeting, a two-member delegation of COMSATS visited China from 14th – 18th July 2019 to participate in the 18th CTWF International Symposium on Aerosol and Climate Change: Observations, Modeling & Interactions (July 15-17, 2019, Beijing, China) and International Training Workshop on Atmospheric Aerosol: Observation, Modelling and Impact (July 18-20, 2019, Beijing, China).

In connection with fostering collaborations at the end of COMSATS' Centres of Excellence, the following developments took place:

- Prof. Jibin Sun, Deputy Director General, TIB, visited Pakistan during September 2019, in order to strengthen the ongoing cooperation as well as to explore the possibilities of future joint ventures in the fields of mutual interest, with CUI, ICCBS and other institutions including NUMS, Nextar Pharma Plant etc, in Pakistan. During the visit, an Intent of Cooperation (IoC) was signed between CUI and TIB aiming to establish and develop partnership in order to promote academic exchanges between the two institutions through cooperation.

- A three-member delegation of COMSATS visited Colombia during September 2019. During the visit, the delegation held meetings at the Colombian Association for the Advancement of Science (CAAS), and the International Centre of Physics (CIF). Moreover, the delegation visited the COLCIENCIAS (former COMSATS' Focal Point), and held meeting with the officials of its International Office. During these meetings, the delegation, inter alia, discussed the avenues of future collaboration in the areas of tele-health, climate sciences, education and curricula development, establishment of a regional office of COMSATS for Latin America.
- Following the decision regarding CUI scholarships opportunities, a two-member CUI visited Sri Lanka and held meeting with Director General of ITI on 20th January 2020. The delegation discussed the study opportunities / scholarships at CUI available to the researchers/students of ITI.

In light of the decisions made during the recent meetings of the Coordinating Council, the COMSATS Centre for Climate and Sustainability (CCCS) was further strengthened with the addition of three new members, increasing the number of affiliated organizations to fifteen.

Under a relevant decision on tapping potential of Belt & Road Initiative (BRI) for COMSATS Member States and Centres of Excellence, COMSATS became a member to the Alliance of International Science Organizations (ANSO). The membership has been endorsed and will soon be ratified. The membership shall enable COMSATS' Member States and Centres of Excellence to participate in ANSO's activities including fellowship and scholarships; prize and awards; training program; collaborative research; and professional associations.

### Preparations for the Fourth General Meeting of the Commission

The Commission is the highest forum of COMSATS, with 27 Heads of State/ Government of COMSATS' Member States as members. The first General Meeting of the Commission was held in 1994 that led to the establishment of COMSATS. The 2nd General Meeting of the Commission was held in April 2012 (Islamabad, Pakistan) while 3rd General Meeting was held in October 2015 (Accra, Ghana).

As stipulated in the COMSATS' Statutes, the Commission Meeting is to be convened by its Chairperson at least once every three years. To fulfill the obligations of Statutes, COMSATS Secretariat made efforts during the reported period (2019)





for convening the 4th General Meeting of the Commission of COMSATS in Ghana. The efforts included two visits of the Executive Director to Accra in January 2019 and September 2019, to seek guidance from the incumbent Chairperson of COMSATS, Hon. Nana Addo Dankwa Akufo-Addo, President of Ghana. Another visit to Ghana was made by senior COMSATS' officials in October 2019.

The meeting was postponed due to unavoidable circumstances. However, engagements with the Chairperson COMSATS, Ghanaian Focal Ministry, and relevant government institutions helped make major headways in organization of the highest level statutory body meeting of COMSATS. While some aspects of the meetings held during these visits are covered in Chapter 7, discussions relevant to the organization of 4th General Meeting and Accra Forum on S&T for Sustainable Development are summarized below.

In January 2019, Dr. Zaidi called on the Chairperson COMSATS and senior officials of Ghanaian government to sensitize them on COMSATS' programmes and furthering the plan of holding the 4th General Meeting. Accompanied by senior officials from Turkey, Egypt and Pakistan associated with COMSATS in different capacities, the purpose of the Executive Director's visit was to mobilise the machinery in Ghana under the guidance of the President to help fulfill the country's obligation of holding the summit meeting of COMSATS as the chair holder.

The meeting with the President on this visit was held on January 8, 2019, at Jubilee House (Flag Staff House) in Accra, Ghana, that lasted for over an hour. Prof. Kwabena Frimpong Boateng (Minister – MESTI); Mr. Nana Bediatuo Asante (Secretary to the President); Mr. R. Kwame Nartey (Consulate General for Pakistan in Ghana); Dr. Franics Danti Kotia (Director International Affairs, Ministry of Foreign Affairs & Regional Integration, Ghana); Dr. Agyeman Victor (Director General-CSIR) and Ms. Ayishetu Abdullah

(Assistant Director, Ministry of Foreign Affairs & Regional Integration, Ghana), were also present during the meeting.

Prof. Boateng, COMSATS' focal person in Ghana, introduced the COMSATS' delegation to the Honorable President, who also received comprehensive briefings by the Executive Director and other members of the delegation on the achievements of COMSATS with a special focus on last three years' activities and its future plans, introduction of COMSATS, the composition and role of its statutory bodies, and its programmes and activities for S&T uplift of 27-Member Countries through a Network of 22 Centres of Excellence (CoEs).

On the matter of the General meeting, the President gave his consent to convene the meeting as the Chairperson in the second half of 2019.

Appreciative of a prominent number of COMSATS' member states being from Africa, the President showed intent to help expand the membership further with inclusion of more member states.

Another visit that took place in September 2019 was undertaken to further materialize the arrangements for General Meeting. Among the discussion points with the President was holding of "Accra Forum on Science and Technology for Sustainable Development" in conjunction with the 4th General Meeting of the Commission,

as a large 2-day event. The Chairman also agreed to provide finances for the mega event.

The budget and other administrative arrangements for the meetings were discussed. It was agreed that necessary actions will be taken to follow-up the invitation letters sent to the Commission members by the relevant departments of the government of Ghana as well as COMSATS Secretariat.

In connection with the preparations of the 4th General Meeting of the Commission, the Executive Director, handed-over relevant documents including; the draft invitation letters to be sent to Commission Members from the Chairperson's office, detailed Checklists.

After the said meeting, four sub-committees were constituted to finalize the arrangements for the event, shown in the table below.

In the third week of October, a COMSATS' delegation visited Ghana to seek guidance on the organizational matters related to the General Meeting. However, the meeting was inevitably postponed.

## Sensitization Activities and Consultations

Throughout the year, COMSATS Secretariat remained engaged with sensitization activity, consultations,

Sub-Committees for Organization of the 4th General Meeting of COMSATS	
Name of sub-committees	Names of chairpersons
Protocol and Security	<b>Mr. Kwabena Appiah</b> Director, Ministry of Foreign Affairs and Regional Integration
Logistics and Accommodation	<b>Ms. Adelaide Asante</b> Ag. Director STI, Ministry of Environment, Science, Technology and Innovation
Materials and Papers	<b>Ing. Daniel Asenso – Gyambibi</b> (Director CSIR-BRRI)
Strategic Communication	<b>Mr. Nasir Ahmed Yartey</b> Head Public Relations, Ministry of Environment, Science, Technology and Innovation (MESTI)

alongside correspondence with the organizers, stakeholders and other international organizations. Some of these activities include the following sessions, during which not only the participants were sensitized about the 4th General Meeting and Accra Forum, but also advice was sought to improve the expected outcome of these events.

A hi-tea was arranged in honor of the Ambassadors/High Commissioners and other members of the diplomatic community of COMSATS' member countries on 20th September 2019, in Islamabad. The objective of the graceful gathering was to brief them about the forthcoming high-profile events of COMSATS to be held in Ghana in October 2019. The gathering comprised of Ambassadors/High Commissioners of Azerbaijan, Morocco, Nigeria, Palestine, Sri Lanka, Tunisia and Yemen; Political Secretary of UAE, and Romania, as well as other officials from US Embassy and German companies in Pakistan. The delegates were apprised about the Heads of State-level General Meeting and Accra Forum.

Other activities in this respect included:

- Consultative Meeting with Dr. Akram Sheikh, Co-Chair and Distinguished Senior Fellow at Global Think Tank Network
- Consultative Meeting with Pakistani universities' Vice Chancellors

On December 24, 2019 it was conveyed by the office of the Chairperson COMSATS that the Hon. Chairperson COMSATS and President of Ghana has convened the Accra Forum on Science and Technology for Sustainable Development and 4th General Meeting of the Commission, on 14th – 15th April 2020, in Accra, Ghana.

## COMSATS' Silver Jubilee

COMSATS celebrated the completion of 25 years of its inception early October 2019. After a small ceremony at COMSATS



Secretariat on 4th October 2019, the celebrations culminated in a graceful celebration at Host country, Pakistan's President House and an online medical camp to mark the silver jubilee.



## Celebration at COMSATS Secretariat

COMSATS celebrated its 25th Anniversary in a simple ceremony held at its Secretariat. Mr. Parvez Ahmed Butt, Founding Executive Director of COMSATS, graced the occasion with his presence as the Chief Guest. Also present during the ceremony were officials from COMSATS Secretariat,

COMSATS University Islamabad (CUI) and COMSATS Internet Services (CIS). The Rector of COMSATS University Islamabad, Dr. Raheel Qamar, was also present on the occasion.

The event featured curtain-raiser of a COMSATS Silver Jubilee commemorative postal stamp issued by the Government of Pakistan that has graciously hosted the organization's secretariat since inception.

Executive Director COMSATS, Dr. S.M. Junaid Zaidi, lauded the efforts of the present and past leaders of COMSATS Statutory bodies and COMSATS Secretariat, who have contributed to COMSATS' consistent pursuit of its mission of S&T-led sustainable development in the South.







Speaking on the occasion, Mr. Butt highlighted a major flagship project of COMSATS, COMSATS Internet Services, founded in 1996. This project, he noted had further enabled ICTs application in the country in the fields of IT, education and health.

In his remarks on the occasion, Prof. Dr. Raheel Qamar, Rector CUI, greatly acknowledged the hard work and efforts of Dr. Zaidi in taking COMSATS University Islamabad (CUI) forward as its Founding Rector.

Also on the occasion, Dr. Arshad Saleem Bhatti (Dean Faculty of Sciences of CUI), considered organizations like COMSATS, ICTP and TWAS important in bringing developing countries together for important S&T linkages.

The ceremony had an impressive attendance, including Islamabad based diplomatic missions from Embassies of Bosnia and Herzegovina, Belarus, Egypt, France, Hungary, Jordan, Kazakhstan, Kenya, Libya, Morocco, Nepal, Nigeria, Portugal, Palestine, Romania, Sudan, Sri Lanka, Turkey, Turkmenistan and Yemen. A number of government officials, including senior officials from Ministry of Science and Technology, Ministry of Foreign Affairs, as well as officials from COMSATS Secretariat, COMSATS University Islamabad, COMSATS Internet Services, and representatives of international organizations attended the ceremony.

In his congratulatory remarks on the occasion, Dr. Arif Alvi was of the view that with education, skilled human resource,

able minds and strong cooperation, the Global South can address present day challenges to help achieve Sustainable Development Goals. He urged the member states to support COMSATS' initiatives in this direction and more countries to join the organization as member states.

Speaking on the occasion, H.E. Mr. Fawad Hussain Chaudhry, Federal Minister for Science and Technology emphasized the importance of multilateralism in S&T and considered initiatives taken by COMSATS an excellent example of Science Diplomacy. Reiterating his office's support to COMSATS, he urged the foreign missions and international organizations to help further the organization's cause of bringing peace through S&T in the region.

Dr. S. M. Junaid Zaidi, Executive Director

### Silver Jubilee Ceremony at Aiwan-E-Sadr, Islamabad, Pakistan

As part of COMSATS Silver Jubilee celebrations, a graceful ceremony marking the landmark was held at Aiwan-e-Sadr, Islamabad, on 10th December 2019. The ceremony was graciously hosted by the Ministry of Science and Technology, Government of Pakistan. Dr. Arif Alvi, President of Pakistan, and Mr. Fawad Hussain Chaudhry, Federal Minister for Science and Technology, graced the ceremony with their presence.







COMSATS communicated greetings of Hon. Nana Addo Dankwa Akufo-Addo, President of Ghana and the Chairperson of COMSATS, to the Honourable President and the Minister. He lauded long-haul patronage of Government of Pakistan and Ministry of S&T towards COMSATS' operations.

### Some other Celebratory Activities

The celebrations include extensive print and social media engagement by means of syndicate articles and important information material, and souvenirs. A commemorative postal stamp was issued by the government of Pakistan. The visually pleasing stamp bears the flags of 27 member states, to mark the organization's membership at the time of the 25th anniversary.

A number of written and video messages of felicitations were received from some COMSATS Centres of Excellence and focal points that were documented into a montage (<https://www.facebook.com/COMSATSofficial/videos/2497436103842738/>).

In addition to a publication that gives a gist of the organization's engagements with member states, a special comprehensive publication on 25 years of COMSATS is also being prepared. A media campaign with articles published in print media duly created awareness on the organization, its mandate and achievements. Social media tools were duly engaged in the process as well.

### Enhancement of Membership of COMSATS' Commission

During 2019, significant inroads were made with regard to enhancement of COMSATS' membership. In this regard, a number of ambassadors and dignitaries in Pakistan were engaged from a number of countries.

The officials of Secretariat along with the Executive Director COMSATS visited foreign missions and paid courtesy calls upon the ambassador of Hungary, Royal Danish Embassy, Embassy of Portugal, Embassy of Russia and United Arab Emirates (UAE) and apprised them about COMSATS and the ongoing work in different member states and made a case for them to encourage their governments to join COMSATS as member states. Some other delegates that engaged in this regard were distinguished visitors of COMSATS Secretariat from European Union, DFID, and embassies of Spain, Portugal, Philippines, Belarus, and Australia.

As part of membership campaign, it is planned to reach out to the Central Asian states, such as Azerbaijan, Uzbekistan and Turkmenistan. Respective ministers of Science and Technology would be approached to sensitize them about COMSATS' activities and the benefits of joining COMSATS.

### Enhancement of Membership of COMSATS' Network of International S&T Centres of Excellence

COMSATS Secretariat makes constant efforts to enhance membership of COMSATS Network of Excellence to expand its collaboration potential, global outreach and diversity of scientific areas for greater good. Currently, COMSATS Secretariat is interacting with renowned research centres and universities in Indonesia, Malaysia, Zimbabwe, Gambia, Malawi, and Morocco and Tunisia for possible inclusion in the Network of Centres of Excellence.

### Interactions with Host Country, Pakistan

#### Chairperson Consultative Committee

The new Chairperson of COMSATS Consultative Committee, H.E. Chaudhry Fawad Hussain, the Federal Minister for Science and Technology, Government of Pakistan, visited COMSATS Secretariat on 19th June 2019, for the first time after assuming the charge of his Ministry. During the meeting that was held in the presence of senior officials of COMSATS Secretariat, the Minister was given a briefing on COMSATS' mandate, flagship projects, current and future programmes. Dr. S. M. Junaid Zaidi, Executive Director COMSATS, apprised the Minister of COMSATS' plans to establish in its member states the Centres on Climate Change and Sustainability, Nanotechnology, Genomics, Mathematics, Artificial Intelligence and Robotics. Furthermore, it was informed that consultations are being made with the Association of Commonwealth Universities (ACU) for setting-up COMSATS University in four countries, i.e., Egypt, Nigeria, Sri Lanka, and Tanzania. Mr. Fawad Hussain was appreciative of COMSATS' efforts to



establish new universities and centers on critical issues in the developing countries and considered them an excellent example of international diplomacy. Apart from COMSATS Tele-Health (CTH) Network established in the suburbs of Islamabad and far-flung areas of Pakistan, the Minister was apprised of the relevant collaboration of COMSATS with the Government of Azad Jammu and Kashmir (AJK), Khyber Pakhtunkhwa (KPK) and Punjab. The Minister expressed interest in CTH Programme in connection with the Government's aspirations to improve the health sector of Pakistan. Mr. Fawad Hussain considered Artificial Intelligence and related technologies necessary for meeting the industrial and national needs and emphasized promoting liaison between research institutions and industries so as to translate the research potential of the country into its economic growth. Mr. Chaudhry opined that COMSATS is well-placed in aiding the Ministry in relevant interventions. The meeting ended with the pledge of support from the Honourable Minister towards COMSATS' mandate and operations. This includes holding the meeting of the 3rd Consultative Committee which is planned to be held soon.

On November 6, 2019, Dr. S. M. Junaid Zaidi, Executive Director COMSATS called on H.E. Mr. Fawad Chaudhry, Federal Minister for Science and Technology, Government of Pakistan, at the latter's office in Islamabad. In his capacity as the Chairperson of COMSATS' Consultative Committee, Mr. Fawad was

apprised of COMSATS' undertakings, including Silver Jubilee celebrations. Dr. Zaidi acknowledged the strong patronage of Pakistan's Ministry of Science and Technology towards COMSATS' operations over the years. During the meeting, the Minister was also briefed about COMSATS' forthcoming statutory-body meetings including the one to be chaired by him in the first quarter of next year, i.e. COMSATS' Consultative Committee Meeting. The Minister was also presented COMSATS' Silver Jubilee commemorative postal stamp.

### Chairman National Assembly Standing Committee on Foreign Affairs, Pakistan

Mr. Muhammad Ehsan Ullah Tiwana visited COMSATS Secretariat, Islamabad, on 22nd August 2019, and received a briefing on COMSATS' undertakings aimed at achieving sustainable development of the South through due utilization of S&T. Mr. Tiwana appreciated COMSATS' efforts for the capacity

building of scientific community in developing countries. In particular, he was appreciative of COMSATS' activities in the field of education. He also identified agriculture as an important area in Pakistan in which there is a need for building and sustaining capacities; and underscored the need for adopting latest technologies for increasing crop yield and agriculture production. Mr. Tiwana pledged his support for COMSATS' on-going and future initiatives.

### Parliamentary Secretary, Ministry of Foreign Affairs (MoFA), Pakistan

Ms. Andleeb Abbas, Parliamentary Secretary, Ministry of Foreign Affairs (MoFA), Pakistan, visited COMSATS Secretariat, Islamabad, on 8th August 2019. She was apprised of COMSATS' undertakings, membership and international partnerships. COMSATS, she was informed, is mandated to cultivate and promote S&T culture in the 27 developing countries of the South that are member to COMSATS. Ms. Andleeb appreciated the mandate with which COMSATS is operating and contributing to the well-being of the developing world. She considered S&T the backbone of any developmental activity and driver of knowledge economy and innovation. She shared the vision of the current government to have the Universities as major contributors towards making Pakistan a knowledge economy. Ms. Andleeb assured her full support towards COMSATS' operations for improving its national and international stature.





## 2. STRENGTHENING SOUTH-SOUTH AND TRIANGULAR COOPERATION

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# STRENGTHENING SOUTH-SOUTH AND TRIANGULAR COOPERATION

*One of the functions of COMSATS is to support major initiatives designed to promote indigenous S&T capacity through synergies among relevant Governments in the North and the South. Dignitaries, officials and delegations from a number of countries are engaged on regular basis to establish and promote linkages to help strengthen triangular cooperation in a number of fields, including education, training and research, climate change, SDGs and many more.*



## Meetings with Diplomats and Officials from Member States

**H.E. Maj. Gen. (Retd.) Ibrahim Yala Al Madani, Ambassador of Jordan to Pakistan (22nd October 2019)**

Visiting COMSATS Secretariat, His Excellency was accompanied by Dr. Maen Khareasat, Deputy Head of Mission/ Minister Plenipotentiary at the Embassy of Jordan in Islamabad. The honorable Ambassador received a briefing from the Executive Director COMSATS. Dr. S.M. Junaid Zaidi, acquainted him with COMSATS' efforts for expansion of its membership, in particular to Gulf Cooperation Council (GCC). He also noted the active role being played by the Royal Scientific Society (RSS) of Jordan as a Centre of Excellence of COMSATS.

Possibility of enhancing collaboration



between Jordanian universities and their counterparts in other Member States of COMSATS was also explored and it was hoped that Jordanian students shall avail scholarship opportunities available at COMSATS University Islamabad (CUI).

The Jordanian Ambassador appreciated activities of COMSATS' Network and

desired to explore avenues of cooperation in areas of mutual interest.

**H.E. Mr. Mohamed Karmoune, Ambassador of Morocco to Pakistan (30th December 2019)**

The meeting with the Ambassador was held in his office at the Embassy of



Morocco in Islamabad. The Executive Director apprised him of COMSATS' important Statutory bodies: heads-of-states level Commission, ministerial Consultative Committee, and Network institutions' Coordinating Council.

Dr. Zaidi sought support of his good office to facilitate COMSATS' efforts for expansion of its membership. Matters pertaining to expanding the programmes and activities of COMSATS' Network also came under discussion during the meeting.

Other engagements with diplomatic missions included a briefing session on COMSATS Accra Forum and fourth General Meeting of the Commission (Chapter 1) and an informative talk on Community Building in ASEAN (Chapters 3 & 4).

## Meetings with Diplomats from Potential Member States

### Mr. Khalid Al-Yasin, Counsellor/ Deputy Head of Mission of the State of Kuwait (17th January 2019)

During the meeting, Mr. Al-Yasin was, inter alia, apprised of the membership campaign for the State of Kuwait that had been initiated in 1999.

A major part of the campaign, it was informed, included engagements and visits to leading Kuwaiti R&D/S&T institutions

for exploration of common grounds of cooperation.

Moreover, potential benefits of COMSATS' membership were also highlighted along with the offer of affiliation to Kuwaiti R&D/S&T institutions with COMSATS Network of International Centres of Excellence.

The Deputy Head of Mission gave due consideration to the offer of membership and assured to take up the matter with relevant government authorities in Kuwait.

### H.E. Mr. Sakib Foric, Ambassador of Bosnia & Herzegovina to Pakistan (2nd May 2019)

The key agenda of the meeting was to seek His Excellency's support for building ties with the Government of Bosnia & Herzegovina in order to promote S&T-led development, and advance exchange of scientific knowledge and technical expertise in the region.

During the meeting, H.E. Mr. Foric was informed about COMSATS' vision and mission as well as obligations and potential benefits of joining COMSATS as a member state. The Ambassador appreciated COMSATS' international programmes and activities and hoped to institute cooperation between the two sides particularly in education, trade and tourism.

Dr. Zaidi handed over to H.E. Mr. Foric a formal letter inviting Bosnia & Herzegovina for joining COMSATS along with other relevant documents. Mr. Foric pledged taking up the membership matter with the relevant Ministries in Bosnia & Herzegovina.

### H.E. Mr. Manuel Durain, Ambassador of Spain to Pakistan (2nd May 2019)

Possibilities to initiate cooperation between Spain and COMSATS' Member States in higher education, scientific research and technology-transfer were explored during the meeting with H.E. Mr. Durain. The Ambassador was given a briefing on COMSATS' mandate, undertakings and international outreach and was informed about COMSATS' relatively new initiative in the field of climate change, i.e., the COMSATS Center for Climate and Sustainability (CCCS).

The proposition of Spain's participation in CCCS along with building collaboration between COMSATS University Islamabad (CUI) and Spanish universities for faculty development, scholarships and upgradation of R&D facilities was put forth. Besides, the proposal to establish a world-class Centre for Mathematics on the model of the International Centre for Theoretical Physics (ICTP), Italy, was also considered during the meeting.

The Ambassador was handed over an





invitation letter to join COMSATS along with key information documents on COMSATS. It was anticipated that Spain's accession to COMSATS would help further expand COMSATS' membership to Latin America owing to the strategic closeness of Spain to these countries.

The proposals discussed during the meeting were duly endorsed by H.E. Mr. Durain who also assured full support of his office towards the matter of Spain's accession to COMSATS and nomination of S&T/R&D Spanish institution for inclusion in COMSATS Network of International S&T Centres of Excellence.

#### **H.E. Mr. Ali Fikrat Oglu Alizada, Ambassador of Azerbaijan to Pakistan (18th June 2019)**

The meeting with H.E. Mr. Alizada was held at the former's office in the Embassy of Azerbaijan in Islamabad.

Apart from discussions on affairs of mutual interest, the matters of Azerbaijan's membership to COMSATS and nomination of a suitable S&T/R&D Azerbaijani institution to become COMSATS' Centre of Excellence were discussed with reference to earlier contacts in this connection.

It was communicated by Mr. Alizada that the matter of Azerbaijan's accession to COMSATS is under consideration at the Azerbaijan Ministry of Foreign Affairs. For expedition of the membership process, it was proposed that COMSATS' officials may visit Azerbaijan to hold meetings with

relevant government officials.

The meeting also discussed the possibility of initiating collaboration between institutions of COMSATS' host country, Pakistan, and their Azerbaijani counterparts to promote academic, scientific and cultural exchanges.

#### **H.E. Mr. Danila Ganich, Ambassador of Russia to Pakistan (12th July 2019)**

Discussions with the Russian Ambassador were centered upon building and enhancing cooperation between COMSATS and Russia in various domains, especially academics.

Dr. Zaidi expressed desire to foster cooperation in S&T and promote exchange of faculty and students between Russia and COMSATS' Member States. To this end, H.E. Mr. Ganich recommended COMSATS' participation in forums such as Pak-Russia Intergovernmental Commission (IGC) to help explore and advance cooperation on economic, scientific and technical fronts.

#### **H.E. Mr. Paulo Neves Pocinho, Ambassador of Portugal to Pakistan (25th July 2019)**

Dr. Zaidi and other COMSATS' officials made a courtesy call on the newly appointed Portuguese Ambassador at his office in Islamabad. Taking opportunity, Dr. Zaidi apprised him of COMSATS' programmes and partnerships with international bodies from the South and the North. In particular, COMSATS'

association with the European Union (EU) was highlighted which the organization is endeavoring to capitalize on for expansion of its membership to Europe.

The Ambassador was appreciative of COMSATS' undertakings and assured support of his good office for COMSATS' future endeavors.

#### **Meeting with Delegation from Ethiopia (11th September 2019)**

Led by H.E. Dr. Markos Tekele, State Minister of Foreign Affairs, Government of Ethiopia, the ten-member Ethiopian delegation visited COMSATS Secretariat with a view to explore common grounds of cooperation.

The delegates were briefed about COMSATS' international programmes in the Global South and were urged to benefit from various opportunities of academic and scientific collaboration available with COMSATS Network. It was noted that Ethiopia's state membership to COMSATS will help the Commission in expanding its outreach to East African countries. Further, Ethiopian S&T/R&D institutions were invited to join COMSATS Network of Centres of Excellence.

The Ethiopian delegation expressed willingness to collaborate with COMSATS host country, Pakistan, for strengthening its agriculture sector. Further, they agreed upon the proposal for the establishment of top-class higher education institute in Ethiopia with the patronage of COMSATS and international donor agencies.





**H.E. Mr. Hamad Obaid Al Zaabi,  
Ambassador of UAE to Pakistan  
(24th September 2019)**

During the meeting held at the office of H.E. Mr. Al Zaabi, the Ambassador was taken on board with the membership matter of UAE to COMSATS. It was mentioned that COMSATS provides a forum to the countries holding its membership for bridging scientific and technological cooperation with other members of the Organization. It was noted that UAE's geographical location could help grow COMSATS' membership and activities to Gulf and Arab region.

A proposal for instituting a regional hub in the field of Artificial Intelligence was also put forth during the meeting owing to UAE's strong global standing in the said field.

H.E. Mr. Al Zaabi was appreciative of COMSATS' undertakings geared towards the realization of its mandate of promoting

science-led sustainable development in the South. The Ambassador deemed it important to hold meetings with the office bearers of UAE's Government to stimulate cooperation in areas of mutual interest.

**H.E. Mr. Rolf Michael Hay Pereira  
Homboe, Ambassador of Denmark  
to Pakistan (25th September 2019)**

During the meeting, it was informed by H.E. Mr. Homboe that Denmark has a very strong development programme in Africa and it was proposed that COMSATS' activities in its African Member States can be supported through various diplomatic missions of Denmark based in these countries.

COMSATS' international programmes and activities of crucial importance to sustainable development were highlighted by Dr. Zaidi who also invited Denmark to establish working relations with COMSATS by attaining country membership of the Organization.

Appreciating COMSATS, the Ambassador extended Denmark's support to COMSATS' Member States for expert-exchange and capacity-building.

**H.E. Mr. Istvan Szaboi, Ambassador  
of Hungary to Pakistan (26th  
September 2019)**

The two sides discussed matters related to enhancing scientific and technological cooperation between Hungary and COMSATS' Member States through various joint ventures. The Executive Director apprised the Ambassador of COMSATS' programmes and activities aimed at addressing the socio-economic challenges in Member States.

While appreciating COMSATS' initiative for enhancing student-exchange among its Member States, Mr. Szaboi mentioned the scholarship programme of Government of Hungary. The said programme, it was informed, is available for students of COMSATS' Member States, including Pakistan, where it is being managed by Higher Education Commission (HEC).

In addition to these meetings, a number of informative talks and lectures were held where diplomats from Denmark, Mauritius, Ukraine and South Africa shared case-studies highlighting the development paradigm, best practices, cultural and foreign traditions of their respective countries (Section 3 & 4).





### 3. COLLABORATION WITH NATIONAL AND INTERNATIONAL ORGANIZATIONS

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# COLLABORATION WITH NATIONAL AND INTERNATIONAL ORGANIZATIONS

*COMSATS has been endeavoring to expand its cohort of national and international partners to foster broader and more effective collaborations in Science and Technology and launch new programmes and activities with its Centres of Excellence for sustainable socio-economic development of the Member States. These partnerships aim to complement the programmes of COMSATS focusing on capacity-building of S&T community in developing countries.*



## Organization of Islamic Cooperation (OIC)

On 19th March 2019, a Memorandum of Understanding (MoU) was signed between COMSATS and the Organization of Islamic Cooperation (OIC), Jeddah, Saudi Arabia, in order to promote science, technology and innovation for achieving sustainable socio-economic development in 17 common member states of COMSATS and OIC.

Dr. S.M. Junaid Zaidi, Executive Director COMSATS, and Mr. Muhammad Naeem Khan, Assistant Secretary General for Science and Technology (Ambassador – OIC) signed the Agreement on behalf of their organizations during a ceremony held at COMSATS Secretariat, Islamabad.

Under this Agreement, both sides pledged to organize scientific events and

conferences, capacity building and training workshops, high-level public awareness seminars and related activities. The Agreement also seeks to enhance exchange and sharing of experiences, expertise and resources for joint programmes.

## Islamic Educational, Scientific and Cultural Organization (ISESCO)

Since 2004, COMSATS is collaborating with the Islamic Educational, Scientific and Cultural Organization (ISESCO), Rabat,



Morocco, with a view to building the indigenous capacities of scientific communities, belonging to their common member countries, in different fields of S&T. The partnership between the two organizations, materialized through signing of a Memorandum of Understanding (MoU), is revived on annual basis. Under the Joint Cooperation Agreement for 2019, an International Conference on Agriculture, Food Security and Biotechnology was held in Monastir, Tunisia, the details of which are covered in Chapter 4.



To date, the two organizations have jointly organized 55 capacity building events in those fields of science and technology which are most relevant to the Sustainable Development Goals (SDGs). In the past, they have jointly supported research projects and brought out joint publications. So far, over 660 researchers, scientists, engineers, technicians and industry professionals have benefitted from the proceedings of these events.

### United Nations Development Programme (UNDP)

Avenues of cooperation are being explored with UNDP based on commonalities of mandates. A meeting was held between COMSATS officials and Mr. Ignacio Artaza, Country Director of UNDP for Pakistan, on 10th May 2019, at the latter's office in Islamabad.



During the meeting, the Dr. Zaidi apprised the Country Director of the composition and activities of the Commission in various fields of S&T and their relevance to SDGs. In particular, he was informed of COMSATS' initiatives in the field of Climate Change and its corresponding interest in establishing



a Centre in this field with nodes in interested developing countries.

Appreciating the spectrum of COMSATS' activities highlighted in the briefing, Mr. Artaza also underscored various areas of interest and operations of UNDP. He showed keen interest in COMSATS' initiatives relating to SDGs and Climate Change. Both counterparts agreed to further linkages and cooperation in these and other areas of common interest.

### United Nations Educational, Scientific and Cultural Organization (UNESCO)

With an agenda to build contacts afresh and to explore common grounds of cooperation in emerging areas of S&T, Dr. S. M. Junaaid Zaidi, Executive Director COMSATS, and Mr. Tajammul Hussain, Advisor (Programmes), visited the headquarters of the United Nations Educational, Scientific and Cultural Organization (UNESCO), Paris, France, in October 2019. Meetings were held by delegates with officials from various programme sectors of UNESCO including, Natural Sciences, and Communication and Information.

Views on building a Science Park in collaboration with UNESCO, COMSATS University Islamabad (CUI) and relevant institutions in Ghana were exchanged

during the meeting of COMSATS' officials with Dr. Shamila Nair Bedouelle (Assistant Director-General for Natural Sciences) and Dr. Peggy Oti-Boateng (Director of the Division for Science Policy and Capacity-Building). The possibility to connect COMSATS' Network with that of UNESCO's to help increase its outreach was also explored. Both sides also agreed to employ UNESCO's experience in research commercialization and academia-industrial linkages for the benefit of COMSATS' Member States.

In the meeting with Mr. Moez Chakchouk, Assistant Director-General for Communication and Information, the two sides agreed to work jointly on smart cities for Sustainable Development. Also, during a meeting with the office-bearers of Priority Africa and External Relations Programme of UNESCO, the delegates considered the prospects of collaborating with UNESCO under its Africa Priority Programme for augmenting COMSATS' operations in the African region.

### United Nations Office for South-South Cooperation (UNOSSC)

COMSATS gained patronage of the United Nations Office for South-South Cooperation (UNOSSC) for its South-South Cooperative ventures through signing of an Agreement in 2018. The cooperation furthered in 2019 through



meeting of Ambassador (R) Shahid Kamal with Mr. Jorge Chediek, Director, UNOSSC and Envoy of UN Secretary General for South-South Cooperation.



During the meeting, possibility of COMSATS' participation in Global South-South Development Expo was explored along with the launching of a joint publication highlighting COMSATS' undertakings pertaining to South-South Cooperation.

### Alliance of International Science Organizations (ANSO)

COMSATS has been endorsed for the membership of the Alliance of International Science Organizations (ANSO), Beijing, China, in 2019. ANSO is committed to promoting sustainable development through catalyzing cooperation initiatives in Science, Technology & Innovation and Capacity Building (STIC) at the international level.



The endorsement for membership was made during the ANSO Governing Board meeting held in November 2019, in Beijing, and the final decision shall be made during ANSO General Assembly to be held in the next calendar year. By virtue of this membership, COMSATS' Network shall be able to participate in ANSO's activities including fellowships and scholarships; prize and awards; training programmes; collaborative research; and professional associations.

### Commonwealth Secretariat

Being an accredited organization of



Commonwealth, COMSATS was invited to submit project proposal for Commonwealth@70 Committee constituted on the 70th Anniversary of Commonwealth Secretariat. Through its project (under consideration), COMSATS aims to train coastal communities of Sindh and Baluchistan and build their capacities in three areas: health, gender and entrepreneurship.

COMSATS interactions with Commonwealth Secretariat also included participation in the first Commonwealth ICT and Innovation Open Day held in London, in July 2019 (Chapter 5).

### European Union (EU)

During the calendar year 2019, cooperation with the European Union continued with a view to explore ways of benefitting from the scientific knowledge and technical resources of the North to help meet the challenges confronted by the developing countries that are members to COMSATS. With this in view, Ms. Anne Marchal, Deputy Head of Mission, Delegation of the European Union to Pakistan, was invited to COMSATS Secretariat in October 2019. During the meeting, it was informed by Ms. Marchal that the European Union Delegation to Pakistan is undertaking projects in various areas of global concern, including Climate Change, Biotechnology, Agriculture and Food Security. She was of the view that interactions with the European Union Ambassador Designate to Pakistan could

help further identify common areas for collaborative work.

The cooperation with the European Union's Delegation to Pakistan also resulted in an awareness talk on EU's Marie Skłodowska-Curie Actions (MSCA) Programme organized, for the young scientists and researchers, at COMSATS Secretariat. The talk, delivered by Ms. Anne Marchal, highlighted various contours of EU flagship Research and Innovation Programme – Horizon 2020 with a special focus on the fellowship opportunities under the umbrella of MSCA.

Furthering the collaboration, Ambassador (R) Shahid Kamal held meetings at the European Commission Headquarters, Brussels, Belgium, in September 2019, where he briefed Ms. Ann Mettler, Head of the European Political Strategy Centre (EPSC), about COMSATS' undertakings and projects geared towards the attainment of sustainable development in the South. Ambassador (R) Kamal also met with Adviser on Demography & Migration at the European Strategy Centre of the European Commission, EU Ambassador at Large for Connectivity, Adviser to EU Ambassador for Connectivity at European External Action Service and International Relations Officer – Pakistan at European External Action Service, for discussing possible collaboration for the common cause of bringing sustainability in the South.





## Organization for Women in Science for the Developing World (OWSD)

Realizing the cooperation potential that exists between COMSATS and the Organization for Women in Science for the Developing World (OWSD) for the skill development and capacity building of women from developing countries of the South, including COMSATS' member states, COMSATS initiated collaboration with the Indonesian Chapter of OWSD. In connection with this, a maiden meeting was held with Dr. Sri Fatmawati, President of OWSD – Indonesia National Chapter, and Assistant Professor at Sepuluh Nopember Institute of Technology (ITS), Surabaya, Indonesia, on 23rd August 2019, at COMSATS Secretariat.

During the meeting, Dr. Fatmawati gave a detailed account of her institute that has been hosting the Indonesian Chapter of OWSD since 2018. She mentioned that ITS houses Science Techno Park and provides adequate facilities for product innovation and professional workforce development. She also expressed willingness to furthering cooperation with COMSATS' Network as she informed that ITS is already collaborating with the International Center for Chemical and Biological Sciences (ICCBS), Pakistan, in the field of natural product sciences.

## American Academy of Arts and Sciences (AAAS)

COMSATS explored common avenues of cooperation with the American Academy of Arts and Sciences (AAAS), Cambridge,

Massachusetts, to work together for achieving excellence in academics and various scientific niches in the developing world. On 20th November 2019, a virtual meeting was held between COMSATS' officials and Dr. John Randell, Director of Science, Engineering, and Technology Programs; Dr. Amanda Vernon, Hellman Fellow for Science and Technology Policy; and Ms. Rebecca Tiernan, Program Associate for the Science, Engineering, and Technology Program at AAAS.

The potential areas of work identified included education, S&T, energy and environment. It was suggested that reciprocal participation in the institutional meetings could help recognize nodes for jointly working out solutions to developmental challenges.





### American Institute of Pakistan Studies (AIPS)

COMSATS has been collaborating with the American Institute of Pakistan Studies (AIPS), Madison, Wisconsin, since January 2018, when an Agreement was signed between the two organizations. The cooperation during the reporting period resulted in the establishment of an International Centre for Training and Development (ICTD) at COMSATS Secretariat, Islamabad. The Inter University Consortium for the Promotion of Social Sciences Arts and Humanities (IUCPSS) and the Institute of Peace and Diplomatic Studies (IPDS) played a crucial role in instituting ICTD.

The Centre, inaugurated by Dr. Farhat Haq (President of AIPS) at COMSATS Secretariat, aims to provide trainings by foreign experts in areas including climate change, intellectual property rights, higher education and leadership, and energy policy.

The inaugural ceremony, held on 20th December 2019, was attended by representatives of COMSATS, AIPS, IUCPSS and IPDS.

As part of their collaboration, COMSATS and AIPS organized talks on issues pertaining to energy, climate change, and air pollution (covered in Chapter 8). Under

the collaboration, a visit of delegation from Community Colleges of United States to COMSATS Secretariat was also arranged with a view to explore cooperation avenues in academics.

### Pacific Island Development Forum (PIDF)

The relatively new collaboration with the Pacific Island Development Forum (PIDF), established in 2018, resulted in the participation of two-member COMSATS' delegation in the second Pacific Islands Development Forum (PIDF) Leaders' Summit and Conference held at Nadi, Fiji, in July 2019 (Chapter 5). On the sidelines of the Conference, the delegates comprising of Dr. Azeema Fareed (Principal Medical Officer) and Ms. Farhana Saleem (Senior Publications and Communication Officer), held meetings with representatives of various participating organizations and identified common working grounds in health, energy, and ICTs, among others.

### Institute of Peace and Diplomatic Studies (IPDS)

COMSATS and the Institute of Peace and Diplomatic Studies (IPDS), Islamabad, Pakistan, entered into an Agreement on 22nd June 2017. Since the agreement, IPDS has been facilitating COMSATS'

institutional linkages with the countries of the North for the expansion of COMSATS' programmes.



A major part of such facilitations include arrangement of meetings with a number of foreign diplomats based in Islamabad. COMSATS' connections with the government-owned institutions of Pakistan (COMSATS host country) were strengthened through important meetings the arrangements of which were aided by IPDS. The celebratory ceremony of COMSATS' Silver Jubilee at Presidency House, Pakistan, was also facilitated by IPDS.

COMSATS and IPDS with the engagement of diplomatic missions based in Islamabad also organized various awareness talks with a view to share with the masses the best practices and success stories of various countries as a suit to follow and lessons to learn. Furthermore, to instill and encourage leadership skills and diplomatic practices in youth, COMSATS partnered with IPDS in arranging International Young Diplomats School (details covered in Chapters 4 & 8).

### The World Academy of Sciences (TWAS)

Collaboration with the World Academy of Sciences (TWAS), Trieste, Italy, resulted in two capacity-building events held in Tunisia and Turkey to suggest ways and finding solutions for addressing pressing global issues and achieving various aspects of sustainability (Chapter 4).

## 4. SCIENCE AND TECHNOLOGY EVENTS ORGANIZED

- International Workshop on ‘Water Resources: Expected Crises and Strategies of Predomination’, Cairo, Egypt (11th – 12th March 2019) 30
- Seminar on ‘The Role of Youth in the Implementation of the SDGs’, Islamabad, Pakistan (24th April 2019) 31
- Seminar on ‘Second Belt and Road Forum: Achievements and Prospects’, Islamabad, Pakistan (3rd May 2019) 32
- Talk on “Peaceful Cohabitation in Rainbow Islands: A Case Study of Mauritius” (11th July 2019) 32
- Talk on ‘Community Building in ASEAN’, Islamabad, Pakistan (16th July 2019) 33
- Talk on “Nelson Mandela’s Legacy: Lessons for Today and Tomorrow” (25th July 2019, Islamabad, Pakistan) 33
- Seminar on ‘Pakistan China Industrial Cooperation’, Islamabad, Pakistan (9th October 2019) 34
- International Conference on ‘Agriculture, Food Security and Biotechnology: Role of ICTs’, Monastir, Tunisia (4th – 6th November 2019) 34
- International Young Diplomats School (IYDS), Islamabad, Pakistan (3rd to 5th December 2019) 37
- International Workshop on ‘Sustainability, SDGs and Global Challenges’, Gebze, Turkey (3rd – 5th December 2019) 37
- Talk on “Ukraine: History, Culture and Present Situation” (10th December 2019) 38



# SCIENCE AND TECHNOLOGY EVENTS ORGANIZED

*Capacity-building activities make a prominent part of COMSATS' programmes aimed at South-South Cooperation. The organization has been organizing scientific events in areas crucial to Member States' development. These result in strengthening scientific linkages; building indigenous capacities; and promoting S&T as a tool for development. These events provide a useful platform to the members of the scientific community, development experts, donor and development agencies, and decision-makers to share their views and experiences on contemporary S&T-led development issues.*



## International Workshop on 'Water Resources: Expected Crises and Strategies of Predomination', Cairo, Egypt (11th – 12th March 2019)

COMSATS in collaboration with its Centre of Excellence in Egypt, National Research Centre (NRC), organized an international workshop on "Water Resources: Expected Crises and Strategies of Predomination" from 11th – 12th March 2019, in Cairo, Egypt. The event brought together scientists, academicians, managers in private sector, and mid-to senior-level government officials to discuss and find solutions to the issues related to water resources.

The workshop was inaugurated on 11th March 2019 in the presence of scientists and researchers from China, Egypt, Nigeria, Pakistan, Sri Lanka, and Sudan. Speaking at the inaugural, Dr. S.M. Junaid



Zaidi, Executive Director COMSATS, noted that availability of safe drinking water and management of water resources is ever more challenging in the wake of changing climatic conditions. He assured continuous support of COMSATS for taking adequate measures to help address such challenges in COMSATS' Member States.

In his inaugural remarks, Prof. Ashraf Shaalan, Chairperson COMSATS

Coordinating Council, appreciated COMSATS' programmes aimed at skill-development and capacity-building of young researchers and researchers from the South. He also acknowledged COMSATS' efforts for strengthening the South-South and Triangular cooperation.

Prof. Mohamed Hashem, President of NRC, Egypt, underscored the need for cooperation among governments, academia and industries for generating



necessary responses to rationalize water usage. He considered excellence in science and technology crucial for socio-economic development.

Speaking on the occasion, Dr. Ahmed Abdul-Nazeer from the Ministry of Military Production, Egypt, and Prof. Mahmoud M. Sakr, President of the Egyptian Academy of Scientific Research and Technology (ASRT), noted the potential of cooperation between Egypt and other member states of COMSATS and expressed interest to jointly work for finding solutions to common problems of the developing countries.

The technical proceedings of the two-day event comprised of thirty sessions including two plenary sessions wherein presentations were made by speakers from Pakistan, Egypt, China, Sri Lanka, Nigeria, and Sudan. The various topics covered during these sessions pertained to rational use of water in agriculture, green environment, irrigation, water resources, wastewater treatment, improving water productivity and quality, and sustainable water management.

### **Seminar on ‘The Role of Youth in the Implementation of the SDGs’, Islamabad, Pakistan (24th April 2019)**

In order to mark the United Nations First International Day of Multilateralism and Diplomacy for Peace, COMSATS

held a seminar on the role of youth in the implementation of Sustainable Development Goals (SDGs). The Seminar had participation of student from COMSATS University Islamabad (CUI), Islamabad, and Abdul Wali Khan University (AWKU), Mardan, Khyber Pakhtunkhwa (KPK) Province.

Mr. Vlastimil Samek, Director of the United Nations Information Centre (UNIC) graced the occasion as the Chief Guest. In his welcome address, Mr. Samek called for due commitment at national, regional and global levels for achieving SDGs and considered SDG17, “Partnerships for the Goals”, the most important goal. Mr. Samek highlighted UN’s commitment towards youth empowerment and participation. He was pleased to note that COMSATS University Islamabad is a part of UN’s academic initiative.

Speaking on the occasion, Ambassador (R) Fauzia Nasreen, Advisor (SDGs) highlighted the youth’s stakes in SDGs and sustainable development. She laid great emphasis on equality, quality education,

gender parity, employment opportunities and due engagement of youth in society.

In his remarks, Mr. Dalair Khan, Lecturer at Abdul Wali Khan University (AWKU), Mardan, considered the event important due to its emphasis on SDGs and hoped for it to address key issues of gender parity and inclusion.

The technical proceedings of the Seminar included a talk by Mr. Adam Koniuszewski, CEO of the Bridge Foundation, Poland, who shared the experience of his organization in inclusion of immigrants in society and informed how improvement in their communication abilities helped integrate them in society. He deemed youth’s role in achieving sustainability and SDGs of crucial importance. He considered quality education as the most important tool for achieving the SDGs.

Furthermore, students from Pakistan, Nigeria and Nepal, expressed their views on various aspects of the theme of the event from youth’s perspective. In his talk, Mr. Prem Thapamagar, a Nepalese







undergraduate student at COMSATS University Islamabad, emphasized engaging youth at various levels for effective implementation of Sustainable Development Goals (SDGs). He was of the view that youth, if provided, with the enabling environment, can effectively advocate the United Nations cause for sustainable development.

Mr. Anya Augustine Igwebuikie, a Nigerian student from COMSATS University Islamabad, opined that investment in youth in areas of education, innovative skills, industrial trainings, capacity building, and leadership roles must be of prime concern of governments as it can bring about the necessary change in the society.

The talks were followed by interactive panel discussion moderated by Mr. Faran Mahmood, Acting Director and Manager (SDGs) at United Nations SPIDER Lab at Space and Upper Atmosphere Research Commission (SUPARCO), Islamabad.

### **Seminar on ‘Second Belt and Road Forum: Achievements and Prospects’, Islamabad, Pakistan (3rd May 2019)**

Within the framework of the Second Belt and Road Forum (25th – 27th April 2019, Beijing, China), COMSATS in collaboration with the Centre for Belt and Road Initiative and China Studies of the Institute of Peace and Diplomatic Studies

(IPDS) organized a seminar highlighting the various prospect and achievements of the Forum. The seminar attracted diplomatic community, students and members of the civil society.

Speaking on the occasion, Ms. Farhat Asif, President of IPDS, encouraged students to learn the best practices, principles and values of developing countries such as China. In his remarks, Dr. Muhammad Munir, Assistant Professor at National Defence University (NDU), Islamabad, stated that the first world countries should join hands with the developing world on the path of economic growth and prosperity. Prof. Dr. Zameer Ahmed Awan, Sinologist, China Studies Centre, National University of Science and Technology (NUST), Islamabad, noted that CPEC has emerged as a silver lining for the developing countries who have struggled in the past to achieve peace and prosperity.



In the keynote talk, Ms. Bhao Zong, Head of Political and Press Section, Embassy of People's Republic of China, noted that the Belt and Road Initiative (BRI) is aimed to promote development in the region and beyond through inclusiveness. The Initiative encourages bilateral and multilateral cooperation through various means and at various levels. It was further informed that projects under the umbrella of BRI have a bearing on social and economic aspects of national development.

The event encouraged exchanges on various aspects of the theme of the event.

### **Talk on “Peaceful Cohabitation in Rainbow Islands: A Case Study of Mauritius” (11th July 2019)**

COMSATS and the Institute of Peace and Diplomatic Studies (IPDS) jointly organized a talk on “Peaceful Cohabitation in Rainbow Islands: A Case Study of Mauritius” at COMSATS Secretariat. The talk was attended by members of the diplomatic community, students and officials of COMSATS and IPDS.

H.E. Mr. Soobadar Rashidally, High Commissioner of Mauritius in Islamabad, while presenting Mauritius' case history, presented his country as an isolated island with a population of 1.2 million that has set an example of peaceful coexistence of multiculturalism and multi-ethnicity. He considered Mauritian constitution pivotal





in safeguarding the political as well as social interests of Mauritius.

His Excellency enumerated meritocracy, rule of law, and democracy as key factors resulting in the socio-economic development of his country. He informed that Mauritius is a 'unique welfare state' that derives its strength from democracy, fair distribution of wealth, cultural competence, diversity, social inclusion, unity, strong political system, and meritocracy.

The country, he stated, was awarded Mo. Ibrahim prize in 'Good Governance', stands 1st in Africa and 20th in the world in terms of ease of doing business; 1st in Africa and 21st in the world in terms of economic liberalism; 1st in Africa and 49th in the world in terms of global competitiveness; and 1st in Africa and 16th in the world with respect to democracy index.

### **Talk on 'Community Building in ASEAN', Islamabad, Pakistan (16th July 2019)**

COMSATS and Institute of Peace and Diplomatic Studies (IPDS) co-organized a talk on "Community Building in ASEAN". The event was attended by a number of diplomats, faculty members, media representatives, civil society members and students.

H.E. Mr. Daniel Ramos Espiritu, Ambassador of Philippines to Pakistan, delivered the talk in which he underscored the pillars of ASEAN, that include the values and norms set forth by the leaders of the countries in the past. He stated that in its seven magnificent decades of existence, ASEAN has provided assistance to all the member countries. To further bridge the developmental gap between the ASEAN members, developed economies are working towards the progress of the less-developed ones.

H.E. Mr. Espiritu stated that apart from economic connectivity, human connectivity holds great significance for the ASEAN community. He opined that ASEAN has its own pace of growth and set its course through consensus among its members. The Ambassador also remarked that ASEAN economic community banks

on huge single market and its production base.

While answering the queries, the Honorable Ambassador stated that Pakistan's entreaty to become ASEAN's dialogue partner is under consideration. Further, he answered queries pertaining to Pakistan-Philippines relations, internally displacement people, disaster management and interfaith harmony.

### **Talk on "Nelson Mandela's Legacy: Lessons for Today and Tomorrow" (25th July 2019, Islamabad, Pakistan)**

To commemorate Nelson Mandela International Day, COMSATS and the Institute of Peace and Diplomatic Studies (IPDS) organized a talk themed on "Nelson Mandela's Legacy: Lessons for Today and Tomorrow". It attracted participation from members of diplomatic community, members of civil society as well as students. The talk delivered by H.E Christo Janse Van Noordwyk, Acting High Commissioner, South African High Commission in Pakistan, highlighted the various aspects and characteristics of Nelson Mandela's leadership.

His Excellency underscored the strong affiliation of Nelson Mandela with Pakistan and its struggle for independence. Mr. Noordwyk stated that Nelson Mandela promoted African philosophy of Ubuntu





(humanness) for the advancement of unity in South Africa as well as globally, irrespective of race, creed and orientation.

Speaking on the occasion, Ambassador (R) Fauzia Nasreen underscored the recognition that Nelson Mandela had received globally as a true statesman. Further, she shed light on the association and recent accreditation of COMSATS with Commonwealth of which South Africa also holds membership.

The South African Deputy Head of Mission appreciated COMSATS for its untiring work to bridge the gap between the developed and developing countries through technological and scientific tools of knowledge-sharing.

### **Seminar on 'Pakistan China Industrial Cooperation', Islamabad, Pakistan (9th October 2019)**

A seminar on 'Pakistan China Industrial Cooperation' was organized by COMSATS and the Institute of Peace and Diplomatic Studies (IPDS) on 9th October 2019. Ms. Pang Chunxue, Chargé d'Affaires, Embassy of China to Pakistan, graced the occasion as the Guest of Honor. The seminar brought together members of the diplomatic community, academicians and students.

Speaking on the occasion, Ms. Farhat Asif, President of IPDS, briefed the audience about her Institute which is working for the peace and development in countries facing challenges such as those relating to climate change.

In her address, Ms. Chunxue stated that collaboration between Pakistan and China has flourished under CPEC during the recent years, particularly in domains like Special Economic Zone (SEZs), education and technology. She further noted the increasing investment of Chinese companies in Pakistan.

In his presentation, Mr. Raja Amer Iqbal, Former President of Rawalpindi Chamber of Commerce and Industry and Chairman, All Pakistan Chamber of Commerce and Industry on CPEC, highlighted the

prospects of the second phase of CPEC. He considered industrial development crucial for economic growth and development of Pakistan. Mr. Shahnawaz Mahmood, Deputy Managing Director of Pakistan-China Investment Company, remarked that Pakistan and China are cooperating in diverse economic domains and are deepening mutual ties through developing business-to-business linkages.

### **International Conference on 'Agriculture, Food Security and Biotechnology: Role of ICTs', Monastir, Tunisia (4th – 6th November 2019)**

The 5th International Conference on 'Agriculture, Food Security and Biotechnology: Role of ICTs' was held







in collaboration with ISESCO, and the Inter Islamic Network on Information Technology (INIT) in Monastir, Tunisia, from November 04 – 06, 2019. The Conference was hosted by TYAN and the Ministry of Higher Education and Scientific Research of Tunisia and was held in conjunction with the International Thematic Workshop on 'Sustainable Agriculture, Food Security and Biotechnology: Best Strategies and Good Practices' organized by TWAS Young Affiliates Network (TYAN).

Over 50 researchers and subject experts from 25 countries including Algeria, Bangladesh, Benin, Cameroon, China, Egypt, Gambia, Italy, Iraq, Jordan, Kazakhstan, Morocco, Nigeria, Niger, Oman, Pakistan, Philippines, Senegal, Sri Lanka, Sudan, Tunisia and Turkey, Uganda, and Yemen attended the event. In addition, representatives of COMSATS' Centres of Excellence in Iran (Iranian Research Organization for Science and Technology – IROST), Kazakhstan (Al-Farabi Kazakh National University – KazNU), and Sri Lanka (Industrial Technology Institute – ITI) participated in the event.

Prof. Hedi Bel Hadj Salah and Prof. Mokhtar Mahouachi, Presidents of the University of Monastir and Jandouba University, respectively, inaugurated

the Conference on 4th November 2019. Dr. Jalila Ben Salah-ABBES, Executive Committee Member of TYAN for Arab Region and Associate Professor of ISBM, Monastir University, Mr. Tajammul Hussain, Advisor (Programmes), and Mr. Atiq-ur-Rehman, Senior Programme Officer at INIT spoke at the inaugural ceremony.

The six technical sessions spanning the three-day conference comprised of presentations by scientists from Karabük University, Turkey; University of the Gambia, Gambia; University of Abomey-Calavi (UAC), Benin; University of Maroua, Cameroon; Ecole Nationale Forestière d'Ingénieurs, Morocco; Chinese Academy of Sciences, China; KazNU, Kazakhstan; Senegalese Institute of

Agricultural Research, Senegal; Sultan Qaboos University, Oman; IROST, Iran; University of Karachi, Pakistan; University of the Philippines, Philippines; University of Carthage, Tunisia; Federal University of Technology, Nigeria; ITI, Sri Lanka; Busitema University, Uganda; University of Jordan, Jordan; American University in Cairo, Egypt; Al-Nahrain University, Iraq; University of Agder, Norway; Yarmouk University, Jordan; University of Technology, Iran; University of Benin, Nigeria; Musharraf University, Pakistan; University of Dhaka, Bangladesh; University of Milan, Italy; Université M'Hamed Bougara, Algeria; and University of Abomey-Calavi, Benin.

During the first session, presentations were made on the topics including usage of geographical information systems (GIS) and remote sensing technologies in agricultural field; role of ICTs in agriculture, biotechnology and food security: case of computer simulated path analysis in predicting yield and quality of agricultural production; orphan crops in agroforestry: an approach for sustainable agriculture and circumventing environmental challenges in Africa; insecurities and management of pastoral mobility by ICT in the Sudano-Sahelian zone of Cameroon; and precision forestry towards sustainable forest management.

The session on "Climate Change Adaptation for Sustainable Agriculture"







covered topics relating to the role of agricultural extension in development of ICT functions with the aim of sustainable rural development; and the potential of novel African isolates of *spodoptera littoralis* nucleopolyhedrovirus for tomato pest control.

The third session was themed on “Crop Improvement, Protection and Management” where presentations were made on the improvement of the resilience of local populations by the use of an improved bleeding technique of gum from *Sterculia setigera* in Senegal; scaling up climate smart farming techniques: the CILSS approach; strategies for sustainable crop production intensification Sultan; artificial intelligence based techniques for Omani’s dates classification; plant growth regulators loaded silver nanobullets effect growth of tomato (F1 hybrid super-special) seedling plugs; genetic structure of populations of *Rhizoctonia solani* AG1-IA from rice in China, Japan and the Philippines; and soil health, weed dynamics and productivity of wheat and desi chickpea in long-term rice-based conventional and conservation production systems.

The fourth session on “Food Nutrition Security: New Concepts and Strategies” covered topics on beneficial microorganisms from Sri Lankan dairies as candidates in nutrition, healthcare and biochemical industries; personalized diet recommender system using anthropometric indices; future biofuel

from microalgae and cyanobacteria; performance evaluation of collard based bio-filter for treating fish tank effluent; effects of fermentation and extrusion on the proximate and organoleptic composition of unripe plantain and pigeon pea blends; and new era in solving water scarcity for agriculture-food systems.

The fifth session, themed “Medicinal plants for Industry and Biotechnology Application”, covered topics on symbiotic relationships, better plants and marine soft corals life using metabolomics; cytotoxic and genotoxic effect of purified lantadene (A) loaded by synthesized gold nanoparticles on tumor cell lines; medicinal and functional values of natural antioxidants; synthesis and characterization of novel coumarins; recent advances of artificial intelligence in agriculture and food security; biosynthetic potential of novel bioactive *Streptomyces* recovered from Escravos River, Delta State Nigeria; a comparative metabolomic study on field grown Desi and Kabuli varieties of chickpea (*Cicer arietinum* L.) under irrigated and drought stress conditions; promising novel drug candidates against rheumatoid arthritis targeting Macrophage Migration Inhibitory Factor.

The last session was devoted to food safety regulation and standards and covered presentation relating the work of the international expert committees of FAO / WHO JECFA and JMPR; application of foodomics for the promotion of food safety and food security; occurrence

of Toxigenic Fungi, Aflatoxins and ochratoxin A in Algerian wheat, dried figs and nuts; cattle owners’ perception of the impact of bovine trypanosomosis in East Darfur state- the Sudan; and resistance and virulence determinants of faecal salmonella species isolated from slaughter animals in Benin.

In parallel, brainstorming sessions were held between TYAN members for discussing prospects of collaboration under the themes of the Conference. As a result of these discussions, following three projects were finalized to be jointly executed under TYAN/TWAS support programme:

- Production of salt-tolerant rice;
- Design of multitask robot prototype for agricultural needs; and
- Boosting *Balanites aegyptica* valorization through quality enhancement of derived products.

As a result of deliberations and active discussions made during the Conference, important areas in line with the targets of Sustainable Development Goals were identified to gain knowledge of the current status of research in specific thematic areas and build capacity in Sustainable Agriculture, Food Security and Biotechnology research especially among common member countries of the partner organizations.



### **International Young Diplomats School (IYDS), Islamabad, Pakistan (3rd to 5th December 2019)**

The third edition of the International Young Diplomats School (IYDS) was jointly organized by COMSATS and the Institute of Peace and Diplomatic Studies (IPD) at COMSATS Secretariat, from 3rd to 5th December 2019. Apart from foreign participants from China and Indonesia, the three-day event attracted participants from various regions of Pakistan, including KPK, FATA, Interior Sindh, South and North Punjab, Islamabad Capital Territory, Balochistan, and Kashmir, AJK.

The School was opened on 3rd December with an interactive session themed on “Breaking a Barrier and Creating Synergies”. The subsequent sessions of the event featured talks by foreign diplomats from Romania, Denmark, Switzerland, Germany, Sri Lanka, France, Australia,

United Kingdom, United States and European Union.

The sessions of the event covered topics relating to development cooperation, diplomacy and foreign policy traditions of the afore-mentioned countries. Other topics discussed included climate diplomacy, leadership, education opportunities available in United Kingdom and Australia, prospects of foreign investment, and projects in various development sectors.

### **International Workshop on ‘Sustainability, SDGs and Global Challenges’, Gebze, Turkey (3rd – 5th December 2019)**

An international workshop was jointly organized by COMSATS in collaboration with the Scientific and Technological Research Council of Turkey (TUBITAK), Turkey, and the World Academy of Sciences (TWAS), Italy, from 3rd – 5th

December 2019, in Gebze, Turkey. The workshop provided training to the scientists from least developed and S&T-lagging countries on the concept of sustainable development, the rationale of Sustainable Development Goals (SDGs), importance of SDGs targets set as benchmarks for monitoring the progress of the implementation processes, as well as on the planetary boundaries.

The Swedish International Development Cooperation Agency (SIDA) sponsored the event that was attended by 35 scientists belonging to Algeria, Botswana, Bangladesh, Benin, Burkina Faso, Congo, Italy, Kenya, Mali, Nepal, Niger, Palestine, South Africa, Senegal, Sri Lanka, Tanzania, Togo, Turkey and Uganda.

### **Inaugural Session**

The inaugural session included remarks by Dr. S. M. Junaid Zaidi, Executive Director COMSATS, Dr. Max Paoli, Programme Coordinator TWAS, and Prof. Dr. Orkun Hasekioglu, TUBITAK.

### **Technical Proceedings**

The technical proceedings of the event were divided into four sessions, each session comprised of plenary presentation on following topics followed by brainstorming sessions and presentation of recommendations. These sessions bore the following themes: Sustainable Development, SDGs, Planetary Boundaries; Greenhouse Effect; Climate







Change and Future Consequences; Energy Sources, Technologies and Policies; and Biodiversity.

### **Sustainable Development, SDGs, Planetary Boundaries**

In the first session, Dr. Max Paoli, Programme Coordinator, The World Academy of Science (TWAS), Italy, made a presentation overviewing United Nations Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs).

### **Greenhouse Effect, Climate Change and Future Consequences**

In the second session, Dr. Pauline Dube, Associate Professor at the University of Botswana, Botswana, in her presentation covered the effects and implications of climate change. She elucidated the rate with which world's population, resources usage, economic growth, urbanization and globalization has increased paralleled with threat to sustainable growth in terms of failure to address the key global challenges. She informed that as the earth system has shifted from Holocene to Anthropocene, high energy in the form of heat, light, electrical, chemical, nuclear and gravitational is being consumed globally.

### **Energy Sources, Technologies and Policies**

In his presentation during the third session, Dr. Fehmi Akgun, Associate Professor at the Energy Institute of TUBITAK, Turkey, focused on energy

#### **Key Recommendations**

- To address climate change related food insecurity, salinity and temperature-resistant crops and crops requiring less water should be produced. Furthermore, use of hydro-retentive fertilizers (such as POLYTER) and consumption of crops requiring less resources and time should be encouraged.
- Use of biomass fuel, biogas, pyrolysis, solar PV, wind energy, geothermal energy, hydroelectricity and ocean energy as well as their effective use was recommended for reducing carbon emission and carbon footprint.
- Dams and smart drainage systems and channels should be constructed apart from planting trees to help avert floods and droughts.
- In order to reduce the loss of biodiversity, pesticides use should be minimized, proper waste management systems should be established and the misuse of antibiotics and other drugs should be abandoned.

sources, utilization, latest technologies in the field as well as policies for sustainable energy use. He introduced different types of energy sources that include coal, renewables, hydroelectricity, nuclear energy natural gas and oil and stated that their production and consumption varies region-wise. He considered biomass and waste decomposition and their conversion to energy highly sustainable method of energy production. Prof. Akgun further talked about various energy technologies and regarded gasification a promising technology for processing of coal and biomass to produce synthetic fuel. He also stated polygeneration an important clean coal technology.

### **Biodiversity**

In the fourth session, a comprehensive presentation focusing on biodiversity and the various threats to plant and animal species was given by Dr. Boudjema Samraoui from the University of Annaba, Algeria. He informed that about 99 per cent of the species that have existed ever since the beginning of life on earth have gone extinct. Dr. Samraoui deemed natural disasters, human activities, emerging diseases, fragmentation and habitat loss important factors in the process of extinction of certain animals.

### **Talk on “Ukraine: History, Culture and Present Situation” (10th December 2019)**

A talk on “Ukraine: History, Culture and Present Situation” was arranged by COMSATS and the Institute of Peace and Diplomatic Studies (IPDS) at COMSATS Secretariat, Islamabad, on 10th December 2019. The talk attracted members of the diplomatic community, researchers and students. Delivered by Dr. Olena Bordilovska, Second Secretary at the Embassy of Ukraine to Pakistan, the talk highlighted the foreign policy aspects of Ukraine with a focus on history, culture and traditions of the country. Dr. Bordilovska also discussed women's role in Ukrainian society and development paradigm of the country. The talk was followed by remarks of H.E. Mr. Volodymyr Lakomov, Ambassador of Ukraine to Pakistan, in which he, inter alia, talked about the relations of Pakistan with Ukraine.



## 5. PARTICIPATION IN INTERNATIONAL FORA AND MEETINGS

- INSME Annual Meeting “Fintech & Logistics: New Technologies and Markets for SMEs” (Naples, Italy, 6th – 7th June 2019) 40
- International Events on Aerosols and Climate Change (Beijing, China, 15th – 20th July 2019) 41
- First Commonwealth ICT and Innovation Open Day (London, United Kingdom, 29th July 2019) 41
- Second PIDF Leaders’ Summit and Conference 2019 (Nadi, Fiji, 29th – 30th July 2019) 42
- Launching Ceremony of the United Nations Global Sustainable Development Report 2019 (Accra, Ghana, 31st October 2019) 42
- EU-Asia Connectivity Forum (Brussels, Belgium, 27th September 2019) 43
- Asia-Africa Youth Entrepreneurs Forum (Beijing China, 15th – 19th October 2019) 44
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## PARTICIPATION IN INTERNATIONAL FORA AND MEETINGS

*Events and organizational meetings of partner and potential partner organizations are utilized as means to aiding joint efforts for regional and international development. Based on commonalities of mandates, reciprocal representation in statutory meetings and capacity building events are encouraged as good networking opportunity. These serve to garner mutual support, explore avenues of cooperation, and start and foster joint initiatives.*



### **INSME Annual Meeting “Fintech & Logistics: New Technologies and Markets for SMEs” (Naples, Italy, 6th – 7th June 2019)**

A two-member delegation of COMSATS visited Naples, Italy, to participate in 15th INSME Annual Meeting “Fintech & Logistics: New Technologies and Markets for SMEs”, held from 6th – 7th June 2019. The delegation comprised of Dr. Kamran Jahangir, Advisor Technical Advisory Committee (TAC) and Mr. Laeeq Hassan Jaswal, Manager Strategic Partnerships.

The session on first day of the meeting explored themes relating to Fintech opportunities for SMEs; the wider impact of digitalization on SMEs; competences and skills in the era of Fintech. While concluding the session, Mr. Giuseppe Tripoli, Secretary General, Italian Union of Chambers of Commerce appreciated the role of Fintech in social inclusion through greater business opportunities for small



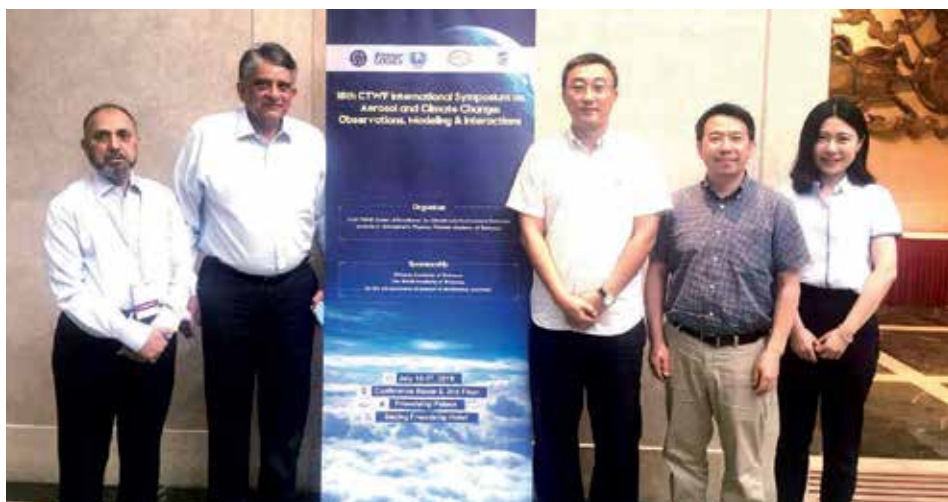
and medium enterprises. The Fintech session was followed by the General Assembly session.

The second day of the meeting discussed in detail the role, opportunities and challenges to logistics for SMEs in the Mediterranean region. The panel deliberated upon: possibilities of having an impact on business by bringing

innovations in logistics and supply chains, especially trading platform, trade finance and e-commerce. While concluding the event, Mr. Giovanni Zazzerini, Secretary General of INSME, thanked the participants for their presence and contribution to the meeting.

On the sidelines, COMSATS’ officials held meetings with senior officials of INSME in





order to explore avenues of cooperation.

### International Events on Aerosols and Climate Change (Beijing, China, 15th – 20th July 2019)

COMSATS' delegation comprising of Mr. Tajammul Hussain, Advisor (Programmes), and Major Gen (R) Muhammad Tahir, Advisor (China Desk), participated as organizers in international events held from 15th – 20th July 2019, in Beijing, China. The two events themed on aerosol observation, modelling and climate change, were jointly organized by CAS-TWAS International Centre for Climate and Environment Sciences (ICCES), Institute of Atmospheric Physics (IAP) of the Chinese Academy of Sciences (CAS), and China Meteorological Administration (CMA). It was sponsored by CAS, COMSATS, The World Academy of Sciences (TWAS) and Chinese Ministry of Science and Technology (Details in Chapter 6).

On the sidelines of the events, COMSATS' officials held a meeting with Mr. Yan Zhuang, Director, Division of International Organizations, Bureau of International Cooperation, CAS; Prof. Zhaohui Lin and Ms. Scarlett Hao, Director and Secretary of International Collaboration, respectively, at ICCES, China. During the meeting, the two sides exchanged views on matters of mutual interest to foster bilateral

cooperation.

The proposal for replication of China-Pakistan Earth Science Center (ESC) in other Member States of COMSATS was discussed. It was informed that a Technology Park has been set up by CAS in COMSATS host country, Pakistan, in collaboration with the Chinese Ministry of Science and Technology.

The possibility of COMSATS' membership to the Alliance of International Science Organizations in Belt and Road Region (ANSO) was also explored during the meeting that later materialized (Chapter 3). Furthermore, the delegation discussed other matters relating to expert-exchange and short-term visits, scholarships and various collaborative programs, among others.



### First Commonwealth ICT and Innovation Open Day (London, United Kingdom, 29th July 2019)

Representing COMSATS (a Commonwealth accredited organization), Ambassador (R) Shahid Kamal, Advisor (Environment and Climate Change), participated in the first Commonwealth ICT and Innovation Open Day, held at Marlborough House, London, on 29th July 2019. The event provided a platform to the members of the diplomatic communities, Commonwealth organizations and partners to understand, appreciate, and reflect on digital transformation and innovation; showcase new products and services; as well as to increase the potentials for co-creation and innovation in the future.

The Open Day focused on one of the themes (ICT and innovation) of the forthcoming Commonwealth Heads of Government Meeting (CHOGM) scheduled to be held in Kigali, Rwanda in 2020. Speaking on the occasion, Secretary General, H.E. Patricia Scotland, stated that Commonwealth has entered into partnerships with Bloomberg, GSMA and Global Innovation Fund in the backdrop of organization's motive to expand and sustain its capacity for undertaking wide-ranging tasks.

The sessions of the event covered presentations by the representatives of



GSMA (United Kingdom) and Bloomberg (United States). In addition, briefings on Commonwealth Innovation Hub and Data Platform along with online services, including Commonwealth Consultants database, OCCJR, Meridian and i-Library, were also a part of the event. The example of Rwanda's successful digital transformation and the setting-up of Kigali Innovation City as a leading innovation hub in Africa was also underscored during the event.

As part of the Commonwealth-Bloomberg collaboration, Commonwealth Connected workspace was also launched. The facility will provide cutting-edge analysis and data on trade, economics and finance, and will be used for video conferencing, meetings and training.

During his sideline meeting with H.E. Patricia Scotland and Dr. Nabeel Goheer (Assistant Secretary General at Commonwealth), Ambassador (R) Kamal explored the possibility to further the bilateral cooperation between the two organizations through joint activities.

## Second PIDF Leaders' Summit and Conference 2019 (Nadi, Fiji, 29th – 30th July 2019)

A two-member COMSATS' delegation, comprising of Dr. Azeema Fareed (Principal Medical Officer) and Ms. Farhana Saleem (Senior Publications and Communication Officer), participated in the second Pacific Islands Development Forum (PIDF) Leaders' Summit and Conference 2019, held from 29th – 30th July 2019, at Nadi, Fiji.

The Conference themed on "South-South Cooperation for a Resilient Pacific" was attended by country representatives from Fiji, Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Solomon Islands, Timor Leste, Tonga, Tuvalu, and Vanuatu, who reviewed the achievements and challenges of PIDF since the last Leaders' Summit held in July 2016.



The event was inaugurated on 29th July in a ceremony featuring welcome remarks of PIDF Secretary General, H.E. Mr. François Martel, in which he stated that PIDF in the backdrop of global developmental challenges serves as the platform for South-South Cooperation in the Pacific Islands with a focus on sustainable development and poverty eradication. The premiers of Solomon Islands, Nauru, Tuvalu, and Seychelles also delivered keynote addresses during the ceremony.

The inaugural was followed by eight plenary sessions spanning two days. As a panelist of the first session themed "South-South Cooperation: The Global Experience and Relevance to the Pacific", Ms. Saleem made a statement that highlighted COMSATS' focus on South-South Cooperation and Sustainable Development. She delineated on COMSATS' role in: (i) Advocacy and harnessing political will for development activities; and (ii) Science communication and finding indigenous solutions. She linked COMSATS' undertakings with the main theme of the event, i.e., Climate Change.

Other panelists of the session included representatives from United Nations Office for South-South Cooperation (UNOSSC), United Nations Development Programme (UNDP), Centre on Integrated Rural Development for Asia and the Pacific

(CIRDAP), Melanesian Spearhead Group Secretariat, and China International Centre for Economic and Technical Exchanges (CICETE).

Subsequent sessions focused on: best practices of South-South and Triangular Cooperation from Pacific Island Countries; public and private sector engagement strategies to capitalize on the potential of blue/green economy; multi-stakeholder partnerships for Islands resilience; and leveraging scalable and replicable innovative solutions from the Global South for building resilience.

The event focusing on climate change resulted in Nadi Bay Declaration on the Climate Change Crisis in the Pacific.

On the sidelines of the Conference, a number of productive meeting were held by COMSATS' delegates representatives of PIDF, UNOSSC, SunTECH, Huawei, Pacific China Friendship Association, and Pacific Islands Universities Research Network (PIURN).

## Launching Ceremony of the United Nations Global Sustainable Development Report 2019 (Accra, Ghana, 31st October 2019)

On a special invitation from Dr. Eugene



Owusu, Special Advisor to the President of Ghana on SDGs, COMSATS' delegation comprising of Mr. Nisar Ahmad, Deputy Director (Systems) and Mr. Farhan Ansari, Senior Assistant Director (Programmes) participated in the launching ceremony of Global Sustainable Development Report 2019, entitled "The Future is Now: Science for Achieving Sustainable Development", held at the United Nations Information Centre (UNIC) in Accra, Ghana, on 31st October 2019.

The launching ceremony was attended by representatives of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and UNIC in Ghana; Office of the President of Ghana; Forestry Research Institute, Council for Scientific and Industrial Research (CSIR); University of Ghana, Accra; Kwame Nkrumah University of Science and Technology (KNUST), Ghana; and Ghanaian Ministry of Planning, among others.

The Report reviews the progress towards the Sustainable Development Goals (SDGs) with an emphasis on the developmental status in various areas. It focuses on six entry points that could aid actions across multiple goals and targets that include human wellbeing, sustainable and just economies, food and nutrition, energy access and de-carbonization, sustainable urban and peri-urban

development, and the environmental global commons.

In his statement on the occasion, Mr. Cletus Alengah, Office of the President of Ghana for SDGs, highlighted the efforts being made by the Government of Ghana towards achieving SDGs. He informed that the Honourable President in his capacity as the Co-Chair of the United Nations SDGs Advocate Group is also facilitating the implementation of SDGs on a global scale.

While speaking on the occasion, Mr. Abdulrahmane Diallo, Head of Office and Representative of UNESCO in Ghana informed that the Report is the first of its kind prepared by an independent

group of fifteen scientists, belonging to various fields and countries, appointed by the United Nations Secretary-General, António Guterres.

One of the key resource persons for the Report, Dr. Ernest G. Foli (Forestry Research Institute of CSIR), gave a detailed briefing on the Report highlighting that the Report considers science and technology the key instrument for knowledge-based transformation to sustainable development. The publication, he added, recommends enhancing mission-oriented research, incentives for Science Technology and Innovation, periodic evaluation of research efforts, and updating science policies.

The Report was officially launched in Africa by the representatives of UNESCO and UNIC in Ghana, Government of Ghana, and COMSATS.

### EU-Asia Connectivity Forum (Brussels, Belgium, 27th September 2019)

Ambassador (R) Shahid Kamal, Advisor (Environment and Climate Change), participated in the Europa Connectivity Forum held in Brussels, Belgium, on 27th September 2019. The Forum, themed on "EU-Asia Connectivity: Building Bridges for a Sustainable Future", was aimed at fostering dialogue and strengthening







ties between governments, financial institutions, and the private sector in Europe and beyond.

The Forum was opened by H.E. Mr. Jean-Claude Juncker, the then President of the European Commission along with H.E. Mr. Shinzō Abe, Prime Minister of Japan. In his remarks on the occasion, President Juncker highlighted European Union's greater focus on developing connectivity with Asia for urbanization, transport, digitalization and education for building more connection with Asian youth.

On the sidelines of the Forum, Ambassador (R) Kamal held important meetings with Ms. Romana Vlahutin (EU Ambassador at Large for Connectivity) and Mr. Asad Beg (Adviser to EU Ambassador for Connectivity at European External Action Service) for exploring ways to build synergies between COMSATS and European Union within the framework of EU programme for connectivity. Furthermore, in his meeting with Ms. Marta Szilagyi, International Relations Officer – Pakistan at European External Action Service, Ambassador (R)

Kamal discussed prospects of collaboration on issues relating to sustainability, climate change, science and technology.

### **Asia-Africa Youth Entrepreneurs Forum (Beijing China, 15th – 19th October 2019)**

Engr. Qaiser Nawab, Assistant Director (Programmes) at COMSATS Secretariat, participated in Asia-Africa Youth Entrepreneurs Forum held in Beijing, China, from 15th – 19th October 2019. The event was organized by “Great Silk Way” International Youth Union (GSW IYU) and All-China Youth Federation (ACYF).

The forum was aimed at helping young and enthusiastic entrepreneurs to increase their entrepreneurial ideas and share experiences and foster collaborations in Silk Road region.

In his speech on “Forging Partnerships to Promote Youth Entrepreneurship and Attaining SDGs”, Engr. Nawab highlighted COMSATS’ firm resolve and commitment

towards the implementation of the United Nations Sustainable Development Goals.

### **Non Aligned Movement Youth Summit (Baku, Azerbaijan, 24th – 26th October 2019)**

Engr. Qaiser Nawab, Assistant Director (Programmes) at COMSATS Secretariat, participated in the Non-Aligned Movement (NAM) Youth Summit held in Baku, Azerbaijan, from 24th – 26th October 2019.

On the sidelines of the Summit, Engr. Nawab held meetings with H.E. Dr. Mukhisa Kityui, Secretary-General of the United Nations Conference on Trade and Development (UNCTAD); and Ambassador Chad Blackman, Ambassador and Permanent Representative of Barbados to the United Nations and World Trade Organization (WTO) at Geneva. During these meetings, views were exchanged on matters relating to initiating collaboration between COMSATS and various UN agencies.



## 6. ACTIVITIES OF COMSATS CENTRES OF EXCELLENCE

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# ACTIVITIES OF COMSATS CENTRES OF EXCELLENCE

*A group of twenty-two S7T/R&D and higher education institutions from different developing countries, predominantly COMSATS' Member States, is affiliated with COMSATS constituting its Network of International S&T Centres of Excellence. The Network serves as COMSATS' technical resource for South-South cooperation, in line with these institutions' mandate of having programmes of scientific research and development. This section covers reports received from COMSATS' Centres of Excellence, as well as news of some Centres covered in COMSATS Newsletter over the year.*



## Al-Farabi Kazakh National University (KazNU), Kazakhstan

Al-Farabi Kazakh National University (KazNU), Kazakhstan, is the one of the oldest world leaders in higher education. The university has served for 85 years the integration of fundamental and applied sciences into the global educational space. Placed at 207th position by the International QS World University Rankings (QS WUR) in the world, the university has made enormous contributions towards the advancement of science and technology in Kazakhstan.



### Capacity-Building Events

**The VII International Conference on Nanomaterials and Advanced Energy Storage Systems (INESS-2019):** In collaboration with the Nazarbayev



University, Astana; Institute of Batteries LLP, National Laboratory Astana, Nazarbayev University; and National Laboratory Astana, Nazarbayev University, KazNU organized the VII International Conference on Nanomaterials and Advanced Energy Storage Systems (INESS-2019), from 7th – 9th August 2019. The Conference focused on innovation nanomaterials, energy storage systems, materials for electrochemical

sensor and electro-analytical applications, security and utilization of batteries, development of batteries for electronic transport, instruments for modeling in material sciences, and systems of energy transformation. The event attracted researchers and scientists from Turkey, Canada, United Arab Emirates, Japan, South Korea, China, Russia, United Kingdom, and France.



**Global University Summit:** From 19th – 21st September 2019, KazNU organized a Global University Summit with an aim to improve the competitiveness of local higher education and the export potential of educational services. The three-day event included plenary meetings, panel discussions, business meetings, signing of Memoranda of Cooperation, and exhibition of the achievements of the world leading universities. The event was attended by over 800 reputable academicians, scientists and experts from more than 50 countries.

**Conference on Inverse Problems in Finance, Economics and Life Sciences:** Another event, the international scientific conference on “Inverse Problems in Finance, Economics and Life Sciences” was held at KazNU, from 31st August to 4th September 2019. The Conference brought together well-known scientists and young researchers working in the field of Natural Sciences for the exchange of experiences and discussing joint scientific activities and project results. More than 90 scientists from China, Kazakhstan, Kyrgyzstan, Russia and other countries attended the event.

## Collaborations

**McGill University, Canada:** KazNU entered into an Agreement with the McGill University, Canada, in the field of medicine. Under the MoU that was signed,

a joint Neuro-Rehabilitation Center will be established within the City Central Clinic Hospital, Almaty. McGill University will transfer new technologies for the treatment and rehabilitation of neurodegenerative diseases along with providing consultancy and assistance regarding the establishment of the Centre. As part of the Agreement, students at medical faculty of KazNU will be provided training and both sides will conduct collaborative research work.

**MoST, China:** Collaborating with the Department of Science and Technology for Social Development of the Chinese Ministry of Science and Technology in the field of medicine, biology and chemistry, KazNU has established a Center for the production of natural raw material-based medicines. The establishment of the Centre was based on the work carried out by KazNU scientists at the beginning of the year in the field of chemistry of medicinal plants and biologically active natural compounds.

**Severance Hospital, South Korea:** KazNU collaborated with the Severance Hospital, Yonsei University Health System, South Korea, to launch the second phase of the development of Research and Educational Biomedical Cluster at its campus in Almaty. Transferred to the KazNU management, the Almaty Clinical Hospital shall be converted into the National Center of Advanced Medicine to help integrate medical education and

science with practice. The Centre shall also provide high-quality health services to the population in accordance with international standards.

**Antalya Bilim University, Turkey:** KazNU signed a Memorandum of Cooperation (MoC) with the Antalya Bilim University, Turkey, for bilateral faculty and student exchange, scientific internships and implementation of research projects. Under this MoC, the two sides will cooperate in the fields of tourism, hotel business, medicine, modern technologies, and will also establish a Joint Modern Dental Center at KazNU, Kazakhstan.

**Refex Group, India:** As the United Nations Academic Impact (UNAI) Hub for Sustainability and to introduce more alternative energy sources within Kazakhstan, KazNU signed a Memorandum of Cooperation (MoC) with the Refex Group, India, in the field of renewable energy sources (RES). Starting with the installation of solar panels on the roofs of KazNU campus buildings, the partnership will also lead to the establishment of a demonstration center for alternative energy sources at the University's campus.

**Government of China:** Under the umbrella of an Agreement signed between the Governments of Kazakhstan and China, a supercomputer shall be provided by the latter to KazNU. The



Agreement was signed during a state visit of President of Kazakhstan to China. The supercomputer will be installed in the High-Tech Zone of KazNU that houses IT Techno park and the Center of Supercomputer and Cloud Computing created on the model of Silicon Valley.

**Inspur, China:** Being a part of the government delegation to China, Rector of KazNU, Prof. Dr. Galym Mutanov, met with the representatives of renowned high-tech companies and signed a Memorandum of Cooperation. These include high technologies with Inspur, Chinese IT enterprise. Under the agreement, the Parties will implement joint projects for the production of high-performance servers, data storage systems and personal computers in Kazakhstan, etc.

**Cairo University, Egypt:** With support of the Embassy of the Republic of Kazakhstan in Egypt, KazNU has opened an Al-Farabi Research and Educational Center at Cairo University, Egypt. As a platform for studying and promoting the heritage of great philosopher Abu Nasr al-Farabi, the Centre will also nurture common historical and cultural values of Egypt and Kazakhstan.

**Huawei Technologies, Kazakhstan:** In collaboration with of Huawei Technologies Kazakhstan, KazNU has opened HAINA (Huawei Authorized Information and Network Academy) Academy of Information and Communication Technologies (ICTs) at the University. Currently, equipped with material and technical base set and necessary IT equipment, the Academy will allow KazNU graduates to become highly qualified specialists in the fields of IT, digital technologies and telecommunications.

## Awards and Recognition

**International Association UNION:** Prof. Dr. Galym Mutanov, Rector of KazNU, has also been elected as the

President of the International Association UNION (Universities Open Network). Dr. Mutanov was unanimously elected as the President at the grand opening of the QS Worldwide Forum, held in Almaty, Kazakhstan, from 19th – 20th September 2019.

**Web of Science Awards 2019:** Prof. Galym Mutanov has also been awarded the prestigious international award “Leader of Science – Web of Science Awards – 2019” in a ceremony held at Al-Farabi KazNU on 13th November 2019. Additionally, Prof. Mutanov received an independent award as the author of a scientific monograph, which was included in the world’s leading database of scientific citations, Web of Science Core Collection.

Dr. Zhandos Moldabekov, post-doctoral student of KazNU, having 42 scientific publications in high-ranking journals, was recognized as the “Best Young Scientist”.

The scientific journal of KazNU “International Journal of Biology and Chemistry” was considered the best among domestic specialized scientific publications.

**Scopus Award Kazakhstan – 2019:** On 12th December 2019, an award ceremony was organized by Elsevier at KazNU for honoring the winners of Scopus Award Kazakhstan – 2019. Following six scientists were awarded the Scopus Award.

- ‘Best Paper of the Year’ was awarded to a team of scientists from Kazakhstan and Great Britain which includes Koshim Asima Galymzhankyzy, Associate Professor, Department of Cartography and Geoinformatics at Al-Farabi KazNU;
- ‘Top Researcher in Engineering and Technologies’ was awarded to Professor Zayadan Bolatkhan Kazykhanuly, Dean of Faculty of Biology and Biotechnology at Al-Farabi KazNU;
- ‘Top Researcher in Social Sciences’ was awarded to Sayabek Ziyadin

Tattibekuly, Director, Center for Economic Research at Al-Farabi KazNU;

- ‘Young Researcher of the Year’ was awarded to Moldabekov Zhandos Abdykanovich, post-doctoral fellow at Physics and Technology Faculty, at Al-Farabi KazNU;
- ‘Women in Science Award’ was awarded to Kerimrai Aiyngul Mergenovna, post-doctoral fellow at Chemistry and Chemical Technology Faculty at Al-Farabi KazNU; and
- Scopus Award was given to Al-Farabi KazNU Eurasian Chemico-Technological Journal.

## Al-Quds University (AQU), Palestine

Founded in 1984, the Al-Quds University (AQU), Palestine, is serving to provide excellence in academics and research. With its main campus in Abu Dis, AQU is the first Palestinian university to establish a medical school and nanotechnology research center.



## R&D Activities

AQU has introduced first of their kind virtual anatomy laboratories in Palestinian medical schools. The project has been sponsored by the England based Al-Quds Foundation for Medical Schools in Palestine and the United Nations Development Programme (UNDP). The technology will be used to perform virtual dissections which will enhance students’ learning by providing them with medical information in an innovative way to better meet the needs of the market. The anatomy labs contain the equipment and software needed to provide efficient practical teaching to new medical students, as well as to the students of Dentistry and Pharmacy.



## Collaborations

The University has been collaborating on various grounds with a number of institutions across the globe with a view to achieving academic excellence. In connection with this, Prof. Imad Abu Kishek, President of AQU held meetings with representatives from Germany, Mexico, Turkey and United Kingdom.

**German Institutions:** A number of agreements were signed between AQU and German universities and institutions to promote student-exchanges and training during the visit of Prof. Kishek to Germany. As a follow-up of this visit, a delegation from Heinrich Heine Universität Düsseldorf (HHU), Germany, visited AQU, to further the established cooperation between two varsities. During the meeting, progress of Dual Studies Master's Program, sponsored

by the German government and jointly implemented by both universities, was discussed. Under this program, students of Al-Quds University will be provided the opportunity to exchange experiences with European peers and utilize modern international knowledge in education and research.

**King's College London:** AQU has also established collaboration with the International School for Government at King's College London, for the development of academic programs at AQU. The collaboration was established during a meeting held between Prof. Kishek and Mr. Alexander Downer, Executive Chair of the International School for Government at King's College London.

**Mexico:** Furthermore, in his meeting with Mr. Pedro Blanco Perez, Mexican

Representative to Palestine, Prof. Kishek pledged enhancing collaboration with Mexican academic and R&D institutions for joint research, exchange of faculty and students. In 2019, AQU also signed an agreement with the Marmara University, Turkey, for joint collaboration in scientific research and other areas of mutual interest. Under this Agreement, a peer-reviewed journal focusing on the Jerusalem issue will be launched and the two sides will co-organize an annual joint academic conference. Both sides also intend to further collaboration in the field of medical sciences.

## Awards and Recognition

A "Clear E Care" team of AQU bagged the first placae (defeating 32 teams) in the Palestinian Hult Prize Summit 2019 held under the sponsorship of Palestinian Higher Council for Youth and Sports (HCYS). The team comprising of Samah Ayyad, Lotfi Al-Atrash, Rola Odeh, and Ahmed Touqan, presented their pioneer project with the idea of creating a new sterilization system for medical clothing.

## Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh

Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh, is a non-profit multidisciplinary public-sector research organization with a mandate to foster the R&D sector and cultivate a scientific culture in the country.



## R&D Activities

In 2019, BCSIR initiated whole genome sequencing of humans for the first time in Bangladesh for identification of genetic diseases. To serve the purpose, latest



**Mr. Md. Faruque Ahmed**  
Chairman



**Bangladesh Council of Scientific and Industrial Research (BCSIR),  
Bangladesh**

I extend my warm felicitations to its Member States for the outstanding contributions and achievements that are being made by the organization for the sustainable development in the South through scientific and technological collaborations.

In recognition of COMSATS' vision, BCSIR has committed to continue working closely with the member states of COMSATS to strengthen relationship in the extended fields of science and technology and other allied areas.



NovaSeq machine has been installed at BCSIR which has the capability of sequencing genomes of 48 people in 72 hours. A reference microchip will be created by matching the genetic markers found in Bangladesh with the ones found in foreign countries hence leading to cheap and easy identification of diseases. The programme would be run by highly-trained scientists and is expected to reduce the cost along with saving valuable gene information.

### Capacity-Building Events

**BCSIR Congress 2019:** A three-day BCSIR Congress 2019 in conjunction with the International Union of Forest Research Organizations (IUFRO) WP 5.07.03 Conference on “Green Technology of Pulp,

Paper and Allied Industries” was held at BCSIR, from 12th – 14th December 2019. The Congress, inaugurated by Honorable Architect Yafesh Osman, Minister of Science and Technology, Government of Bangladesh comprised of 29 technical sessions during which technical papers were presented by 200 participants from ten countries. In addition, about 30 participants from different countries including Australia, China, India, Finland, Nigeria, Malaysia, Sudan, South Korea and Canada, also presented their research findings during the technical sessions.

### International Centre for Physics (CIF), Colombia

Established in 1985, International Centre for Physics (CIF), is a pioneer institution



of Colombia in areas of Science and Technology legislation, creation of research entities, promotion of science, relationship-

building between academia and industry, and the creation of high-tech industries.

In 2019, CIF explored common grounds of cooperation with COMSATS in a number of fields to help consolidate and expand COMSATS' Network activities in the Southern region and beyond. In this respect, a meeting was held between officials of CIF and COMSATS Secretariat during the visit of the latter to Colombia (details covered in Chapter 7).



**Prof. Dr. Eduardo Posada**  
Director



**International Centre of Physics (CIF), Colombia**

Thanks to its international composition and to the quality of its member centres, COMSATS is a great instrument for generating change in the developing world. As member of the Network, we must direct all our efforts to strengthen our institutions and improving COMSATS' visibility and interaction among the decision makers in our countries.

I am convinced that the impact that COMSATS is having on South-South cooperation in science and technology and, hence, on the social and economic development of our countries, will keep increasing in the coming years.



During the meeting, Dr. Eduardo Posada, Director of the Institute highlighted multidisciplinary research work being undertaken by CIF in diverse fields and proposed conducting short courses on various topics in developing countries in collaboration with COMSATS. Possible operationalization of COMSATS' Regional Office in Bogota was also discussed.

The delegates were also shown around various facilities and laboratories of the Institute, including Chip design laboratory, Cellular Bio Laboratory, Microbiology and Biochemistry Laboratories, Spectroscopy and Ranging (LIDAR) system, and Genetic Research Institute of National University.

**COMSATS University Islamabad (CUI), Pakistan**

COMSATS University Islamabad, Pakistan,



is dedicated to advancement of learning and extending the frontiers of knowledge. Its mission supports and promotes knowledge creation in academically diverse disciplines and to application of this knowledge to benefit the people.

CUI is ranked among 601-800 world's best universities, and second among Pakistani Universities, according to the most recent rankings of TIMES Higher Education

(THE). It has also been ranked at #301-400 in THE Engineering & Technology; #401-500 in Computer Science and Life Sciences; and #501-600 in Physical Sciences (THE rankings 2019). Also the University is ranked 137th in THE Emerging Economies Rankings 2019. Earlier, it was ranked 125th in THE Asian University Rankings 2018, and was among THE #150-200 top young universities of world in 2018.

**New Initiatives**

**Al-Farabi Corner:** CUI opened an 'Al-Farabi Corner' at its Junaid Zaidi Library at its Islamabad Campus under a partnership agreement reached between Dr. S.M. Junaid Zaidi, Executive Director COMSATS, and Prof. Dr. Galym Mutanov, Rector of KazNU, during the 21st meeting of COMSATS Coordinating Council, held in April 2018.

**Rapid Prototyping Facility:** CUI has established a Rapid Prototyping Facility at its Islamabad Campus. The Facility, inaugurated by Rector of the University, Prof. Dr. Raheel Qamar, houses major mechanical and electrical equipment required to fabricate products. The Facility will benefit university students and faculty members as well as collaborating industries to help materialize product design into fully functional prototypes for their further testing.

**Prof. Dr. Raheel Qamar**  
Rector



**COMSATS University Islamabad (CUI), Pakistan**

CUI is proud to be a part of the 22-member COMSATS Network of International Centres of Excellence. The University has immensely benefited from COMSATS' programmes and contributed to the International Thematic Research Groups over the years. Moreover, being the Number 1 University in Information Technology in Pakistan, CUI has helped add value to the programs of COMSATS and continues to be a think tank on a number of subjects. With its rich human resource of over 1,100 PhD faculty, the University has invariably contributed to all COMSATS' efforts, activities and events organized across the world.

I also hope that COMSATS expands its Scholarship Programs for Member Countries and continues to facilitate researchers through mobility and expert exchange as well as sponsorship of scientific events. COMSATS University Islamabad welcomes students from all member countries with our offer of 100 post-graduate scholarships for COMSATS' member countries.

**Research Activities**

In year 2019, total of 2,705 impact factor publications were made in national/ international journals by the faculty of CUI. In addition, 131 research projects, 04 travel grant applications and 9 seminar/ workshop applications were submitted to different funding agencies, out of which one 74 research projects, 30 travel grants and 4 seminars/workshops won funds from different funding agencies.

The Office of Research Innovation and Commercialization (ORIC) at CUI also undertook diversification of CUI's research portfolio by identifying and submitting research proposals to multi-faceted national and international funding agencies. A Guide to Research Grant Programs of National and International Funding Agencies was developed and distributed amongst CUI faculty and researchers.

In order to attract young faculty into the research mainstream, CUI Research Grant Program (CRGP) is in place to award grants up to PKR. 300,000/- for research proposals of 1-2 years' duration. CUI has also developed in-house capacity to provide Intellectual Property support to its researchers and file patent applications



Patents Applied (2019)	
Pakistan	8
United States	3
Malaysia	1
Singapore	1
Japan	1
Brazil	1
India	1
Indonesia	1
China	1
<b>Total</b>	<b>18</b>

Patents Granted (2019)	
Pakistan	2
United States	5
<b>Total</b>	<b>7</b>

locally and internationally. CUI also provided trainings on understanding IP Rights and Patenting to researchers from many universities.

Besides, CUI also signed Memorandum of Understanding (MoU) with Cotton Craft Pvt. Ltd., Pakistan, for commercialization of a wound care application.

## Capacity-Building Events

During 2019, fifteen (15) seminars, workshops, conferences and forums were organized by CUI, including:

- 5th COMSATS International Model United Nations (CIMUN), 31st January – 3rd February 2019;
- First Functional Nanomaterials Summer Camp under Mega Summer School, 29th July – 2nd August 2019;
- 8th International Conference on Environmentally Sustainable Development (ESDev), 21st – 23rd August 2019;
- 7th Pak-China Business Forum-Industrial Expo 2019, 2nd – 4th September 2019
- 3rd Annual Conference of CPEC Consortium of Universities on “Academic Collaboration for Sustainable Partnerships”, 18th – 19th November 2019; and
- 17th International Conference on ‘Frontiers of Information Technology’ (FIT-2019), 16th – 18th December 2019.

In 2019, Professional Development (PD) wing of CUI’s ORIC conducted 10 trainings in which over 142 professionals from a number of organizations, industries and universities were trained.

Student Startup Business Center (SSBC) organized (09) training sessions for Startups Batch-VI, through “SSBC Business Plan Development Training Program” at Islamabad Campus. Further, SSBC also organized:

- 01 training session in coordination with SECP;
- a three-day Boot Camp “KHUDI”, in collaboration with PEP Foundation to promote women entrepreneurship;
- one-day SME session for new start-ups.

## Collaborations

Delegations from the different varsities



across the globe visited CUI with a view to strengthening collaboration in academics and to promote higher education, exchange knowledge, transfer technologies and share good practices. Some of these were from:

- Western Sydney University, Australia;
- Université Libre de Bruxelles (ULB), Belgium;
- Huanghuai University, China;
- Shenzhen University, China;
- Tsinghua University, China;
- Gustave Roussy Cancer Center, France;
- Korea Institute for Advanced Studies, Korea;
- University of Kaiserslautern, Germany;
- Meiji University, Japan;
- Istanbul Sehir University, Turkey;
- University of Wolverhampton, United Kingdom;
- University of Kent, United Kingdom; and
- Duquesne University, United States of America

Furthermore, officials from CUI visited various higher education and scientific institutions in Azerbaijan, Bulgaria, China, Canada, Egypt, France, Indonesia, Italy, Romania, Switzerland, Qatar, Philippines, Turkey, Thailand, Sri Lanka, Malaysia, Netherlands, and United Kingdom for research and participation in international activities.

Moreover, CUI made 10 major international linkages with reputed universities/institutions globally. Besides, the World Academy of Sciences (TWAS) also collaborated actively with CUI. Main activities in this regard related to the visit of scholars for undergoing higher degrees and conducting research at CUI. During 2019 01 PhD scholar joined CUI.

## Awards and Distinctions

**(3G) Award for Excellence in Higher Education:** The Cambridge IFA and UK awarded CUI the Global Good Governance (3G) Award for Excellence in Higher Education on 15th March 2019, in Jakarta, Indonesia.

**Sitara-i-Imtiaz (Star of Excellence):** In recognition of his contribution to the field of Nanotechnology, Nanoscience and Applied Physics, Prof. Dr. Arshad Saleem Bhatti, Dean of Faculty of Science at CUI was conferred Pakistan’s Third Highest Civilian Award, Sitara-i-Imtiaz (Star of Excellence), on 14th August 2019.

## Sponsorships and Scholarships

In year 2019, CUI benefited from exchanges under Erasmus+ which caters to a much wider scope and larger funding available for reciprocal mobility to Europe. In fact, CUI availed a total of 25 fully funded exchange mobilities, i.e., 20 students and 5 faculty/staff. The



**Prof. Dr. Victor Agyeman**  
Director-General



## Council for Scientific and Industrial Research (CSIR), Ghana

Technical cooperation among scientists and scientific institutions remain key to S&T-led development, especially in the developing countries. Fortunately for us, one such platform is available to use in the form of COMSATS' Network of S&T Centres of Excellence, of which the Council for Scientific and Industrial Research (CSIR), Ghana is a part....I believe that CSIR's association with a networking platform like COMSATS could help the organization in cementing its research potential and forging partnerships. We hope that this mutually beneficial relationship will continue for many years to come.

universities where the mobilities were availed included high ranked universities like Middle East Technical University (Turkey) Istanbul Sehir University (Turkey), University of Cote D' Azur (France) and University of Nice (France). During 2019, total of 248 international students from 7 countries, i.e., Afghanistan, Canada, China, Nigeria, Gambia, Indian Occupied Kashmir and USA Tanzania were enrolled in Software Engineering, Mathematics, Accounting and Finance, Computer Science Physics and Bio-sciences programmes.



based research and development.

### R&D Activities

#### Digital Agricultural Innovation Hub:

A Digital Agricultural Innovation Hub (DAIH) is being established at CSIR for the management of agricultural data. DAIH, to be completed by mid-2020, would put all the technologies developed over the years by CSIR for the access of farmers and the public. Currently existing technologies are not accessible to farmers. The hub would help address this

in Ghana through utilization of science and technology. The Council formulates and implements government policies regarding S&T

issue through simplified and packaged information about their farm produce.

**New Maize Varieties:** CSIR introduced new improved varieties of "Vitamin A" rich orange maize in partnership with the Crops Research Institute (CRI). The improved varieties will help increase yield and income. Additionally, it matures early and contains vitamin "A" which has numerous health benefits. Furthermore, when used as poultry feed, the laid eggs are more yellowish and healthier than those from the poultry fed with the white maize.

### International Cooperation

CSIR signed a Memorandum of Understanding with the Korean Programme on International Agriculture

Country-wise Enrollment of International Students	
Country	No. of Students
Afghanistan	233
Gambia	1
Kashmir	1
Nigeria	7
China	4
USA	1
Canada	1

## Council for Scientific and Industrial Research (CSIR), Ghana

The Council for Scientific and Industrial Research (CSIR), Ghana, focuses on accelerating socio-economic development



**Dr. Widad H. Abdel Halim Hassan**  
Director General



### **Industrial Research and Consultancy Centre (IRCC), Sudan**

The researchers and staff of IRCC would like to extend their sincere congratulations to COMSATS for completing 25 glorious years of success. We are very honored to have gotten the opportunity to partner with you in many ventures and we hope that the future holds more cooperation.

We wish you many more years of success and prosperity in your consistent efforts to create a better world by using Science & Technology for the benefit of human society.

(KOPIA), Korea, to expand its commercialization activities. Under the agreement, KOPIA will support the Animal Research Institute (ARI) and the Crop Research Institute (CRI) of CSIR to produce poultry breeds and rice seedlings for commercial purposes.

### **Capacity-Building Events**

Food Research Institute (FRI) and Science and Technological Policy Research Institute (STEPRI) of CSIR organized a two-day training workshop on “Climate-Smart, Innovative Food Preservation and Processing Technologies Applied by Women in Rural Area in Sub-Sahara Africa” in Accra, Ghana, in collaboration with the Food and Agriculture Organization (FAO) of the United Nations. During the workshop, innovative climate smart technologies applied by women in rural areas were identified for fostering their effective uptake, adoption and sustained use.

### **Industrial Research and Consultancy Center (IRCC), Sudan**



A major research institution in Sudan, Industrial Research and Consultancy Center (IRCC) caters to the needs



of the country's industrial sector. The Centre is involved in research, technology, and consultancy; including industrial information, industrial process modeling, product design, economic and feasibility studies, technology and production line design, and quality assurance.

In 2019, IRCC successfully executed the project titled: “Reduction of Persistent Organic Pollutant chemicals (POPs) in Leather Industry” under the Five-Year Plan (2015-2019) with United Nations Industrial Development Organization (UNIDO). The project was aimed at introducing eco-friendly alternatives to Persistent Organic Pollutant chemicals (POPs) which are used in tanning process to support the Sudanese leather industry in a sustainable manner. The closing

ceremony of the project was held on 21st July 2019, at the National Leather Technology Center (NLTC) of IRCC.

### **Industrial Technology Institute (ITI), Sri Lanka**

The Industrial Technology Institute (ITI), Sri Lanka, comprises of research and development divisions, and technical services divisions. The Institute conducts multidisciplinary scientific and industrial research on technology-transfer for rapid industrial development.





### R&D Activities

Scientists at ITI succeeded in developing a simplified low cost honey quality detection kit to help farmers test the quality of honey on-field. According to the Sri Lanka Standards Institute, honey for human consumption should meet SLS 464:2016 standards. The current method of quality testing performed in laboratories is too time consuming and poses problems for farmers in sample shifting. The ITI-developed kit will be able to provide a cost and time effective alternative.

### Technical Services

**Proficiency Testing:** ITI serves a large number of laboratories to prove evidence to their competency through Proficiency Testing programmes in water microbiology, food microbiology, and chemical and physical testing for cement. In 2019, the Institute also became the first one in Sri Lanka to offer proficiency testing service. Having been granted ISO/IEC 17043: 2010 Accreditation for Proficiency Testing by Sri Lanka Accreditation Board (SLAB), ITI will provide Proficiency Testing to National Quality Infrastructure.

**Food Technology Services:** Based on its performance and supreme quality of services, ITI was also invited by the International Labor Organization (ILO) under the Local Empowerment through Economic Development (LEED) project,

to offer its food technology services for the upgradation of selected micro, small and medium enterprises (MSMEs) in Jaffna, Kilinochchi and Vavuniya, Sri Lanka. A team of ITI officers visited the ILO selected SMEs for surveying the current process technologies, food safety management aspects used and held discussions with the entrepreneurs to consolidate their knowledge.

### Capacity-Building Events

The 4th Biennial Research Symposium of ITI 'Science, Technology and Innovation for Sustainable Development' was organized by ITI, from 17th – 18th December 2019. The Symposium attracted over 250 participants belonging to ITI, universities and R&D Centres of Sri Lanka, as well as industry. Dr. Bandula Gunawardena, Honourable Minister of Higher Education, Technology and Innovation, Sri Lanka, and Mr. Thilanga Sumathipala, Honourable State Minister of Technology and Innovation, Sri Lanka, graced the inaugural as the Chief Guest and Guest of Honour, respectively.

The technical sessions of the symposium comprised of 41 presentations in two parallel sessions pertaining to: food technologies; GM foods, fermentation and dairy; artificial foods, chemical industry; food research; refrigeration; sterilization; natural oils; minerals in food; nutrition; food contaminants; soil study; food related

health risks; microbial contamination in teas; and composting.

### Awards and Recognition

The outstanding performance of ITI scientists and engineers was also appreciated at the 4th Biennial Research Symposium during the award ceremony where more than 28 researchers were conferred awards and certificates in various categories.

### International Center for Chemical and Biological Sciences (ICCBS), Pakistan

One of the leading academic research institutions in Pakistan with a strong international standing, the International Center for Chemical and Biological Sciences (ICCBS), serves as the Centre of Excellence of COMSATS, TWAS, WAITRO, OIC and UNCSTD. Since 2015, the Centre has been serving as a UNESCO Category II institution. ICCBS focuses on: research and training for producing high quality human resource; and extending diagnostic, analytical and clinical testing services to local and regional clients from private and public sectors.



### R&D Activities

The Center for Bioequivalence Studies and Clinical Research (CBSCR) at ICCBS successfully completed one-year trial of Yinhuang Qingfei Capsule, first ever traditional Chinese medicine (TCM) for bronchitis. Randomized double-blind clinical trial in patients with chronic simple bronchitis were conducted to test the efficacy and safety of the Yinhuang Qingfei Capsule against Amoxicillin-Clavulanate. The medicine was found to be suitable and effective for Pakistani population and is an effective alternative to



**Prof. Dr. M. Iqbal Choudhary**  
Director



**International Center for Chemical and Biological Sciences (ICCBS), Pakistan**

Over the past two decades, COMSATS has made massive efforts to build indigenous capacity in science and technology of COMSATS' member institutions through trainings, joint research projects, support for conferences, and mobility of scientists, scholarship programs, and policy guidance for science-led sustainable development. We greatly appreciate the remarkable work of COMSATS through which a strong network of 22 highly reputed Centers of Excellence is now playing a leading role in their respective fields of specialization to promote science and technology.



Amoxicillin whose resistance in bacteria is being reported to increase greatly. Yinhuang Qingfei Capsule is a natural herbs preparation that has been developed by Hunan Anbang Pharmaceutical, China, for the treatment of an acute attack of chronic bronchitis.

### **Institutional Capacity-Building**

**DNA and Serology Laboratory:** ICCBS set-up a state-of-the-art forensic DNA and Serology Laboratory at the Jamil-ur-Rahman Center for Genome Research of Dr. Panjwani Center for Molecular Medicine and Drug Research (PCMD).

**Virology Center:** In collaboration with the University of Tübingen, Germany,

ICCBS is setting-up a Virology Center at PCMD. The research facility is aimed to advance the virology research, contribute knowledge policies and good practices. Apart from studying the viruses, this Bio-Safety Level-3 (BSL-3) Laboratory will help determine the anti-viral activity of various compounds for vaccine development.

**Natural Product Sciences and Traditional Medicine Centres:** ICCBS has opened two research centres on "Sino-Pakistan TCM & Ethnomedicine" and "Sino-Pakistan TCM", at its facility. Moreover, the first "Joint Laboratory for Innovation in Natural Products Research and Development" was inaugurated at ICCBS. The laboratory has been jointly established by ICCBS and Al-Farabi Kazakh National University

(KazNU), Kazakhstan. In this connection, a Memorandum of Understanding (MoU) was signed between the two organizations.

**National Institute of Virology:** ICCBS launched the National Institute of Virology at the Dr. Panjwani Center for Molecular Medicine and Drug Research (PCMD) ICCBS, Pakistan. The Centre is equipped with state-of-the-art technologies for cutting-edge instruments for facilitating scientific research on viral and other diseases.

### **Collaborations**

**TIB, China:** ICCBS and Tianjin Institute of Industrial Biotechnology (TIB), China, entered into an Agreement for the promotion of cooperation in various fields of bioorganic chemistry and biological sciences through R&D, staff exchange, transformation and industrialization of scientific and technological achievement. Within the framework of this cooperation, ICCBS and TIB shall also support the related S&T activities of COMSATS such as the International Thematic Research Group on Natural Products Sciences.

**HASMU, China:** ICCBS also entered into an Agreement with the Southwest Medical University Hospital (HASMU), China, for cooperation in the field of traditional medicine. Under this MoU, both sides will exchange research staff and R&D faculties.



**Chinese Institutions:** Multiple Memoranda of Understanding were signed by ICCBS with the leading Chinese research and academic institutions of Hunan University of Chinese Medicine, Changsha, China. Prof. Atta-ur-Rahman (Chairman, Prime Minister's Task Force on Science and Technology), Prof. Dr. M. Iqbal Choudhary (Director, ICCBS) and relevant Chinese officials signed the MoUs on behalf of their institutions. The signed agreements aim to advance science and technology through joint collaborative research and education for addressing national, regional and global challenges associated with chemical and biological sciences.

**KFUEIT, Pakistan:** Another MoU was signed by ICCBS with a local Higher Education Institute, the Khawaja Fareed University of Engineering and Information Technology (KFUEIT), that entails cooperation in sharing analytical facilities for research in synthetic organic and natural products chemistry.

**Department of Health, Government of Sindh, Pakistan:** On 5th December 2019, ICCBS signed a Memorandum of Understanding (MoU) with the Department of Health, Government of Sindh, to improve Chemico Bacteriological Laboratory of the Department. Under the agreement, ICCBS is providing grant by the provincial government of Sindh for the up-gradation of the Chemico Bacteriological Laboratory.

## Capacity-Building Events

**5th Science and Technology Exchange Program (STEP5):** The 5th Science and Technology Exchange Program (STEP5) Conference was organized by ICCBS in collaboration with the Mustafa Science and Technology Foundation (MSTF), Iran, from 28th February – 2nd March 2019. The 3-day conference had the theme “Health Challenges of Communicable Diseases (CDs) and Non-Communicable Diseases (NCDs)” with an emphasis on female scientists’ contribution in future global village. The conference comprised of scientific and technological panels, STEP talks, round tables, keynote addresses and invited talks focusing on the areas of influential actions to overcome health-related challenges lying in the Islamic World, and latest development to overcome challenges arising from CDs and NCDs in the Islamic countries. Over 500 eminent scientists from 40 countries participated in the Conference.

**7th International Symposium-Cum-Training Course on Molecular Medicine and Drug Research:** The 7th International Symposium-Cum-Training Course on Molecular Medicine and Drug Research was held at the Dr. Panjwani Center for Molecular Medicine and Drug Research (PCMD), ICCBS, from 4th – 7th November 2019. Over 700 scientists from 35 countries including Turkey, Iran, Iraq, China, Egypt, Syria, Italy, Nigeria, Greece, USA, UK, Germany, France, Australia,

Canada, Brazil, Sweden, New Zealand, Hungary, Indonesia, Jordan, Malaysia, Kazakhstan, Ethiopia, Sudan, Thailand, Oman, Cameroon, Bangladesh, Sri Lanka and Nepal attended the international event.

## Awards and Recognition

- In recognition of his extraordinary and outstanding scientific achievements in the field of organic chemistry and natural products chemistry, Prof. Dr. Muhammad Iqbal Choudhary, Director, ICCBS, was awarded the title of Al-Farabi KazNU Honorary Doctor by Al-Farabi Kazakh National University (KazNU), Kazakhstan, in a ceremony held at the University on 2nd April 2019. Prof. Choudhary’s career includes 1,098 research papers, 51 patents, a cumulative impact factor of 2,120 and 2,300 citations, as well as a number of national and international awards and honors.
- ICCBS has become a member organization of the Global Open Biodiversity and Health Big Data Alliance (BHBD) housed at Beijing Institute of Genomics, Chinese Academy of Sciences, China. The Director of ICCBS, Prof. Dr. Iqbal Choudhary, has also been accepted as a representative from Pakistan in recognition of his extraordinary and outstanding scientific achievements

**Prof. Lin Zhaohui**  
Director



### International Centre for Climate and Environment Sciences (ICCES), China

ICCES, being the Centre of Excellence of COMSATS in China since 1994, has been playing a leading role in the area of Climate Change research, including climate change science, impact, adaptation and mitigation, etc. Over years, COMSATS promotes networking of ICCES with their counterparts worldwide and facilitates joint activities, such as training, research projects, expert-exchange.

ICCES commits to continue working closely with COMSATS' member states to strengthen resilience and adaptive capacity to climate-related hazards in the South, to improve related education, awareness-raising and capacity on climate change mitigation, adaptation, and risk management.

in the field of organic chemistry and natural products chemistry.

- Hunan University of Chinese Medicine (HUCM), Changsha, has established "Academician Professor Atta-ur-Rahman One Belt and One Road TCM Research Center" to honor the scientific contributions of renowned Pakistani scientist, Prof. Dr. Atta-ur-Rahman, Patron-in-Chief of ICCBS in the field of traditional medicine. The Centre was inaugurated on the sidelines of the 5th Annual Bio-TCM International Conference, held at the Hunan University of Chinese Medicine (HUCM), on 24th October 2019. Apart from Prof. Dr. Atta-ur-Rahman, the ceremony was attended by H.E. Mr. Chaudhry Fawad Hussain, Federal Minister for Science and Technology, Government of Pakistan; Chinese Government officials; Mayor of Huanhua; and Prof. Dr. M. Iqbal Choudhary, Director ICCBS, among others.

- Prof. Dr. M. Iqbal Choudhary, Director of ICCBS, has been elected as the member of the Executive Management Group (EMG) of the 'A Global Network of the Tropical Neglected Diseases (NTD)'. Prof. Choudhary's extensive contribution

towards Leishmaniasis research has earned him this credential.

### International Center for Climate and Environmental Sciences (ICCES), China

The International Center for Climate and Environment Sciences (ICCES), China, focuses its research on the key scientific problems related with global climate and environmental changes. ICCES is devoted to establishing the cooperative and innovative research center in the area of climate and

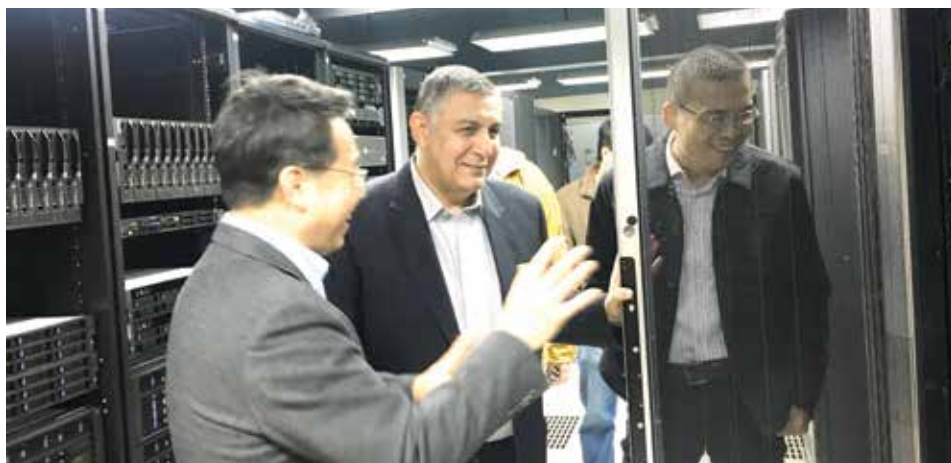


environment sciences, and provide services to the developing countries with scientific support and advisory, capacity building.

The main research fields include the development of Dynamical Earth System Model and numerical simulation, meteorological, and environmental forecast and related disaster assessment theory and technique, data assimilation theory and methodology, and earth system theory and natural cybernetics.

### Collaborations

**ICCES and NRC, Egypt:** Prof. Zhaohui Lin, Director of the CAS-TWAS Center of Excellence for Climate and Environment Sciences (ICCES) visited







the National Research Centre (NRC), Egypt, from January 19 to 20. Prof. Fagr Gawad, Director of the Water Pollution Research Department took ICCES team to a number of research laboratories of NRC. On January 20, Prof. Ashraf Shaalan, the former President of NRC, the Chairman, Prof. Mohamed Hashem; Mr. Sherif Rahim, Director of the Center of Climate Change of Egypt's Ministry of Environment; Prof. Tarek Elasiad from the Suez Canal University, Prof. Fagr Gawad, Prof. Zhaohui Lin, and Assoc. Prof. Chenglai Wu from ICCES had a meeting about a new center on climate change.

Later in April 2019, Prof. Shaalan visited ICCES on April 15, 2019. Prof. Xiaodong Zeng, Deputy Director of ICCES, introduced ICCES' research work and international collaborations to Prof. Shaalan, with an emphasis on the forthcoming CTWF international symposium and training workshop and invited NRC researchers to join the event. Dr. Chenglai Wu and Dr. He Zhang also gave an overview on the development and current status of the CAS Earth model system, especially its performance and prospect in the application of global climate change research.

**Institute of Geophysics, University of Tehran:** October 17th, 2019. Dr. Omid Alizadeh-choobari gave an academic report entitled "Frequency of extreme El Niño and La Niña events under global warming" at ICCES.

Dr. Omid Alizadeh-choobari is an Associate Professor in the Institute of Geophysics, University of Tehran, Iran. His research interests include, extreme weather events, impacts of large-scale teleconnections on climate variability, dynamical downscaling and spatial and temporal variations in dust events.

In July 2019, Dr. Omid Alizadeh-choobari was invited in the 18th CTWF International Symposium on Aerosol and Climate Change, hosted by ICCES. He gave presentation on "Spatial and temporal variations of dust events over Iran".

### Academic Sponsorships

**President's International Fellowship Initiative (PIFI):** ICCES has been working to support young scholars in the field of climate and environmental research from developing countries. In 2019, ICCES attracted one young scholar



from developing countries to conduct joint research under the support by CAS President's International Fellowship Initiative (PIFI). Mr. Victor Dike first joined ICCES in year 2014 as a PhD candidate and successfully completed his study courses in year 2018. He rejoined ICCES in year 2019 as Postdoctoral researcher under the support of CAS President's International Fellowship Initiative (PIFI).

Dr. Victor Dike will stay at ICCES for 2 years to conduct his on the project. "Simulating the Impact of Trans-Tropical-Atlantic-Pacific Ocean Dipole on Future Variation of Extreme Summer Rainfall Events over West Africa" that will focus on utilizing high-resolution model simulations to evaluate future variation of these extreme climate events over West Africa as well as the future occurrence of TAPOD and inherent thermodynamics associated with the future occurrence.

**TWAS-UNESCO Associate at ICCES-China:** Under the TWAS-UNESCO Associateship Scheme, Dr. Sathaporn Monprapussorn from Geography Department of Srinakharinwirot University, Thailand, visited ICCES from April 8th – June 4th 2019. The visit was undertaken to conduct collaborative research on comparative study of land use models and urban heat island effects between China and Thailand. During his visit to ICCES, Dr. Monprapussorn presented an academic report entitled "Land Use Change in Bangkok and its Impact on the Urban Heat Island", which highlighted the geographical characteristics of the Bangkok Metropolitan Area (BMA).

### Capacity-Building Events

**International Workshop for "Climate Change between Present and Future Scenarios" with NRC, Egypt:** From January 22 to 23, 2019, the International Workshop on "Climate Change between Present and Future Scenarios" was held in Cairo, Egypt. It was jointly organized

**Dr. Alireza Ashori**  
President



**Iranian Research Organization for Science & Technology (IROST), Iran**

As a COMSATS' member, IROST attaches great importance to contributing to COMSATS' activities and considers this organization as a potent platform for South-South cooperation in science and technology which has played a significant role in the sustainable development and socio-economic uplift of the member states through its cooperation programs and initiatives.

It is my sincere hope that COMSATS' valuable efforts will gain even further momentum to promote scientific and technological cooperation in the South.

by NRC and the CAS-TWAS Center of Excellence for Climate and Environmental Sciences (ICCES). The event was supported by the Egyptian Ministry of Environment, the Egyptian Meteorological Administration, Cairo University, Suez Canal University, etc. More than 50 scholars attended the seminar, including representatives from the NRC, the Egyptian Meteorological Administration, the Egyptian Ministry of Environment, Cairo University, Suez Canal University, and ICCES.

**The 18th CTWF International Training Workshop on Atmospheric Aerosol:**

Observation, Modelling and Impact: The event was held from 18th – 20th July 2019, in Beijing, China. It was jointly organized by ICCES, Chinese Academy of Sciences (CAS), Chinese Ministry of Science and Technology (MoST), COMSATS, and the National Satellite Meteorological Centre (NSMC). The training benefited around 80 Chinese and foreign scientists including more than 40 foreign representatives from Egypt, Ethiopia, Ghana, Indonesia, Iran, Kazakhstan, Pakistan, Palestine, Senegal, Sri Lanka, Thailand, Vietnam, Nigeria and Nepal.

**Establishment of International Network on Climate and Environment Sciences (INCES):**

The International Network on Climate and Environment Sciences (INCES)'s inaugural session was held in Beijing China on 17th July, 2019. INCES

researchers gathered both to create this new networking chapter and share their latest research. The meeting included 19 short presentations by researchers from African, Central & Middle East, Southeast Asian and South Asia, representing a broad range of international research organizations.

The INCES will provide a much-needed networking platform for a broad range of climate and environment sciences topics including climate variability and change and their predictions; climate change impacts on the environment, water resources, agriculture and health; observation and prediction of climate and environmental extremes.

The Network will facilitate data sharing, training of young scientists for capacity building, and foster scientific collaboration for the study of climate change impacts, observation, and prediction of climate and environmental extremes. The Network will consist of four regional groups, i.e., African, Central & Middle East Asian, South-East Asian, and South Asian Group. At present, the following six (06) COMSATS Centres of Excellence are members to the Network: Council for Scientific and Industrial Research (CSIR), Ghana; National Research Centre (NRC), Egypt; University Cheikh Anta Diop of Dakar (UCAD), Senegal; Al-Farabi Kazakh National University (KazNU), Kazakhstan; Al-Quds University (AQU), Palestine; COMSATS University

Islamabad (CUI), Pakistan; and Industrial Technology Institute (ITI), Sri Lanka.

**Iranian Research Organization for Science & Technology (IROST), Iran**

IROST was founded in 1980, with the



aim to support Iranian researchers, inventors and industrialists across the country. This organization provides valuable services in fulfilling

the country's scientific, technical and engineering requirements by supporting applied and developmental research, as well as developing new technologies by making use of qualified experts and modern equipment and facilities.

**Thirty second Al-Khwarizmi International Award**

On March 04, 2019, the Iranian Research Organization for Science & Technology (IROST) held the 32nd Al Khwarizmi International Award ceremony. The Award is conferred annually to researchers, inventors and innovators from all over the world in recognition of their outstanding scientific achievements. Out of the total nominations of 271 Iranian and 111 foreign researchers from 40 countries across the world, 16 won the Award.

**Prof. Stephen E. Onah**  
Director/Chief Executive



### **National Mathematical Centre (NMC), Nigeria**

Nigeria has benefitted immensely in the areas of trainings, support in R&D, capacity development activities in Mathematical Sciences, new cooperation and knowledge-sharing through COMSATS' various publications. We are indeed proud of COMSATS as an Inter-Governmental Organization.

While promising our continual commitment to the course of COMSATS, the organization should strive harder in the years to come for uniting nations across boundaries, institutions of various disciplines and people of different races towards the development of Science and Technology.

COMSATS has been sponsoring the cash prize and certificates of the first and second prize winners of the Award since 2000. This year's first and second prizes worth US\$ 1,500 and US\$ 500 were granted to Dr. Mohammad Durali and Mr. Hamid Raza Nasiri, respectively.

### **National Mathematical Centre (NMC), Nigeria**

The National Mathematical Centre (NMC), Nigeria, is an inter-university organization that promotes research and capacity-building in mathematical sciences. It was

established, inter alia, to train and develop high quality human resource in Mathematical Sciences, for enhancing students' performance in Mathematics and Mathematical Sciences at all levels of Nigerian education system.

#### **Research Activities**

**Ethno-Mathematics Research in Mathematics:** The Research Group has developed strategies to enhance research, teaching and learning of Mathematics, especially on Combinatorics, Graph Theory and Network Analysis using women stories bases on cultural experiences.



A number of papers have been published and others accepted for publication. Also, several products of industrial importance were developed.

**Computational Mathematics and Scientific Computing:** This research group is developing numerical codes which will satisfy standard computational properties and are to be deployed for numerical simulation of interdisciplinary real life problems. The research is progressing impressively. Several publications have appeared in reputable journals both local and international.

#### **Capacity-Building Activities**

**6th International Conference on Mathematical Analysis and Optimization: Theory and Applications (ICAPTA 2019):** NMC in collaboration

with ` Department of Mathematics and Computer Science of the University of Lagos under the auspices of Mathematical Analysis and Optimization Research Group (MANORG), Nigeria, organized the 6th Annual International Conference on Mathematical Analysis and Optimization: Theory and Applications (ICAPTA 2019) from 24 – 30 March, 2019. The Conference bearing the theme “Mathematical Methods and Optimization in Risk and Financial Modeling” was held at NMC. The pre-conference workshops included an overview of Convexity and Optimization Methods, Network Optimization and Machine Learning and Hand on Desk Training on Python Software. The Conference brought together a number of new collaborations among researchers, and postgraduates students across institutions, home and abroad.

#### **Other events:**

- Three-day Colloquium in Algebra (July 2019);
- Foundation Postgraduate Course on Relative Astrophysics (22 April to 3 May 2019);
- Five-day Workshop for Mathematics Teachers of Federal Unity Colleges (20 to 24 May 2019);
- Training of Olympiad Teachers (18 to 23 August 2019);
- Foundation Postgraduate Course in Inference Statistics (7 to 26 October 2019);



- NMC/SDGs Mental Arithmetic training using the Abacus and Mathematics Improvement workshop for Mathematics Teachers and Students. These activities took place in several states of Nigeria with the support of the Sustainable Development Goals (SDGs) Office in the Presidency.

## Academic Undertakings

**2019 Nigeria Universities Computer Programming Contest (NUCPC) and Africa & Arab Collegiate Programming Championship (ACPC):** The two contests were held from 8th to 15th September, 2019. Contestants were undergraduates of Computer Science/IT in Nigeria Universities. The NUCPC provides students the opportunities to sharpen and demonstrate their algorithmic problem-solving, programming and teamwork skills. It is also the first stage of a three tier International Collegiate Programming Contest (ICPC) that ends with the World finals. The NUCPC participants also took part in the Regional Africa & Arab Collegiate Programming Championship (ACPC). The contests took place in the computer laboratory of the National Mathematical Centre with judges from Egypt, Jordan and host country Nigeria.

**Statistics Competition for undergraduate Students 2019:** This competition was second edition of the competition involving Statistics undergraduates of Nigeria Universities. The Statistical Society of Nigeria partnered with NMC for organizing this contest.

**Digital Mathematics Network (DIMAnet):** Digital Mathematics Network (DIMAnet) employs the memory and the audio-visual capabilities of the computer system and mobile devices to provide an on-line and offline instructor-led mathematics instructional materials. This provides encouragement and enhancement in the learning and teaching of Mathematics at the Basic and the Senior Secondary School level in Nigeria.

It also incorporates Computer Based Test (CBT) System on various topics based on Nigerian Mathematics Curriculum, to enable monitoring of learning progress. DIMANET was designed and implemented by the NMC.

**Expansion of Facilities:** NMC has expanded its facilities with addition of a 500-Seater Auditorium and Participants' Hostel and Participants' Guest House.

## Collaborations

**MSc Financial Mathematics with University of Abuja:** The Centre is presently collaborating with the University of Abuja, Nigeria, and has signed a Memorandum of Understanding (MoU) to run its MSc Financial Mathematics programme.

**COMSATS University Islamabad:** The working relationship between NMC and the Department of Mathematics, COMSATS University Islamabad continued during 2019.

## National Research Centre (NRC), Cairo, Egypt

NRC was established in 1956 to foster basic and applied scientific research, particularly in industry, agriculture, public health and other sectors of Egypt's national economy.



## Textile Industries Research Division National Research Centre (NRC), Cairo, Egypt

Textile Research Division (TRD) is one of the most important divisions in National Research Centre (NRC). It has about 180 professional members that specialize in textile science, technology and manufacture. TRD is involved in industrial planning, management, implementation,



supervision and evaluation of R&D projects, industrial auditing, and textile testing. These are aimed at development of textile industry and wet processing.

A lot of research work was conducted in the division to explore industrial-scale applications. Several textile factories from public and private sectors are expected to be included in this division for improving industrial applications. Some are already cooperating with the Division in various activities.

Some applications of emerging technologies of special interest to the Division are as follows: Nano-coating technology and smart coatings for material reinforcement, protective clothing, medical textiles, as well as creating self-cleaning fabric; Biotechnology; Plasma technology; Electrospinning technology for producing nanofiber; Microencapsulation of chemical finishes and fragrances including phase-change materials for thermoregulation, aromatherapy/fragrance release and cosmetotextiles and skin care benefits, insects repellent textiles; Microwave technology; Supercritical carbon dioxide in dyeing process; and Green chemistry and Eco-textiles.

TRD is well-equipped with instruments and equipment for treatment and analysis of the textile materials. Beside many others, the central labs of the TRD are equipped with plasma discharge, freeze-

**HRH Princess Sumaya bint El Hassan**  
President



## Royal Scientific Society (RSS), Jorda

Our shared story of promoting collaboration and cooperation for sustainable socio-economic development of the countries of the South is one we must empower and honor. At the Royal Scientific Society of Jordan, the RSS, we are privileged to contribute to your mission as a member of the Network of International Centres of Excellence since 1997. And we are privileged to be able to work with you, our crucial partner, for the benefit of all members and economies that are enriched by COMSATS' vision and mission.

dryer, nozzle-less electro-spinneret, SEM, TEM, pilot-scale spinning and weaving machines, spraycoater, and contact angle. Most of the equipment needed for analysis and testing of textile materials is available in the TRD laboratories.

The Division has held a number of workshops on: spinning and weaving; pretreatment and finishing of cellulosic fibers; protein and synthetic fiber; coloration technology; knitted and ready-made garments.

Several professors of TRD were honored African Union Kwame Nkrumah Scientific Awards (AUKNSA). These include: Prof. Dr. Ali Hebeish (2016) and Prof. Dr. Nabil Abdelbaset (2012).

Moreover, some professors of TRD received other prizes, including the Nile Awards, State Merit Awards, State Awards of Excellence, and State Encouragement Awards.

## Royal Scientific Society (RSS), Jordan

The Research Scientific Society (RSS) is the largest applied research institution in Jordan. It, inter alia, provides consultancy and technical support services for scientific



capacity-building.

**Arab Charter on Ethics in Science at WSF 2019 Launched by President RSS:** HRH Princess Sumaya bint El Hassan, President of RSS, Jordan, launched the "Charter of Ethics of Science and Technology in the Arab Region" at the World Science Forum held in Budapest, Hungary, from 20th – 23rd November 2019. The Charter frames science and technology activities in the Arab region, supports an environment that enables science and technology to thrive, protects science and technology workers and outcomes, and guide science and technology activities away from non-ethical practices that could harm the individual, society or the environment.

**Participation in 8th Annual Partnership Retreat: Getting ready for the transition to the Enhanced Transparency**

## Framework (ETF), Beirut, Lebanon:

RSS presented "Getting ready for the transition towards ETF" -Case of Jordan at the Annual Partnership Retreat of the Partnership on Transparency.

## Major Research Projects

The following are major research projects of RSS during 2019:

- Rural Economic Growth and Employment Project (REGEP)/ Qualitative Study in Preparation of Baseline Quantitative Survey for REGEP project;
- Strengthening Capacities for Wastewater Management in Jordan;
- Science Engagement, Mentoring and Empowerment of Young Scientist; Climate Change & Energy challenges.
- Ambient Air Quality (AAQ) Monitoring and Assessment in the



Industrial Areas as a part of an AAQ Monitoring Network/ Ministry of Environment (MoEnv);

- Ambient Air Quality (AAQ) Monitoring and assessment in Attarat area / Saudi Arabian Corporation for Oil Shale (SACOS);
- The Production of Hollow and Solid Concrete Blocks for Walls and Slabs.

Germany GmbH on COOL\_ME project to scale up sustainable cooling on the Middle East. (23 Oct 2019)

- MoU with ISESCO (August 2019).
- Agreement with the Jiangsu Industrial Technology Research Institute (JITRI), China, ( 22nd June 2019).

## International Collaborations

- Agreement with Actin against Hunger to improve conditions for Syrian refugees and vulnerable Jordanians in Jordan. (5 Feb 2019)
- Agreement with the International Water Management Institute, to conduct a project on 'Wastewater Reuse in the MENA Region: Addressing the Challenges'. (6 Feb 2019)
- MoU with International Youth Ambassadors Foundation (IYAF) to develop awareness campaigns and events concerning the advocacy of the 17 SDGs within the borders of Jordan. (25 April 2019)
- Business Agreement with CAST software India private limited and partner regarding regional system integrator. (27 June 2019)
- Agreement with United Nations Development programme to conduct a project on "development of the second biennial update report to the UNFCCC. (19 Aug 2019)
- Agreement with Navigant Energy

## Capacity-Building Activities

### Training on GHG Inventory and

**Analysis:** RSS in collaboration with the United Nations Environment Programme (UNEP), held a workshop from 23rd to 24th September 2019, in Baghdad, Iraq, to train Iraqi officials on various aspects of the preparation of the Second National Communication and the First Biennial Report.

### First National meeting of the "Local Community Initiatives to Preserve the Environmental and Cultural Heritages in Jordan":

The meeting was held at RSS on 2nd October 2019. Representatives from the Ministry of Agriculture, Ministry of Environment, Ministry of Culture, Ministry of Tourism and Antiquities, as well as community-based organizations, attended the meeting.

**ACI's Regional Conference:** A regional Conference on Concrete Materials and Design was organized jointly by American Concrete Institute (ACI), Jordanian Concrete Association, RSS and the Jordanian Engineers Association.

During the two-day conference, the participants discussed latest technological developments in the field of concrete construction and polymer compounds for building reinforced concrete and mass concrete and exploring errors in concrete construction.

**Annual Meeting of WAB-Net:** RSS and EcoHealth Alliance (EHA), USA, jointly organized the Second Annual Meeting of the Western Asia Bat Research Network (WABNet) in Amman, Jordan, from 9th – 11th December 2019. More than 55 local and foreign participants (researchers, laboratory experts and zoonotic disease specialists) from Georgia, Turkey, Pakistan, Iraq, Oman, Saudi Arabia, United Arab Emirates, Azerbaijan and Armenia attended the meeting.

### Regional Workshop on Entrepreneurship for Scientists and Engineers in Member States:

RSS, IPARK and ISESCO organized a Regional Workshop on 'Entrepreneurship for Scientists and Engineers in Member States' from 4th – 5th August 2019. The event had participation from Saudi Arabia, Kuwait, Oman, Egypt, Lebanon and Jordan.

### First National Learning Alliance meeting about Wastewater Reuse in Agriculture:

On 17 July 2019, RSS held the first National Learning Alliance (NLA) meeting for the "Reuse of reclaimed wastewater for agricultural purposes and its contribution to national water security" in Amman. The meeting was attended by a wide range of stakeholders, including: governmental bodies, academia, NGO, international donors and farmers.

### The 2nd Annual Meeting of the Western Asia Bat Research Network (WAB-Net):

The RSS Biosafety and Biosecurity Center and EcoHealth Alliance (EHA) in USA organized the 2nd Annual Meeting of the Western Asia Bat Research Network (WAB-Net) that was held in Amman, Jordan between December 9th and 11th, 2019. The regional workshop brought together more than 55 participants





representing different Western Asian countries (Georgia, Turkey, Pakistan, Iraq, Oman, Saudi Arabia, United Arab Emirates, Azerbaijan and Armenia).

**Other Events:** Other events organized on social issues included:

- Social Entrepreneurship in the MENA Region: Inclusiveness and Growth
- Conference on “Innovative Strategies for Women Empowerment”

Moreover, RSS conducted 41 capacity building courses, attended by 540 trainees, such as Radiation protection; Problem solving; Control charting; Climate Change Sessions /Ford Project; and Validation of Analytical Chemical Methods.

## Development Activity

**Second phase of the EU-funded project “Transfer of Environmentally Sound Technology (TEST)” in cooperation with UNIDO:** The second phase of the EU-funded project “Transfer of Environmentally Sound Technology (TEST)” was launched in collaboration with the United Nations Industrial Development Organization (UNIDO) to develop new growth opportunities for the Jordanian industry.

**The National Monitoring, Reporting and Verification (MRV) System for Greenhouse Gas Emissions and Mitigation of Climate Change:** This

National (MRV) System for Greenhouse Gas Emissions and Mitigation of Climate Change – the first of its kind in the Arab region – developed by the RSS was launched for the Ministry of Environment early in 2019.

### COOL-ME and BUILD-ME Projects:

From September 3 to 9, 2019, RSS held consultative sessions on the implementation of the two regional projects: COOL-ME and BUILD-ME, in cooperation with the consulting company NAVIGANT, Germany. The two projects are funded by the German government represented by the German Ministry of Environment.

## Technical Services

RSS Audit, Risk and Quality Assurance Department provided the following Services during 2019:

- GAP Analysis according to ISO/IEC 17025:2017 for Military Quality Control Labs;
- Building capacity of Demilitarization Centre in the preparation for obtaining certification of ISO 9001:2015;
- Building the capacity of the Military Labs for Quality Control (MLQC) in the management system requirements of the international Standard ISO/IEC 17025:2017;
- Building the capacity of the Food Lab staff of Military Quality Control

Labs in the technical requirements of the international Standard ISO/IEC 17025:2017;

- Assisting 5 selected “IRADA” projects in the preparation for obtaining certification according to ISO 9001:2015;
- Providing Pre-ISO 9001:2008 & 2015 quality services for 13 “IRADA” projects;
- Comprehensive training courses in different quality topics: ISO 9001:2015, ISO17025:2017, Internal Audit, corrective actions, etc.

## Awards and Recognition

- At the IAP Triennial Conference in Seoul, Korea, RSS was elected to the Executive Committee of IAP for Science – a core pillar of The InterAcademy Partnership (IAP), the world’s influential representative body for science academies. RSS was awarded one of just 11 places on the IAP for Science committee, in recognition of its contributions to global science engagement and its support for the activities of IAP, particularly by organising and hosting World Science Forum 2017.
- RSS also currently holds a seat on the executive committee of IAP for Policy, another of the IAP’s three pillars. Earlier in the week, at the IAP for Policy board meeting, a proposal by RSS, for a three-year project to assess the strengths and weaknesses of links between academia and industry around the globe, received unanimous support of the board.

## Tianjin Institute of Industrial Biotechnology (TIB), China

Tianjin Institute of Industrial Biotechnology (TIB), Chinese Academy of Sciences (CAS), is a non-profit national research institute jointly established by CAS and Tianjin Municipal Government in 2012. TIB’s mission is to strengthen its capabilities in innovation and technology-

**Prof. Dr. Yanhe Ma**  
Director General



## **Tianjin Institute of Industrial Biotechnology (TIB), China**

As a prestigious inter-governmental organization, COMSATS plays significant roles in supporting the socio-economic sustainable development for the South. TIB is lucky to join COMSATS' Network as its 22nd International S&T Centres of Excellence in April, 2018. We believe, with the fruitful leadership of COMSATS and joint efforts of the member countries, we will build the express way toward a greener, healthier and more prosperous community with shared future for mankind.



transfer so as to become a global leader for research and development in industrial biotechnology.

In 2019, Tianjin

Institute of Industrial Biotechnology (TIB) celebrated its 7th Anniversary.

### **R&D Activity**

Some research and development activities that took place at TIB during 2019 includes:

- New pathway of chemical APIs' biosynthesis with high efficiency and low cost; a new generation cell factory of protocatechuic acid, which is mainly used in the fields of pharmaceutical synthesis, organic intermediates synthesis, dye synthesis and chemical reagents.

- Efficient biosynthesis technology of rare sugars with a green, efficient, controllable, low-cost biological manufacturing model;
- A green bioprocess technology to produce rare sugars, such as allulose, tagatose and mannose from starch by in-vitro multienzyme molecular machine;
- Biosynthesis pathway in microorganisms by metabolic engineering and synthetic biology;
- the synthetic route of asiatic acid was built for the first time in the world. The microbial cell factories for salidroside, ginsenoside, ginseng saponins were further optimized with the highest fermentation level, significantly reducing costs compared to plant extraction.

### **Capacity-Building Activities**

#### **International Training Course on**

#### **Industrial Synthetic Biotechnology faced to the Belt and Road countries:**

The course was hosted by TIB from October 14 to November 2. Among 21 trainees, 19 were from COMSATS' member countries, including Pakistan, Nigeria, Iran, Kazakhstan, Bangladesh, Turkey, Sri Lanka and Egypt.

#### **Metabolic Engineering Summit (MES**

**2019):** Held from October 20 to October 22, the summit was initiated by the International Metabolic Engineering Society (IMES) and was successfully hosted by TIB. Over 500 experts and scholars in the areas of metabolic engineering and synthetic biology from more than 20 countries attend the summit. These included the United States, Germany, Britain, Japan, South Korea, Singapore and Pakistan.

**Institutional Capacity-Building:** The second meeting of International Scientific







Advisory Board was successfully held with participation by 5 International outstanding scholars including the Nobel Prize owner of 2018 in chemistry, Prof. Frances H. Arnold gave strategic advice on the center. As the strong supporting action, Tianjin government has launched a project with one billion within 5 years to support the R&D, core facilities construction and acquisition of high-level talent for the center. The ¥ 0.2 billion fund for 2019 has been released. The innovation network has been broadened with inclusion of 35 universities or research organizations, such as Tsinghua University, University of Science and Technology of China, Zhejiang University and Nankai University as the coordinative nodes.

Moreover, a COMSATS joint center within the scope of the National Center will be established to provide more resources for student and expert exchange and facilitate joint projects among the COMSATS' member states.

## Collaborations

In 2019, TIB continued close collaborations with COMSATS Centers of excellence and other organizations, which resulted in the following:

- During the 22nd Meeting of COMSATS Coordinating Council hosted by TIB, some TIB researchers discussed potential collaboration with officials from Bangladesh Council of Scientific and Industrial Research, National Research Centre,

Egypt and Industrial Technology Institute, Sri Lanka, on genomics and computational biology, biotech for green textile industry and plant natural products, respectively.

- Under an MoU, a joint research center has been built with ICCBS under Belt and Road Science, Technology and Innovation Cooperation Program of Tianjin municipality. This Centre focuses on basic research such as pharmacological toxicology, pharmacodynamic mechanism and the microbial production of the plant natural products.
- On September 13-14, Prof. Jibin Sun, the Deputy Director-General of TIB visited ICCBS, during which the two sides further strengthened the cooperation tie.
- On September 11, an Agreement was signed with the COMSATS University Islamabad for the possibility of collaboration in personnel exchange, joint research projects, and joint conferences/seminars.
- On September 11, avenues of cooperation were also explored with the University of Medical Sciences of Pakistan, in the fields of biodegradable plastics, herbal medicines and pharmaceuticals.
- On November 25, an Agreement was signed with the Al-Farabi Kazakh National University for the collaboration in Biotechnology, Biology and Computer Science.
- On November 22, the Minister of the Health & Population Welfare Department, Government of Sindh,

Pakistan, visited TIB and showed interest in R&D for manufacturing Biodegradable plastic bags and explored other avenues of collaboration with TIB.

- Besides cooperation with the developing countries, TIB expanded cooperative ties with the developed countries. In 2019, TIB signed a MoU with VIB, Belgium, an advanced life science research organization. Now, the two sides are moving forward with the detailed cooperation in Chassis cell development and application.
- At national level, TIB has established 43 cooperative projects with enterprises, with the contract turnover of 480 million RMB. So far, TIB has established cooperative relationships with more than 170 enterprises from 24 provinces of the nation, with a total contract value of 970 million RMB in various areas such as chemical industry, food, biomedicine, textile, energy. This makes TIB rank in top 10 among the 104 CAS institutes judged on the basis of technology-transfer.

## Sponsorships and Scholarships

- TIB has enrolled 3 students from the developing countries; a master candidate from Pakistan, and 2 PhD candidates from Nigeria and Pakistan. Also, a Postdoctoral student from Pakistan was enrolled.
- A fellowship for the Belt & Road, under the framework of the project granted by Tianjin government, is in operation to help the scientists from the Belt & Road improve their capacity in industrial biotechnology and encourage them to carry on collaborative research work with TIB scientists.

## Awards and Recognition

During the reporting period, TIB got 5 S&T awards at the Provincial and ministerial-level for creation and application of new generation of industrial



**Prof. M. M. Angelo Mtambo**  
Director General



## **Tanzania Industrial Research and Development Organization (TIRDO), Tanzania**

While COMSATS is turning quarter a century old, we at Tanzania Industrial Research and Development Organization (TIRDO), are proud to appreciate the benefits we gained from the network. The COMSATS' network has assisted in bridging knowledge, science and technology gaps in member countries through South-South collaboration. Furthermore, the advocacy role of COMSATS has uplifted science and technology to be widely-applied as a tool for socio-economic development.



### **Some Statistics-2019**

Research Projects	63 (from the MoST, the National Natural Science Foundation of China, CAS and Tianjin government)
Contract Value of Projects	\$44 million
Patents	52 are granted, including 7 PCTs
Publications	148 (including 133 SCI; 10 published in Nature Communications, ACS Catalysis and Angew. Chem.Int.Ed)

strains, the microbial production of L-Alanine and its industrialization, the green manufacturing technology and industrial application of citric acid, the Application of structural biology in the study of enzymes' function and the key technology of biological manufacturing of natural low sodium alginate flavorant.

## **Tanzania Industrial Research and Development Organization (TIRDO), Tanzania**

Tanzania Industrial Research and Development Organization (TIRDO) aims to perform research and development, and provide technical services for industrial processes and products in Tanzania.



### **Collaborations**

**MoU on Agro-Processors:** TIRDO signed a Memorandum of Understanding (MoU) with Tanzania Agricultural Development Bank Ltd (TADB) for cooperation in building technical capacity of farmers' groups and agro-processors. Prof. Mkumbukwa Madundo Angelo Mtambo,

Director General, TIRDO, and Mr. Japhet Justine, Managing Director, TADB, signed the MoU on behalf of their Organizations. Collaborating under the agreement, both sides will ensure the availability of agro-services to farmers' associations, agro-processors and other players in agriculture production. Both sides will also facilitate development of a knowledge database and network with adequate agro-industrial information to facilitate informed decision-making at the policy and implementation levels.

### **Institutional Capacity-Building**

**Coal Laboratory:** TIRDO acquired the unique coal quality assessment equipment backed by a team of competent staff. The equipment allows the undertaking of proximate and ultimate analysis of carbonaceous energy materials like coal. Tests conducted at TIRDO coal laboratories along with applicable

**H.E. Prof. Hasan Mandal**  
President



### **The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey**

Attaining advances in science, technology and innovation is the most prominent asset for bringing countries closer to inclusive development and to provide benefits for economic performance and human welfare. We, as the Scientific and Technology Research Council of Turkey (TÜBİTAK), have focused our recent strategic approach on qualified human resources and knowledge creation while placing greater emphasis on impact. We cherish our membership of COMSATS' Network of International S&T Centres of Excellence that has now brought together 22 research councils, institutes, centres and universities throughout the COMSATS' community for developing effective cooperation with a particular focus on the South.

standards include proximate analysis for Moisture (ASTM D3173), Fixed Carbon (ASTM D5142), Calorific Value (ASTM D5865) and ASH (ASTM D2795). The ultimate analysis tests produce more comprehensive results by determining the elemental composition of the coal including sulfur (ASTM D4239).

The TIRDO coal laboratory's contribution to Tanzania's social economic development is enormous. When the laboratory was established in year 2015, the coal production/ use in the country was 255,884 tons (valued TZS 25,588,400,000). In year 2018, the coal use increased to 913,500 tons, which is equivalent to TZS 91,350,000,000.

TIRDO has now embarked on developing coal utilization technologies. Coal briquettes are being developed for use in households and industries. The special interest is to replace wood-based fuel in household cooking. This takes into consideration that in Tanzania, over 90% of households use forest products (charcoal or firewood) as source of cooking energy. The coal utilization technologies development at TIRDO is also receiving technological support from TÜBİTAK MAM.

### **The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey**

Founded in 1963 an autonomous public institution, The Scientific and Technological Research Council of Turkey (Turkish: Türkiye Bilimsel ve Teknolojik Araştırma Kurumu,



TÜBİTAK) is a national agency of Turkey whose stated goal is to develop science, technology and innovation (STI) policies, support and conduct research and development. TUBITAK became COMSATS Centre of Excellence in 2019

in lieu of its Centre – TÜBİTAK Marmara Research Centre (MAM).

#### **Collaborations**

**Rwanda:** TÜBİTAK-MAM participated in the Defence Industry Cooperation meeting, held in Ankara on 27 February 2019. Rwandan Military Delegation showed interest in Electric Vehicle and Warm Mix Asphalt Additive produced by TÜBİTAK MAM. The possibility of technology-transfer is being evaluated.

**Sudan:** The Undersecretary of the Sudanese Ministry of Higher Education and Scientific Research Prof. Mustafa El Ballah and the Director General of the Africa City of Technology Prof. Osama A. Rayis visited TÜBİTAK







MAM on 18 January 2019. As part of a Memorandum of Understanding that was signed between TÜBİTAK MAM and Sudan, it is envisaged to establish cooperation in the fields needed by Sudan, including agricultural technologies, digital transformation, renewable energy, nanotechnology and software development.

**Saudi Arabia:** TÜBİTAK MAM Energy Institute and Saudi Arabia's King Abdulaziz City for Science and Technology (KACST) signed contracts on "Technology Collaboration Project for Developing a 7-Feeder Power Quality Analyzer – KACST PQ2" and "Technology Collaboration Project for Developing Solar Central Inverter". As per the "Technology Collaboration Project for Developing Solar Central Inverter" that was initiated in April 2019 with the same organization, the technology of the photovoltaic inverter to be developed jointly will be transferred to KACST.

**China:** Jiangsu Industrial Technology Research Institute (JITRI) and Jiangsu Province Department of Science and Technology (JSTD) were hosted by TÜBİTAK MAM on June 16, 2019 at the TÜBİTAK research campus in Gebze, Kocaeli. The meetings aimed to foster scientific and technological cooperation between China and Turkey

in the aftermath of the establishment of the Alliance of International Science Organizations in the Belt and Road Region (ANSO).

**National Institutions:** Cooperation with Turkish institutions included agreements and partnerships with the following;

- Strategic Partnership and Cooperation Protocol with ASPILSAN,
- TCDD Railway Research and Technology Center (DATEM).

### R&D Activities

Institutes at TUBITAK have developed the following solutions over the year 2019.

**National Noise Barrier Systems:** Environmental Noise Management studies

and status analyses have been conducted for Turkish provinces. In connection with this, a meeting was held on 22 March 2019, at the headquarters of the Ministry of Environment and Urban Planning High Technics Board for determining the technical specifications of the components that can be used in designing and application of noise barrier systems.

**Immuno-Affinity Columns (AFLAMAM):** Genetic Engineering and Biotechnology Institute of TÜBİTAK MAM and the Turkish Ministry of Agriculture and Forestry developed "AFLAMAM Immuno-Affinity Columns for Aflatoxin Analyses" from natural resources. The columns were developed in response to the need of the Turkish Ministry of Agriculture and Forestry for mycotoxin analyses.







### Submarine Active Sonar System:

TÜBİTAK MAM's Materials Institute Underwater Acoustic Laboratory (SAL) has successfully manufactured Turkey's first Active Sonar System for submarines (composed of transducers, power and electronic units) for the first time in Turkey. The integration and acceptance procedures of the Sonar System have been completed on two submarines and the systems have been commissioned.

Other developments include:

- Biotechnological drug against cancer developed as a result of a partnership between public R&D and private sectors;
- Biotechnological human antibody drug agent for use in treatment of cancer and eye diseases;
- Recombinant human antibody structures that allow the human-compatible use of two anti-angiogenic recombinant antibodies (kdr1.3 and kdr2.6) for stopping tumor angiogenesis;
- A live bomb detection and contraband imaging system that can detect metal and non-metal dangerous materials hidden on persons from a safe distance;
- Thru-wall radar imaging that can be placed on a mobile system to provide information about the position and movements of a living creature moving behind a wall;
- Warm mix asphalt additive for road applications which allows bituminous blends to be produced at

15-35 °C lower temperatures without compromising asphalt quality.

### Capacity-Building Activities

#### Workshop on Tools and Indicators to Assess Black Sea's Environmental Status:

Within the framework of the ANEMONE Project for Joint Monitoring of the Black Sea, TÜBİTAK MAM organized a Workshop on "Tools and indicators for the integrated assessment of the Black Sea's environmental status", from 19th to 20th June 2019. The workshop attracted participants from Bulgaria, Georgia, Romania, Ukraine, and Russian Federation as well as speakers from international organizations including Black Sea Commission (BSC), the European Commission Joint Research Center (EC JRC), the Hellenic Center for Marine Research (HCMR), and specialists from Spain (AZTI) and Denmark (NIVA).

#### Turkey's Chemical Industry R&D Needs

**Workshop:** A workshop was organized by TÜBİTAK MAM on 13th June 2019 to address the research and innovation needs of Turkish Chemical Industries. It had participation from ministries, R&D and academic institutions, technopark administrations, NGOs and relevant companies.

**Pharmacology Meeting:** A meeting was held at TÜBİTAK MAM to facilitate exchange of foresights on innovations in pharmaceutical sciences and linkages between relevant Turkish stakeholders working in the field. The meeting had

representation from Kocaeli University, Turkish Ministry of Industry and Technology, Kocaeli Chamber of Industry and others.

#### Turkey's Chemical Industry R&D Needs

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#### Workshop on cooperation between TÜBİTAK-MAM and SAHA İstanbul:

A workshop on cooperation between TÜBİTAK-MAM and SAHA İstanbul was held on 17 December 2019. The workshop had the participation of senior officials from Institutes of Chemical Technology, Energy and Materials of TUBITAK MAM apart from officials from the companies of SAHA İstanbul.

#### Midterm Meeting of ERNETMED

**Project:** The 2nd midterm meeting of the ERNETMED Project on the "Use of Photovoltaic Solar Power for Desalination of Seawater and Mineral Production" under the EU Horizon 2020 program was held at TÜBİTAK MAM on 13-15 November 2019. The meeting was attended by twelve researchers from Turkey, Morocco, Algeria, Tunisia, Italy, France and Germany.

### Technical Services

TÜBİTAK MAM's Environment and Cleaner Production Institute launched BS Standard Tests on "Non-metallic" and "Stainless Steel" Products. The standard test for non-metallic products relate to evaluation and reporting of suitability of non-metallic materials and products for use in contact with water intended for human consumption. Another standard test on stainless steel products provides evaluation of the passive behavior of stainless steels.



## 7. INTERNATIONAL VISITS OF SECRETARIAT OFFICIALS

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# INTERNATIONAL VISITS OF SECRETARIAT OFFICIALS

*Officials of COMSATS Secretariat undertake international visits from time-to-time to strengthen and expand the membership of COMSATS and its Network of S&T Centres of Excellence, participate in international meetings and develop partnerships and cooperative mechanisms with relevant institutions in different countries.*



## Ghana

The most prominent activity in this chapter pertains to Ghana, the country currently holding the Chair of COMSATS. Over the calendar year 2019, high level senior officials of COMSATS made a number of high-level interactions in Ghana, predominantly with regard to arrangements regarding COMSATS' 4th General Meeting to be convened and chaired by Honorable Nana Addo Dankwa Akufo-Addo, President of Ghana and incumbent Chairperson of COMSATS. Visits to Ghana were made in January, September and October, to seek the Chairperson's guidance, facilitate relevant decision making and necessary actions from his office.

### January 2019

A delegation led by the Executive Director COMSATS, Dr. S. M. Junaid Zaidi, visited the Republic of Ghana from 7th – 10th January 2019. The main aim of this visit was to seek guidance of the Honorable Nana Addo Dankwa



Akufo-Addo (President of Ghana and incumbent Chairperson of COMSATS) for COMSATS' programmes in his capacity as Co-chair of Sustainable Development Goals (SDGs) Advocates.

The delegation led by Executive Director COMSATS, Dr. S. M. Junaid Zaidi, also comprised Prof. Dr. Ashraf Shaalan, Advisor to the President of National Research Centre (NRC), Egypt, and

Chairperson of COMSATS Coordinating Council; Prof. Dr. Orkun Hasekioglu, Executive Vice President, Scientific and Technological Research Council of Turkey (TÜBİTAK), Turkey; Ambassador (R) Shahid Kamal, Advisor, COMSATS Secretariat; and Mr. Nisar Ahmad, Deputy Director (Systems), COMSATS Secretariat, Islamabad.



## Meeting with the Minister for Environment, Science, Technology and Innovation (MESTI)

On January 8, 2019, COMSATS' delegation called upon H.E. Prof. Dr. Kwabena Frimpong Boateng, Minister for Environment, Science, Technology and Innovation (MESTI) at his office in MESTI, Accra Ghana. The meeting was attended by the Prof. Kwabena Frimpong Boateng Minister – MESTI; Mrs. Patricia Appiagye (MP), Dy. Minister- MESTI; Mr. R. Kwame Nartey (Consulate General for Pakistan in Ghana); Mr. Oliver Boachie (Special Advisor to the Minister) Nominated Focal Person for COMSATS' in MESTI; Mrs. Levina Owusu Chief Director – MESTI; Dr. Agyeman Victor Director General – CSIR and Ms. Ayishetu Adbullah (Assistant Director, Ministry of Foreign Affairs & Regional Integration, Ghana).

The Minister was informed about the agenda of the meeting with the Hon. President of Ghana who is also the Chairperson of COMSATS to be held the next day.

Other matters discussed with the Minister included:

- COMSATS' current and future proposed activities;
- MESTI's participation in COMSATS' programmes;
- Nomination of COMSATS' New Focal Person at MESTI, Mr. Oliver Boachie (Special Advisor to the Minister) was nominated as COMSATS's Focal person for COMSATS at MESTI;
- Participation of CSIR in Coordinating Council;
- Setting up an institution in Ghana.

Amb. Kamal delineated on COMSATS' recent engagements with different bodies under United Nations for strengthening the organization's network to better pursue sustainable development of COMSATS' Member Countries, as well as COMSATS' activities towards Sustainable Development Goals (SDGs).



During the meeting, Dr. Orkun briefed the meeting about the Technology Bank established at TÜBİTAK and COMSATS' recent collaborations with United Nations agencies. He also informed how its resources can be utilized by other organizations/countries.

The Honourable Minister pledged his Ministry's support towards COMSATS' programmes.

## Meeting with the Special Advisor to the President on the Sustainable Development Goals (SDGs)

On January 08, 2019, the COMSATS' delegation met with Dr. Eugene Owusu, Special Advisor to the President on the Sustainable Development Goals (SDGs). The Executive Director informed Dr. Owusu that COMSATS is actively pursuing the UN Sustainable Development Goals and has planned a number of activities in near future. Among other points of discussions, it was emphasized that participation of Ghana in the CCCS initiative dealing with key areas of climate change and sustainable development would be a valuable source of strength for COMSATS.

Dr. Owusu showed keen interest in COMSATS' activities and expressed Ghana's interest in joining CCCS and participate in its future activities. He also assured his support towards COMSATS

for its other scientific programmes.

The matters highlighted during the meeting with Dr. Eugene Owusu focused on interventions made by the Government of Ghana as well as COMSATS' endeavours for realization of United Nations 2030 Global Agenda, apart from discussions on COMSATS' Centre for Climate & Sustainability (CCCS).

## Meeting with the Chairperson COMSATS, His Excellency Nana Akufo-Addo

The meeting with His Excellency Nana Addo Dankwa Akufo-Addo was held on 8th January 2019 at Jubilee House, Accra. Also present during the meeting were the Minister for Environment, Science, Technology and Innovation (MESTI), Ghana; Consulate General for Pakistan in Ghana; and high-level officials from the President's office, Ministry of Foreign Affairs & Regional Integration – Ghana, and Council for Scientific and Industrial Research (CSIR) – Ghana.

To acquaint the Chairperson with COMSATS' recent activities, and projects and programmes, Dr. Zaidi made a presentation highlighting COMSATS' on-going programmes and future aspirations having a bearing on the socio-economic uplift of the developing countries.

In connection with His Excellency's vision

for Ghana's progress and development, Dr. Zaidi offered COMSATS' platform for initiating specific projects in Ghana in accordance with the country's needs and priorities.

The President was briefed on COMSATS' Centre for Climate & Sustainability (CCCS), by Ambassador (R) Shahid Kamal. Mr. Kamal encouraged Ghana's participation in the initiative which currently has the representation of nine member states of COMSATS. Further discussions during the meeting touched upon:

- Prospects of enhancing COMSATS' membership especially to African countries;
- Possibility of setting-up COMSATS University, R&D centres and CCCS in Ghana; and
- Holding of 4th General Meeting of the Commission (details in Chapter 1).

H.E. Akufo-Addo was appreciative of COMSATS' undertakings and achievements and reiterated his commitment towards strengthening scientific cooperation among developing countries.

Dr. Zaidi expressed gratitude to H.E. Akufo-Addo for his recommendations and continued support towards COMSATS' mission.

### Meetings at CSIR Headquarters

On January 9, 2019, COMSATS' delegation attended an interactive session at the Centre of Excellence in Ghana, Council for Scientific and Industrial Research (CSIR). During the session, a comprehensive presentation was made by Director General CSIR about the functions and activities of the Institute and its umbrella R&D organizations.

The interactive session was attended by heads/directors of research institutes under CSIR, including CSIR-ARI (Animal Research Institute); CSIR-BRRI (Building

and Road Research Institute); CSIR-CRI (Crops Research Institute); CSIR-FRI (Food Research Institute); CSIR-FORIG (Forestry Research Institute of Ghana); CSIR-IIR (Institute of Industrial Research); CSIR-INSTI; CSIR-OPRI (Oil Palm Research Institute); CSIR-PGRRI (Plant Genetic Resources Research Institute); CSIR-SRI (Soil Research Institute); CSIR-STEPRI (Science and Technology Policy Research Institute); CSIR-WRI (Water Research Institute); and CSIR-SARI (Savanna Agricultural Research Institute).

The DG-CSIR gave a detailed presentation about the functions and activities of CSIR and its affiliated organizations. The COMSATS' delegation appreciated the R&D activities being carried out at CSIR.

The session was followed by a meeting with Dr. Agyeman Victor, Director General CSIR, at his office where the two sides discussed the following matters:

- Nomination of COMSATS Focal Person at CSIR;
- CSIR's participation in the forthcoming meeting of COMSATS Coordinating Council; and
- prospects of future collaboration

Following the interactive session, the delegation held a brief meeting with DG-CSIR at his office and discussed and

developed clarity on matters relating to: COMSATS-CSIR relationship; follow ups on meeting with the President of Ghana; future collaborations; and participation in the upcoming Coordinating Council Meeting.

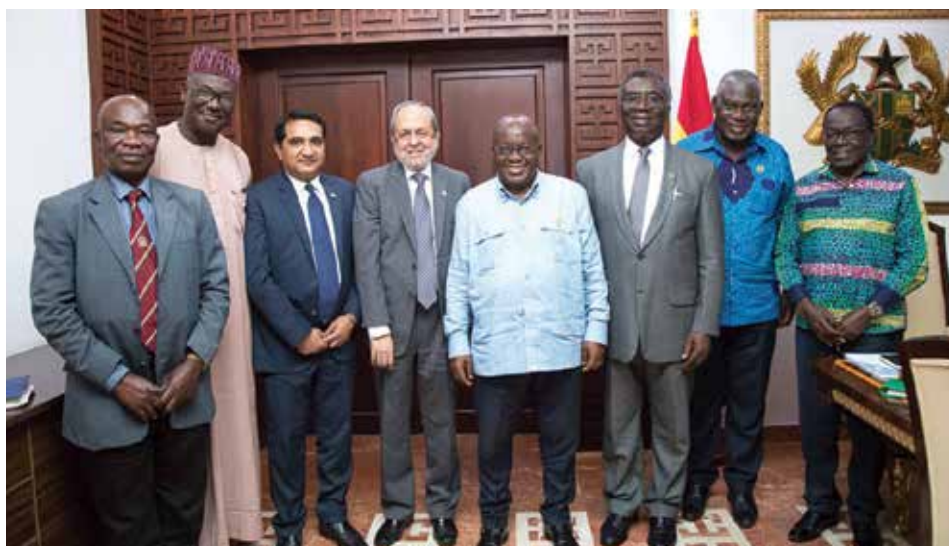
Mr. Surv Daniel Asenso-Gyambibi, Director, Building and Road Research Institute (BRRI) of CSIR was nominated as the new Liaison Officer for COMSATS at CSIR.

### Meeting with Pro-Vice- Chancellor University of Ghana

On the same day, COMSATS' delegation visited the University of Ghana. The premier and largest HEI in Ghana, the University was founded as the University College of the Gold Coast in 1948 for the purpose of providing and promoting university education, learning and research. Prof. S. Kwame Offei, Pro-Vice Chancellor of the University received the delegation. Discussions with the pro-Vice Chancellor included COMSATS' programmes; possible participation in Coordinating Council Meeting; and cooperation in areas of mutual interest.

### September 2019

Later in September, Dr. S. M. Junaid Zaidi visited Accra to make consultations and



seek guidance from the Chairperson and other Ghanaian Government officials, with regard to organizational matters of 4th General Meeting and Accra Forum.

The meeting with the Chairperson was also attended by the H.E. Kwabena Frimpong Boateng, Minister – Ministry of Science, Technology and Innovation (MESTI); Dr. Eugene Owusu, Special Advisor to the President on the SDGs; Mr. R. Kwame Nartey, Hon. Consul General for Pakistan in Ghana; Mr. Kwabena O-Appiah, Director Middle East and Asia, Ministry of Foreign Affairs & Regional Integration, Ghana; Mr. Oliver Boachie, Special Advisor to the Minister-MESTI; Ms. Scholastica Nyarko, Assistant Director, Ministry of Foreign Affairs & Regional Integration, Ghana; Mr. Fawaz Aliu, Executive Assistant, Office of the President; and other senior officials.

The Executive Director informed the Chairperson of COMSATS' activities since the January meeting, especially with regard to the General Meeting and Accra Forum, and the efforts being made to enhance the Membership of the Commission.

The Executive Director delineated on the concept of Accra Forum that had developed since the last meeting. It was noted that the forum can provide a

platform to coordinate efforts towards establishment of high-tech specialized International centers in cutting edge technologies, including artificial intelligence and Robotics, Biotechnology, Genetic Engineering, Genomics, Bio-Medical Materials, Industrial Bio-Technology, Pharmaceuticals, Advanced Chemicals, Precision Engineering, Nanotechnology, Climate Change, Nano Bio Technology, Medical Electronics, Cyber Security, etc. These centers, it was noted, could lead to the creation of job opportunities, thus helping in poverty alleviation.

The Chairperson was receptive of the propositions. He expressed his desire to establish a high-quality research Centre for Artificial Intelligence and to install a Super Computer at Council for Scientific and Industrial Research (CSIR), Ghana.

Further dynamics and format of the General Meeting and Accra Forum were also discussed. The budget and other administrative arrangements for the meetings were also discussed. Dr. Zaidi presented relevant documents for further action including the draft invitation letters of Chairperson COMSATS to be sent to Commission Members, detailed Checklists, etc.

The Executive Director thanked the Chairperson and expressed hope that the role and impact of COMSATS and its financial position will further improve under the leadership of the President of Ghana.

## October-November 2019

A two-member delegation of COMSATS, comprising Mr. Nisar Ahmad, Deputy Director (Systems) and Mr. Farhan Ansari, Sr. Assistant Director (Programmes), visited Accra, Ghana, in connection with preparations for the 4th General Meeting of COMSATS and Accra Forum on Science and Technology for Sustainable Development.

During the visit, the delegation held meetings with the Ghanaian officials, including Dr. Eugene Owusu, Special Advisor to the President of Ghana on SDGs; Mr. Oliver Boachie, Special Advisor to the Minister, Ministry of Environment, Science, Technology and Innovation (MESTI); Ms. Adelaide Asante, Ag. Director STI, MESTI; Mr. R. KWAME Nartey, Hon. Consular-General Ghana of Pakistan in Accra; Prof. Dr. Victor Kwame Agyeman, Director General, Council for Scientific and Industrial Research; Mr. Kwabena Appiah, Director – Middle East and Asia, Ministry of Foreign Affairs &







Regional Integration, Ghana; and Mr. Cletus, Office of the President on SDGs.

Various aspects related to the organization of the afore-mentioned events were discussed during the meeting. These included inaugural and technical programme, status of participation, protocol and logistic arrangements, publicity, etc. In this connection, the delegation also took part in the meeting of the Sub-Committee of Planning constituted by MESTI for organizing the events.

Availing the opportunity, the delegation also held a meeting with Maj. Gen. (R) Waqar Ahmed Kingravi, High Commissioner of Pakistan in Nigeria (concurrently accredited to Ghana) and briefed him about the status of preparation for the afore-mentioned meetings.

Moreover, on special invitation from Dr. Eugene Owusu, Special Advisor to the President of Ghana on the SDGs, COMSATS' delegation participated in the launch of Global Sustainable Development Report 2019, entitled "The Future is Now: Science for Achieving Sustainable Development" held on 31st October 2019, at the United Nations Information Centre, Accra, Ghana.

## Sri Lanka

During the reporting period, two visits Sri Lanka were undertaken. The February visit especially focused on sensitization and strengthening cooperation with Sri Lanka institutions, including COMSATS' Focal Point, the Ministry of Science, Technology and Research (MoSTR), and Centre of Excellence in the country, Industrial Technology Institute (ITI), while the December visit also included participation in ITI's biennial congress, among other activities.

### February 2019

Dr. S. M. Junaid Zaidi, Executive Director COMSATS, accompanied by Mr. Farhan Ansari, Sr. Assistant Director (Programmes), paid a visit to Sri Lanka from 24th to 26th February 2019. The purpose of the visit was to enhance bilateral scientific cooperation and explore avenues for future cooperation in areas of mutual interest.

A meeting with His Excellency Sujeewa Senasinghe, Federal Minister for MoSTR was held on 25th February 2019. Also present during the meeting were Mr. Chinthaka Lokuhetti and Ms. Himali Athaudage, Secretary and Director (International), respectively, of MoSTR. Chairman, Acting Director General, and

Additional Director General (R&D) of Industrial Technology Institute (ITI), Sri Lanka, also attended the meeting. The Minister was appreciative of COMSATS' programmes and expressed keen interest in establishing working relations with the Organization. Dr. Zaidi endorsed the Minister's proposal for the establishment of Science and Technology University in Sri Lanka and affirmed COMSATS' support towards this project. Both sides also agreed to establish working groups for overseeing the matters related to student-exchange and scholarships offered by Pakistani government to Sri Lankan students.

The meeting at MoSTR was followed by a meeting at ITI where possibilities were explored for increasing the participation of ITI in COMSATS' scientific programmes. The meeting was held with Mr. Amal Dias, Chairman, ITI, in presence of senior officials of the Institute. During the meeting, COMSATS' officials were informed of ITI's collaborations with other COMSATS' Centres of Excellence. Dr. Zaidi extended COMSATS' support for upgrading ITI's laboratories and facilitating the collaboration between the Institute and Welcome Laboratories, UK. A visit to research facilities of ITI presented to COMSATS' delegation the potential that the Institute offers for cooperation.

Also during the visit, a meeting was held with Pakistani High Commissioner in Colombo, H.E. Maj. Gen. (R) Shahid Hashmat. During the meeting, his support was sought for facilitating cooperation between COMSATS and Sri Lanka.

On 26th February 2019, Dr. Zaidi visited Sri Lanka Institute of Nanotechnology (SLINTEC), where he met Mr. Harin de Silva Wijeyeratne, CEO and Dr. Vinita Thandani, Research Scientist, SLINTEC. Possibilities were explored for initiating trilateral projects in medicine involving SLINTEC and two of COMSATS' Centres of Excellence in Pakistan, CUI and ICCBS.



## December 2019

Visiting Sri Lanka for participation in ITI's biennial Research Symposium held in Colombo, COMSATS' delegation held important sideline meetings.

On 18th December 2019, the Executive Director COMSATS, Dr. S. M. Junaid Zaidi, held a meeting with Hon. Thilanga Sumathipala, State Minister of Technology & Innovation, at his office. Mr. Tanvir Ahmad, Acting High Commissioner of Pakistan in Colombo; Mr. Chinthaka S. Lokuhetti, Secretary at the Sri Lankan Ministry of Technology and Innovation; Dr. Radhika Samarasekera, Director General, ITI; Dr. Ilmi Hewajulige, Additional Director General ITI; and Mr. Farhan Ansari, Sr. Assistant Director (Programmes) at COMSATS Secretariat, were also present during the meeting. During the meeting, the Executive Director informed the participants of the meeting about collaboration between COMSATS and Sri Lanka, and the former's various projects including COMSATS University Islamabad. He hoped for due participation of Sri Lankan institutions in the upcoming meetings of COMSATS' organs; the Commission; the Consultative Committee, and the Coordinating Council.

The State Minister appreciated the programmes and activities of COMSATS as well as its contributions towards socio-economic development of the member countries. The matter of ITI's upgradation to make it a top-notch research centre in the developing world was also discussed.

Speaking during the meeting, the Pakistani High Commissioner highlighted the ongoing collaboration taking place between the governments of Pakistan and Sri Lanka, including scholarships, expert-exchange, technology transfer, etc. He assured his full support for facilitating collaborations between COMSATS and the government of Sri Lanka.

## China

Engagements in China pertained to the 22nd Coordinating Council Meeting hosted by one of COMSATS' Centres of Excellence in China, the Tianjin Institute of Industrial Biotechnology (April 2019) and sideline meetings, as well as participation in joint capacity-building event (July 2019).

## April 2019

On the sidelines of the 22nd Meeting of COMSATS Coordinating Council (Chapter 1), a delegation of COMSATS Secretariat and COMSATS University







Islamabad (CUI) visited the Tianjin University of Science and Technology (TUST) and Embassy of Pakistan in Beijing, China.

The senior officials and faculty of TUST received briefing about COMSATS' programmes and activities as well as proposed initiating faculty/ student exchange between TUST and COMSATS Centres of Excellence. Reciprocally, Prof. Zhang Aihua, Vice Chairman, TUST, gave an overview of the academic and research activities being undertaken by the University and its umbrella departments. The University, he added, is well-known for the research in food sciences, biotechnology and chemical engineering and is conducting 80 innovative projects at the national level. Besides, it was informed that a thousand foreign, including eleven Pakistani students are studying at the University.

Prof. Aihua was appreciative of COMSATS' sustainable developmental activities and encouraged COMSATS and CUI to benefit from the opportunities available under Belt and Road Initiative (BRI). During the meeting, both sides pledged to further cooperation with potential support under BRI.

On 19th April 2019, the delegates met with H.E. Mr. Masood Khalid, Ambassador

of Pakistan to China, to seek Embassy's support towards COMSATS' collaborative activities with China especially those under BRI. The Ambassador was appreciative of COMSATS' ongoing collaboration with its Centres of Excellence in China, i.e., International Centre for Climate and Environment Sciences (ICCES) and Tianjin Institute of Industrial Biotechnology (TIB).

Further, H.E. Mr. Khalid encouraged COMSATS University Islamabad (CUI) to join the Consortium of CPEC universities in order to fully benefit from the initiative.

### July 2019

A two-member delegation of COMSATS comprising of Mr. Tajammul Hussain,

Advisor (Programmes), and Gen (R) Muhammad Tahir, Advisor (China Desk), visited People's Republic of China from 14th – 18th July 2019. The purpose of the visit was to participate in two international scientific events on atmospheric aerosol and climate change, organized by ICCES, China (Details on Page 9), as well as to reinforce ongoing collaboration with COMSATS' focal point and Centres of Excellence in China.

On the sidelines of the symposium, COMSATS' officials held a meeting with the senior officials of the Bureau of International Cooperation – Chinese Academy of Sciences (CAS), and the International Centre for Climate and Environment Sciences (ICCES), China, on 17th July 2019.

Present during the meeting were Mr. Yan Zhuang, Director, Division of International Organizations, Bureau of International Cooperation, CAS; Prof. Zhaohui Lin, and Ms. Scarlett Hao, Secretary of International Collaboration, ICCES, China. The two sides discussed bilateral international programmes tailored to meet the scientific needs of COMSATS' member states.

It was informed that a Technology Park has been set up by CAS in COMSATS' host country, Pakistan, in collaboration with the Chinese Ministry of Science and Technology (MoST). Furthermore, the possibility of replication of ChinaPakistan







Earth Science Center (ESC) in other member states of COMSATS was also discussed.

The matter of COMSATS' membership to the Alliance of International Science Organizations in Belt and Road Region (ANSO) was also touched upon during the meeting (Chapter 3).

In order to enhance cooperation in academics, it was proposed that COMSATS University Islamabad (CUI) may collaborate with the University of Chinese Academy of Sciences (UCAS) and University of Science and Technology of China (USTC) for short-term visits, mutual exchanges and various collaborative programmes.

COMSATS' member states and Centres of Excellence were encouraged to avail the various opportunities available under CAS President's International Fellowship Initiative (PIFI) and ANSO fellowship and scholarship program.

## Colombia

A delegation of COMSATS Secretariat, led by Ambassador (R) Fauzia Nasreen, Advisor (SDGs), visited Bogota, Colombia, from 1st to 6th September 2019. The delegation comprised of Ms. Huma Balouch (Senior Assistant Director Programmes) and Mr. Laeeq Hassan

Jaswal (Manager Strategic Partnerships). Former Chairperson COMSATS Coordinating Council, Dr. Eduardo Posada who is the director of COMSATS Centre is Excellence in Colombia, International Centre of Physics (CIF), accompanied the delegation for most of their engagements within Colombia.

On 2nd September 2019, a meeting was held with Ms. Maria Piedad Villaveces, Executive Director of Colombian Association for the Advancement of Science (CAAS). Ms. Villaveces showed great interest in replicating COMSATS University Islamabad (CUI) model in Colombia.

Later during the day, the delegation visited Colombian Academy of EXACT, Physical and Natural Sciences, where they met with the Academy's President, Dr. Enrique Ferero. The meeting resulted in identification of following areas for bilateral cooperation: telehealth, climate education and curricula development. Dr. Ferero also offered his support for setting-up of COMSATS' Regional Office in Bogota.

COMSATS' officials also visited Focal Point in Colombia, COLCIENCIAS. Here, opportunities of furthering the collaboration were explored in a meeting with Ms. Sonia Esperanza Monroy and other members of COLCIENCIAS' international office. It was communicated that in view of the Colombia's development plan (2018-2022), the country is attaching great importance to STI for national development. As a result, the COLCIENCIAS, the highest level scientific forum, is being upgraded to Ministry (to be renamed as MINCIENCIAS).

Later, a visit was made to National University of Colombia, where the delegates had discussions on matters of mutual interest with Dr. Luz Teresa Gomez (Vice Rector of Research) and Prof. Melba Libua Cardenas (Director of Office of External Affairs).





## Tunisia

A two-member delegation of COMSATS visited Tunisia in connection with the International Workshop on “Agriculture, Food Security and Biotechnology: Role of ICTs”, held from 4th to 6th November 2019. The delegation comprised of Mr. Tajammul Hussain, Advisor Programmes, and Mr. Babar Sultan, Protocol Officer.

On the sidelines of the event, the delegation held important meetings at COMSATS’ Centre of Excellence in Tunisia, Water Researches and Technologies Centre of Borj-Cedria (CERTE), University of Monastir, and the Embassy of Pakistan in Tunisia.

On 4th November 2019, Prof. Hédi Bel Hadj Salah, President of the University of Monastir, was briefed about COMSATS, as well as the benefits that the University of Monastir could avail by being a part of COMSATS’ Network of International S&T Centres of Excellence. Prof. Salah was invited to visit COMSATS Secretariat, COMSATS University Islamabad (CUI) as well as other renowned universities/institutions of Pakistan and other COMSATS’ member states in order to explore opportunities of cooperation in the areas of mutual interest. Prof. Salah was appreciative of COMSATS’ programmes and activities and took keen interest in student-exchange, faculty development and joint research programmes of COMSATS.

On 5th November 2019, the delegates met H.E. Mr. Muhammad Hassan, Ambassador of Pakistan, in his office. Pleased to learn about COMSATS’ activities, His Excellency highlighted some key areas, including ICTs, Biotechnology, Nanotechnology, and Artificial Intelligence, in which Tunisia and other member countries of COMSATS could further collaborate. He also proposed jointly establishing a technology park in Tunisia.

Later during the day, COMSATS’ officials visited CERTE and met with its Director General, Prof. Ahmed Ghrabi. During the meeting, Prof. Ghrabi made a presentation highlighting the structure, activities, achievements, research projects, international collaboration as well as current activities and future programmes of CERTE.

Discussions with Prof. Ghrabi touched upon creating a Network of institutions working in the field of water resources; joint capacity-building events with other members of COMSATS’ Network; and Tunisia availing scholarships offered by other COMSATS’ Centres of Excellence.

An Agreement of Cooperation was proposed between COMSATS and CERTE for reciprocal exchange of students and researchers among COMSATS’ member states



## 8. SPECIAL ASSIGNMENTS

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## SPECIAL ASSIGNMENTS

*For the benefit of its Member States, COMSATS undertakes special assignments, such as conducting scientific studies, undertaking pilot projects, or implementing educational programmes. Other than CUI, two COMSATS flagship projects, COMSATS Internet Services and COMSATS Telehealth continue their operations and are being overseen by COMSATS Secretariat. The administration related to graduate students from Member States studying at CUI is also a special assignment of the Secretariat. Some of these foreign students after thorough evaluation were engaged to facilitate in COMSATS' operations.*



### COMSATS Telehealth (CTH)

In 2019, telehealth trends show its acceptability worldwide especially in the developed world. More investments are being made in this area and new tools, devices and methodologies are being adopted to provide healthcare to the patients remotely either at their homes or at health facilities based near their homes. Pioneer in Telehealth in the region, COMSATS remains aware about emerging trends in telehealth.

COMSATS Telehealth remained committed to transforming healthcare, specifically by enhancing access to care and making it work better through Telemedicine. COMSATS Telehealth has successfully managed to sustain the Telehealth service by utilizing its own resources with providing benefits to a large number of patients, especially women.

### Access to Care

Focusing predominantly on primary care, CTH provided medical opinions and checkups to patients in five rural Telehealth clinics. The new addition to the list of rural Telehealth Clinics are BHU Pind Sawika in Jhelum District and one established by Baluchistan Research and Development Foundation (BRDF)/Dr Najma Ghaffar Hospital (DNGH) at Jhal

Magsi under an MoU signed in 2018.

Around 3,000 patient consulted doctors through COMSATS Telemedicine in the year 2019. Three clinics in Quetta, Gawadar and Jhelum are currently serving all female Outpatient Teleconsultation needs through female physicians at Telehealth Centre in CIS Islamabad, while in other two clinics at Gokina and Jhal Magsi both male and female patients





benefitted from the service. Owing to the success of the Tele-ultrasound facility of CTH, the service has become an important tool of healthcare for maternal and child health. More than 50 percent of all the Teleconsultations in the year 2019 were Tele-ultrasounds.

### Inauguration of New Centres

- H.E. Mr. Fawad Chaudhry, Federal Minister for Science and Technology, Government of Pakistan, inaugurated CTH services at Basic Health Unit (BHU), Pind Sawika, District Jhelum, on 26th August 2019. This clinic is the thirteenth of the CTH network clinics and 16th such initiative on the whole. Pind Sawika is a town in Jhelum District of Punjab, Pakistan. The clinic intends to benefit the residents of Pind Sawika and nearby

communities located at the right bank of the Bunhar River and at starting of Tilla Jogian mountain range. Speaking on the occasion, Mr. Chaudhry appreciated CTH and the role of COMSATS in development of Information Technology and its useful applications in the country.

- Later, on August 30, Mr. Chaudhry inaugurated the Telehealth clinic at

**“This is the start of a revolution in health that will unfold in coming days”.**

**(Fawad Chaudhary Federal Minister for Science and Technology, Pakistan on inauguration of new Telehealth clinic)**

the other rural site in BHU, Pind Sawika of District Jhelum. Chief Executive Officer (District Health Authority) and District Health Officer of Jhelum District along with other prominent figures of the area were also present during the inauguration.

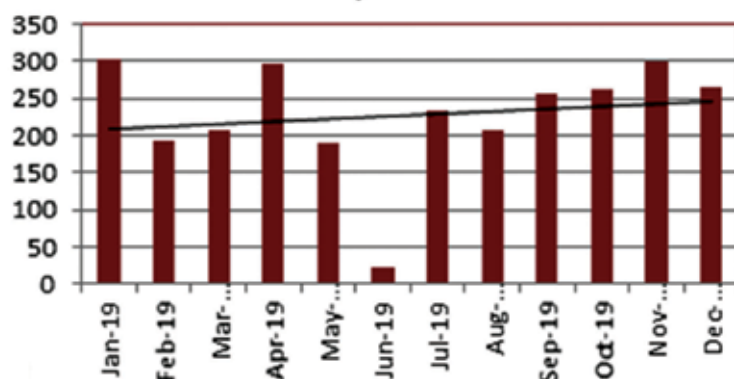
### Learning and Professional Development

Capacity-building of the telehealth staff and general awareness raising activities are the regular feature of CTH.

- Under the Memorandum of Understanding signed in November 2018, COMSATS and Pakistan Allergy, Asthma and Immunology Society (PAAIS) conducted an online training in the basic knowledge of diagnosis and treatment of allergic diseases. Through these training, COMSATS and PAAIS utilized the Telehealth Platform of COMSATS with the objectives of creating awareness on eHealth and its importance in capacity building and skill development, training of medical professionals about diagnosis and treatment of allergic conditions.

The training comprised of series of five sessions that started on 17th January 2019. Participants from a total of 13 Telehealth clinics, including COMSATS' BHU Telehealth clinics in Gawadar, Quetta, Mardan, Mansehra, Sawabi and Gokina; Dr Najma Ghaffar Hospital Telehealth clinics in Quetta and Jhal Magsi and the Health Centres of Human Development Foundation in Mardan, Islamabad, Zhob and Tando Adam Khan connected online through COMSATS Telehealth platform for the online workshop. During the session Dr Shahid, President PAAIS presented information on the allergy, its causes and an overview about the topics to be covered in upcoming sessions for upgrading the participants' abilities in allergy cases.

**Number of patients**



- Dr Azeema Fareed, Principal Medical Officer and CTH focal person at COMSATS Secretariat, participated as an invited speaker in the “National Stakeholder Workshop on Developing a National Digital Health Strategy”, held from 26th – 27th September 2019, in Islamabad. She shared the practical aspects of operating an on-ground Telehealth setup and the issues and challenges faced that need to be kept in mind while devising a strategy. The workshop was successful in integrating national efforts to take the digital health agenda forward as well as developing a plan for a national digital health strategy guided by WHO/ITU tool-kit for developing national e-health strategy. The workshop was first of the series to be held by the World Health Organization (WHO) in collaboration with the Ministry of National Health Services, Regulation and Coordination (NHRC), Government of Pakistan.
- With a purpose of creating awareness and interest in telehealth to address the dearth of relevant HR, CTH also hosted two study tours of the MS Health informatics students from the COMSATS University Islamabad. Groups of more than 10 students visited the Telehealth Centre in May and November 2019. The students were briefed about Telehealth and how it is carried out at CTH centre.

## Health Camp

Telehealth is providing benefit to the community as much and innovatively as possible. Therefore, at the end of the year, COMSATS organized an online medical camp in collaboration with Fauji Fertilizer Company (FFC) and Global Institute for Healthcare Quality (GIHQ) in Ahmadpur Lumma, a town near Rahim Yar Khan District of Pakistan.

The medical camp was organized as part of COMSATS’ Silver Jubilee celebrations, on 9th and 10th December, 2019. A population of around 19,000 located around the Sona Centre (Ahmadpur Lumma) where the camp was set-up mostly comprises of farmer community. With only one Government-run Rural Health Centre constituting the sole medical facilities in the area, the town was an excellent candidate for such an intervention.

The two-day camp served around two hundred patients from the area seeking medical attention for variety of ailments, including respiratory infections, skin problems, joint pains, hypertension and diabetes. The doctors at CTH Centre in Islamabad were linked with the patients to FFC’s Sona Centre set up at Ahmadpur Lumma. A large number of women and children turned up to benefit from the camp, a number of which also suffered from nutritional deficiencies.

The camp not only provided medical care to the patients but also helped in creating awareness about Telemedicine and its benefits to the medical community and health sector professionals in the area. Having benefitted from the camp, the locals of Ahmadpur Lumma looked forward to more telemedicine interventions.

Types of cases presented in the medical camp	
Illness	Percentages
Nutritional deficiency	40%
Worm infestation	2%
Derma Cases	5%
Urological Cases	4%
Chronic Liver Diseases	2%
Respiratory Problems	18%
Gynae & Obs Cases	3%
Hypertension Issues	10%
Diabetes Mellitus	8%
Constipation	3%
Arthritis	5%

## Visitors

All year round, COMSATS Telehealth Centre at CIS receives a number of visits interested in witnessing the Telehealth operations. They are generally from the partner organizations, potential partners including Government officials, NGOs, international organizations etc. This year’s visitors’ list includes Fawad Chaudhary, Federal Minister for Science and Technology; DG Health, KPK province; Senior manager, Rural Support Program Balochistan, officials from Ministry of National Health Services and Regulations and Director Health services, KPK Province.

## COMSATS Internet Services (CIS)

COMSATS Internet Services (CIS) is the pioneer Internet Service Provider (ISP) of Pakistan established in 1996. It







offers diversified services like Wireless broadband, Domain & web hosting, On-demand broadband, Data Center Services, Video conferencing, Website designing and development, Search Engine Optimization, Virtual Private Servers, Networking, IT training and internet related research facilities. CIS is a self-sustaining organization which generates its revenues for future development, expansion of programs and other operational expenditures.

CIS is currently operating in 19 cities and has customers belonging to prominent organizations in public and private sectors, well-known national and international companies and firms, software and business companies, foreign missions, consulates and embassies, non-governmental organizations, universities,

social development and research organizations.

Since inception, CIS is recognized as one of the top rated ISPs in Pakistan. CIS' affairs are managed by a Board of Management (BoM) headed by Dr. S.M. Junaid Zaidi, Executive Director COMSATS. The managerial team is currently working under the guidance of Mr. Nasir Jamal Khan, Chief Operating Officer.

### CIS Core and Value-added Services

**CIS Core Services:** CIS has nine core services known as 'The Colors of CIS'. This includes Tornado® (Wireless broadband), Hawaii™ (Domain, hosting, and VPS) and COMSpeed™ (Optical Fiber Connectivity). CIS' value added services include

Hurricane™ (On-demand broadband), Prism™ (Website development), Viacon™ (Video conferencing), COM meeting™ (web Conferencing Service) and COMSATS Innovation, IOT. CIS ComClinic™ is a brand name, under which CIS delivers Telehealth service to the people living in underdeveloped and far flung areas of Pakistan. All these processes and procedures are ISO9001:2008 certified.

**Data Centers:** CIS has well-equipped data centers in Islamabad, Lahore, Faisalabad & Karachi that offers variety of services, including Virtual Private Servers, Domain Registration, Website Hosting, Co-location of Server's and Rack's space to customers. Hosting services on both Windows and Linux platforms are offered. CIS has expanded its IT & Data Center infrastructure with state-of-the-art technologies at CIS Technology Park building, Islamabad, to capture emerging opportunities in the data center services space for CIS' existing and potential customers.

**Software Department:** CIS has developed/maintained websites for many prominent organizations including Pakistan army, Pakistan navy, Nova Technologies, Universal Service Fund, as well as developed many useful software applications in Java and .Net that can be used by customers in the billing system, helpdesk system and purchasing management system.



## COMSATS Innovation (IOT Department)

CIS is designing essential needs in the technology of ICT to combat needs and Innovations, Upgrading of conventional technologies with the prospect of futuristic optimization for development and inventions based on “SMART”. CIS IOT turns Renewable Energy into SMART concepts by introducing and continuously improving “One Click” theme. The IOT team develops Net Metering solutions with real-time reports. Other R&D at CIS is looking into the following IoT applications:

- Soil Moisture Detection for Agriculture and Horticulture;
- Surveillance System development.

## ComClinic

Activities during the calendar year under this head are covered in the earlier part of this chapter.

## Capacity Building

**Trainings:** Comtrain® is a technical training service of CIS, under which technical trainings have been imparted to more than 2000 IT professionals and students over the last twenty-three years. These training courses include conferences CCNA, CCNP, Microsoft Office, Linux Administration, Window TM Administration, ONO recording Hardware, ITIL TM V3 Foundation, PMP TM, Web Development, Java Development and .Net Development.

**Bandwidth Growth:** CIS’ bandwidth grew from 3.5 GBPS in 2018 to more than 5 GBPS in 2019.

**New Nodes:** CIS has recently expanded its operations with establishment of two new nodes were launched in Bahawalpur & Abbottabad, and several new PoPs in the coverage areas to provide quality services without interruption.

## Events

During 2019, CIS participated in the following events in various capacities.

- OPF Carnival and Education Expo 2019 on January 19, 2019;
- Marketing Activities at Safa Gold Mall from March 22-24, 2019;
- One day marketing activity at Islamabad Medical and Dental College, Bara Kahu Islamabad on April 9, 2019;
- International Student Convention and Expo 2019 at Lahore on April 17-19, 2019;
- Pak China Business Forum Industrial Expo in September 2-4, 2019 at Expo Center, Lahore;
- Workshop on Final Project Report of IoT based solutions for WSSCM and its implementation plan on November 19, 2019;
- Seventeenth International Conference on Frontiers of Information Technology” on 16-18 December 2019.

## COMSATS Science Diplomacy

COMSATS has been engaged in advocacy of Science at all levels through its different organs, activities of COMSATS Secretariat as well as other number of means. COMSATS Science Diplomacy programme was formally institutionalized in 2015 after an MoU with The World

Academy of Sciences (TWAS). COMSATS Science Diplomacy aims to address the needs of scientists, diplomats, journalists and policy-makers to build peace among nations using scientific knowledge and principles for allowing informed decision making.

While COMSATS’ all major operations and activities pertain to Science Diplomacy, some specific activities during the reporting period are as follows.

## Cooperation with Pakistan’s Foreign Office’s Science Diplomacy Wing

Under a cooperative arrangement recently forged between COMSATS and the Science Diplomacy wing of the Pakistani Ministry of Foreign Affairs, the two organizations are planning to co-organize a Science Exhibition in collaboration with relevant partners and institutions in Pakistan, including the Higher Education Institution of Pakistan and COMSATS University Islamabad. The event, to be held in Islamabad in the near future, would gather universities, entrepreneurs, industry, R&D institutions and organizations working in a number of fields to exhibit their R&D strengths, products, services, patents and inventions.

With an overarching theme of SDGs, participation is expected in a number of fields, including health, higher education, agriculture, water, energy, food security,





and environment. With the diplomatic community and government functionaries as the major target audience, the event would serve as an interface between them, academia and R&D institutions to help understand the latter's potential in development process, as well as open avenues for possible collaboration and commercialization opportunities.

### Seminar on Science Diplomacy

COMSATS in collaboration with the OIC Ministerial Standing Committee on Scientific and Technological Cooperation (COMSTECH), Science Diplomacy Division of the Ministry of Foreign Affairs (MoFA), and Pakistan Academy of Sciences (PAS), organized a Seminar on Science Diplomacy at COMSTECH Secretariat Islamabad, on 27th November 2019.

The event was inaugurated by Dr. Tariq Banuri, Coordinator General of COMSTECH and featured addresses by representatives of the Pakistan Academy of Sciences, Division of Arms Control and Disarmament Division II (ACDIS-II) & Science Diplomacy of Pakistani Ministry of Foreign Affairs (MoFA), Higher Education Commission, ECO Science Foundation (ECOSF), COMSTECH and the Ministry of Climate Change, Government of Pakistan.

Speaking on the occasion, Ambassador (R)

Fouzia Nasreen, Advisor SDGs, noted that over the years, COMSATS has remained cognizant of the soft aspect of cooperation through Science Diplomacy. She opined that Science Diplomacy framework has significant stake in combating challenges posed by the fourth industrial revolution. She highlighted that various initiatives of COMSATS and considered the organization devoted to developing more nuanced collaboration among its member states in the field of emerging technologies. The Seminar attracted members of the diplomatic community, civil society, public and private sector organizations, think tanks and academia.

### Participation in 3rd Meeting of the FPCCI Bioeconomy Committee held on 27 July 2019

Dr. S. M. Junaid Zaidi, Executive Director COMSATS, participated in 3rd Meeting of the Federation of Pakistan Chambers of Commerce and Industry's Bioeconomy Committee held in Islamabad on 27 July 2019. Speaking at the meeting, Dr. Zaidi focused on how linkages between universities and industry/business community can spur green economic growth. He opined that cutting edge technology was needed for enhancing the potential of the private sector which the business community was best placed to acquire. Commercialization of research done in silos at various forums can only be achieved if the industry was inclined

towards identifying the areas of research which would enhance their industrial capabilities. This guided activity was essential for high dividends both for the business community and academia.

Speaking on the occasion, Ambassador Fauzia Nasreen expressed that there was an inextricable nexus between energy, environment, food security and health and the Committee members desired to deal with them in a holistic manner. It would be appropriate in her view to constitute sub-groups in these areas who could analyze various dimensions and make recommendations for the Committee's consideration. This would enable the Committee to select specific areas where potential existed for the researchers, and business community with strong positive impact on the social sector.

### Talk on "Air Pollution in Pakistan" in Commemoration of the Earth Day 2019 (22nd April 2019)

COMSATS, in collaboration with the American Institute of Pakistan Studies (AIPS) and the Centre for Climate Research & Development (CCRD) of CUI, organized a consultative dialogue on "Air Pollution in Pakistan" to observe the Earth Day 2019. The main highlight of the event was the talk on "Air Pollution in Pakistan: Current Scenario and the Way Forward" by Prof. Dr. Gabriel Filippeli, Director of Center for Urban Health, Department





of Earth Sciences at Indiana University-Purdue University Indianapolis (IUPUI). Mr. Hassan Nasir Jamy, Secretary, Ministry of Climate Change, Government of Pakistan, gave a keynote address on the occasion.

In the talk on 'Air Pollution in Pakistan', Prof. Dr. Gabriel Filippeli appreciated the interest of the government and other stakeholders of Pakistan towards addressing the issue of climate change. He stated that air quality varies globally from continent to continent and so are associated challenges. He enumerated the negative effects of bad air as: susceptibility to respiratory diseases, reduction in brain cognitive functions, and reduction in the life span of an individual. He also elucidated the association of particle matter (PM) 2.5 and PM 10 with the diseases of upper and lower respiratory tract. In addition to funding, Prof. Filippeli considered adequate scientific knowledge and expert programmes mandatory for tackling the problem of air pollution.

In connection to the strategic and policy interventions that could be taken to remedy the situation of air pollution in Pakistan, Dr. Filippeli indicated the following important: Improvement in fuel standards with lesser sulfur content; phasing out mal practices resulting in poor air quality incrementally; and incorporation of RETs in the energy mix as a cleaner option that would ameliorate the environment greatly.



Dr. Anjum Rasheed, Assistant Professor at Centre for Climate Research & Development (CCRD), COMSATS University Islamabad, Director General Pak-EPA, Ms. Farzana Altaf Shah, and Mr. Nadeem Akbar, Director of American Institute of Pakistan Studies, also participated in the meeting.

### Talk on South-South Cooperation Day and Bilateral cooperation between Pakistani and Chinese Institutions

On 12th September 2019, Prof. Jibin Sun delivered a talk at COMSATS Secretariat in connection with the United Nations South-South Cooperation Day. During the talk, he underscored the importance of SouthSouth Cooperation for achieving excellence in science, technology and innovation.

His talk also highlighted ways in which three-dimensional R&D organization model is facilitating TIB's mission of achieving biotechnological innovation system for the promotion of eco-friendly development of industrial sectors. Further, he introduced means through which Industrial Biotechnology could help achieve United Nations Sustainable Development Goals, in particular 1, 2, 3, 7, 9, 11, 13 and 17.

During his visit, Prof. Jibin also met with H.E. Mr. Chaudhry Fawad Hussain,

Federal Minister for Science and Technology, Government of Pakistan, and explored the possibilities of bilateral cooperation between TIB and academic institutes in Pakistan, establishment of R&D laboratories through joint collaboration as well as training of scientific and technical human resource.

### Talk on Denmark's Green Transition and Sustainable Practices

With a view to learn best practices from the North for creating green economies, a talk on "Denmark's Role in the Promotion of Global Climate Sustainability Solutions" was arranged by COMSATS and the Institute of Peace and Diplomatic Studies (IPD) at COMSATS Secretariat, Islamabad, on 25th September 2019. Delivered by H.E. Mr. Rolf M. Hay Pereira Holmboe, Ambassador of Denmark to Pakistan, the



talk attracted members of the diplomatic community, academicians, students as well as stakeholders from public and private sector organizations.

In his talk, Mr. Holmboe shared best practices and sustainable solutions that have aided Denmark's transition towards green economy. He stated that the Government of Denmark has resolved to reduce carbon dioxide emissions and eliminate the use of fossil fuels in automobiles before 2030. In accordance

with this, Denmark is investing heavily in R&D for finding sustainable solutions to climate change driven challenges. He also noted 50 percent increased growth in Denmark's economy since 1990 coupled with proportional decrease in carbon dioxide emissions in the country. The Ambassador enumerated four aspects he deemed imperative for green transition, i.e., energy, water, resources, and cities. In this connection, Mr. Holmboe informed that Denmark is leveraging the potential of renewable energy sources since 1970s when it became the first country in the world to install wind turbines.

The Ambassador considered sustainable production and consumption, waste-to-energy conversion, and effective management of resources important for a country to gain economic competitiveness. Mr. Holmboe expressed Denmark's willingness to assist Pakistan in adopting sustainable practices in various sectors, in particular, energy and waste management.

### Scholarships and Sponsorships

During the last Council meeting, a few Centres of Excellence had offered postgraduate scholarships/postdoctoral fellowships to the students/researchers belonging to COMSATS' Member States. In this connection, the COMSATS

University Islamabad (CUI), Pakistan, has a long standing offer of 100 postgraduate scholarships. Recently, CUI has reviewed the term and conditions for the aforementioned scholarships providing complete fee waiver, which has made it more convenient for the qualifying candidates. Twelve 12 students are availing these scholarships and are enrolled in MS and PhD programmes. Moreover, CUI (Lahore Campus), in collaboration with the International Centre for Theoretical Physics (ICTP), Italy, has offered five (05) additional post-graduate scholarships (Masters of Science in Mathematics) to the students belonging to COMSATS' member countries. In this regard, four nominations have been received from Nigeria and Tanzania.

The Al-Farabi Kazakh National University (KazNU), Kazakhstan, had offered 05 postgraduate scholarships for COMSATS Member States. A student from Pakistan is availing this opportunity, while two more candidates belonging to Syria and Iran have been accepted during the reporting period.

The Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh, had offered one (01) postdoctoral fellowship, which has been availed by a researcher belonging to Nigeria.

The National Research Centre (NRC), Egypt, had offered 05 short-term (1-2 months) postdoctoral fellowships. ICCBS-Pakistan has also offered five (05) scholarships per year to the member states.

Moreover, sponsorships amounting to US\$ 31500 for a number of different activities were given to beneficiaries from China, Ghana, Iran, Jamaica, Kazakhstan, Palestine, Pakistan, Nigeria, Sri Lanka, and Sudan. A glimpse at the same is given in the table on the next page.

### Foreign Interns

Started in 2017, the Foreign Interns programme of COMSATS concluded at the end of the calendar year 2019. PhD students from Cameroon, Ethiopia, Nepal, and Nigeria had been engaged for a number of activities aiding COMSATS Secretariat operations during this time. These activities included drafting proposals in areas of sustainable socio-economic development of the South; developing ideas for various workshops and seminars, and facilitation in event organization; report writing and research; writing, review and editing services for COMSATS' publications.

The last batch of these interns was bid farewell on 31st December 2019.



Beneficiaries	Facilitated for Activity
Dr. Xiaoling Wang, China Dr. D.D.G.L Dahanayaka, Sri Lanka	Sixth International Conference on Aerospace Science and Engineering (ICASE), November 12-14, Pakistan
Hafiz Abdur Rehman, Library In-charge (CUI), Pakistan	Establishment of "Al-Farabi Corner" at the Junaid Zaidi Library, COMSATS University Islamabad (CUI), November 10-14, Kazakhstan
Mrs. H.R.W.M. Dhakshilap Niyangoda, Sri Lanka	7th International Symposium-Cum-Training Course on Molecular Medicine and Drug Research (MMDR-7), November 4- 7, Pakistan
Ms. Seitimova Gulnaz, Kazakhstan	7th International Symposium-Cum-Training Course on Molecular Medicine and Drug Research (MMDR-7), November 4- 7, Pakistan
Ms. Deepani Upeka Rajawardhana, Sri Lanka Ms. Negin Fallah Haghighi Seighalani, Iran Mr. Zayadan Bolatkhan Kazykhanuly, Kazakhstan	5th International Conference on 'Agriculture, Food Security, and Biotechnology', November 4- 6, Tunisia
Prof. Dr. Alexandra Rodkina, Jamaica	2nd International Conference on Applied and Engineering Mathematics-2019 (ICEAM-19), August 27-29, Pakistan
Eng. Liang Jing, China	3rd International Workshop on Ion Beam Application and Defects in Nanomaterials, August 05-07, 2019, Pakistan
Hassaan Fayyaz Khan Sipra, COMSATS University Islamabad, Pakistan	2nd Summer School on "Geo-engineering the Climate: Impacts and the Developing World, August 12-16, China
Hassaan Fayyaz Khan Sipra, Centre for Climate Research and Development, COMSATS University Islamabad, Pakistan	18th CTWF International Symposium on Aerosol and Climate Change: Observations, Modeling & Interactions" (July 15-17, 2019) and International Training Workshop on "Atmospheric Aerosol: Observation, Modeling and Impact" (July 18-20, 2019), July 15-20, China
Dr. Seyed Hossein Mir mousavi, The university of Zanjan, Iran	
Dr. Stephen Adu-Bredu, CSIR, Ghana	
Jawad Shoqeir, AL-Quds University, Palestine	
Dr. Adekunle Abiodun Emmanuel, Nigeria	06-month Postdoctoral Fellowship at BCSIR, January to June, Bangladesh
Prof. Dr. Jamshed Iqbal, CUI, Abbottabad Campus, Pakistan	18th Symposium on Purine and Pyrimidine Metabolism in Man, June 12-14, France
Naveed Satti, Pakistan	Conference for media researchers and parliamentarians for capacity-building of the media persons, April 30, Turkey
Prof. Ming Zhang, Peking University, China	"4th TYAN International Thematic Workshop and 1st African Symposium on "Big Data, Analytics and Machine Intelligence for Financial, Health and Environmental Inclusion in Developing Countries" , June 3-7, Nigeria
Qaiser Nawab, CUI, Pakistan	Global forum on Political Parties and Good Governance, May 10-12, China
Dr. Farida Tahir, Associate Professor, COMSATS University, Pakistan	2nd Regional Conference on Women in Physics, March 27-29, Nepal
Jia Jia, China	Workshop on 'Water Resources: Expected Crisis and Strategies of Predominance', March 11-12, Egypt
Ainur Mussina, Kazakhstan	
Withanage Dona Kushani Mahatantila, Sri Lanka	
Jiping Wang, China	
Gloria Imoh Bassey Obioh, Nigeria	
Siham Yagoub Ahmed Erwa, Sudan	
Toqeer Ahmed, Pakistan	
Prof. Dr. Abilov Zharylkassyn, Kazakhstan	Pak-Kazak Joint Laboratory for Innovation in Natural Products Research and Development, 4-Mar, Pakistan
Prof. Dr. Sultanova Nurgul, Kazakhstan	



## Thoughts shared by Outgoing Foreign Interns

### Prem Thapamagar (Nepal)



Chinese Academy of Sciences “Belt and Road” Master Research Fellow at University of Science and Technology of China (USTC) and graduate in Accounting and Finance under CUI Scholarship Program (prem.here01@outlook.com)

My enrollment in COMSATS' Foreign Interns program had been a significant learning experience for me. I worked there as an intern for two and half years while I was still an undergraduate student at COMSATS University Islamabad. I was the youngest and with the least academic qualification amongst the interns. But that also meant I had more room to grow and more to gain from this experience. From editing, proofreading articles to drafting reports on S&T activities; and from studying the financial reports of COMSATS to analyzing the funding mechanisms of global funding agencies, I learnt a lot under the mentorship of professionals at COMSATS. This position also gave me opportunities to learn about south to south cooperation, triangular cooperation, SDGs, United Nations Framework, and many more activities/ organizations related to sustainable development, which are sure to help me in my research and career ahead.

I would like to use this opportunity to express my gratitude to Dr. S.M. Junaid Zaidi, Executive Director COMSATS, for initiating this internship project and to other COMSATS officials, especially to Mr. Amanullah Khattak, Ambassador (R) Fauzia Nasreen and Ms. Farhana Saleem for their guidance and support during the period.

### Dr. Leonel Javeres Mbah Ntepe (Cameroon)



Medical Doctor and PhD Scholar  
Biochemistry and Molecular Biology,  
COMSATS University Islamabad (CUI),  
Pakistan (mbahjl@yahoo.fr)

I won the COMSATS University Islamabad-The World Academy of Science (CUI-TWAS) PhD Research Fellowship for 3 years 2017-2020. I did my research at neuro-toxicology and environmental Lab, my research was focused on Occupational Health, Geno-toxicology of Organophosphorus compounds and Neurological diseases in Pakistani and Cameroonian populations. We were able to achieve good research results with excellent findings under the supervision of Dr. Syed M. Nurulain. CUI is a world-class University that provided me the enabling environment, equipment and all the required materials to conduct my research.

I also served as an International intern at the Commission for Science and Technology for Sustainable Development in the South (COMSATS) Secretariat, Islamabad, Pakistan. My experience as an intern has allowed me to develop a particular interest in areas such as telemedicine, international relations and cooperation, human resources management and business communication. This opportunity was very rewarding for me and unforgettable experience for my career profile.

I thank all the COMSATS' officials, in particular the Executive Director, for this wonderful experience.

### Haris Ja'far Bello (Nigeria)



Assistant Research Fellow at National  
Mathematical Centre (NMC), Abuja,  
Nigeria (harisjb@nmc.edu.ng)

I am currently doing PhD in Biochemistry and Molecular Biology in the Department of Biosciences, COMSATS University Islamabad (CUI) under the supervision of Dr. Syed Tahir Abbas Shah. My overall experience at COMSATS University and headquarters (as an intern) is all about happiness, good news and inspiration. So many things are worth acknowledging about CUI, COMSATS and Pakistan at large. During my stay at COMSATS Secretariat, I have learned and experienced so many new things. I am proud to have been associated with this great and esteemed institution.

## **Anya Augustine Igwebuike (Nigeria)**



PhD Scholar of Mathematics at COMSATS University Islamabad (CUI), Pakistan (anyaagustineigwebuike@gmail.com)

In the academic session, 2016/2017, I won an award of PhD fellowship in Mathematics via CUI-TWAS scholarship programme to advance the course of my higher education in the area of Mathematics at COMSATS University Islamabad. My stay at COMSATS encompasses great and lots of academic and non-academic activities. The academic activities were saddled with coursework, comprehensive exam and intense research in the field of solid mechanics, particularly in wave propagation in micropolar fibre reinforced media. Sequel to this, I was able to get published four research articles in international refereed journals with good impact factors in this field of Solid Mechanics.

Furthermore, I also had the privilege to work as an intern at COMSATS Secretariat, Islamabad. During the course of the internship, I was involved in facilitating communications between COMSATS and some aspiring member countries. This exposed me to gain some experiences in international relations and administrative skills. In addition, I equally worked with the COMSATS media unit; rapportuering during seminars, sourcing and drafting of some ST&D section news articles for Newsletters. Through this COMSATS media unit, I also published a non-math article titled "Democracy: a blessing turned tsunami" in Pakistan Observer, on April 26, 2018.

In spite of this, my involvement with COMSATS Secretariat was such an awesome one. It enabled me to be among one of the speakers at "COMSATS Seminar marking first UN's International Day for Multilateralism and Diplomacy for Peace" in April 2019, where I spoke on the "Role of the youth for sustainable goals."

Above all, I must say, the whole activities with COMSATS was a positive change that groomed me into becoming a great result oriented personality, especially towards my future endeavors as a mathematician.

## **Kewani Welay Brhane (Ethiopia)**



Lecturer at Department of Mathematics, Mekelle University, Ethiopia (brhane@aims.edu.gh)

I came to Pakistan to study PhD in Mathematics under The World Academy of Sciences (TWAS) and COMSATS University Islamabad (CUI) full-time postgraduate fellowship in 2017. COMSATS University Islamabad (CUI) is among the best Universities in Pakistan founded to meet the vision of COMSATS. My research is in the area of mathematical modeling and simulation for industrial process under the supervision of a prominent professor in the stated area of research.

During my internship at COMSATS Secretariat, I have worked with different people with different experiences who came from different parts of the world. This helped me a lot to improve my communication and team work experiences. Moreover, it was during my stay in this wonderful organization that I have learnt a lot about the Sustainable Development Goals (SDGs) and the different ways of achieving these SDGs. Furthermore, I have obtained a lot of experience on how to develop mutual relations between organizations and beyond. In general, my stay at COMSATS gave me an immense experience on international organizations and their operations.

Finally, I would like to thank all the officials of the COMSATS Secretariat for their cooperation during my stay.

## 9. PUBLICATIONS AND INFORMATION DISSEMINATION

• COMSATS Newsletter	96
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# Publications and Information Dissemination

*Information dissemination through publications is an important means of outreach for COMSATS, which is done through a bimonthly Newsletter, COMSATS' official website and other publications, apart from other promotional material. From time to time, COMSATS also collaborates with different institutions to bring out joint publications. Dissemination of important information through electronic and social media aides this activity throughout the year.*

## COMSATS Newsletter

COMSATS Newsletter is a regular publication that keeps stakeholders abreast of COMSATS' activities and aspirations. During 2019, the 11th Volume of COMSATS Newsletter was successfully completed and 5 issues of the 10th volume were brought out, thus completing 65 issues of this important information dissemination tool.

Apart from the standard sections covering the activities of COMSATS Secretariat and Centres of Excellence, following reports were covered as 'Special Section': 22nd Meeting of the Coordinating Council; COMSATS-TWAS-TUBITAK International Workshop on 'Learning about Sustainability, SDGs and Global Challenges'; and COMSATS-ISESCO-INIT-TWAS/TYAN International Conference on 'Agriculture, Food Security, and Biotechnology: Role of ICTs'.

In the different issues of volume 11, comprehensive reports of the following events were covered under the section 'Highlights from COMSATS Secretariat': CTH-PIAAS tele-health e-trainings; COMSATS-NRC Workshop on 'Water Resources: Expected Crises and Strategies of Predomination'; Seminar on 'The Role of Youth in the Implementation of the SDGs'; Seminar on 'Second Belt and Road Forum: Achievements and Prospects'; 18th CTWF International Symposium on 'Aerosol and Climate Change: Observations, Modeling & Interactions'; International Training Workshop on 'Atmospheric Aerosol: Observation, Modelling and Impact'; Seminar on 'Pakistan China Industrial Cooperation'; International Young Diplomats School (IYDS); and Seminar on Science



### Diplomacy.

Opinion Articles included in these issues highlighted various aspects of S&T-related development and touched on important themes of interest to the stakeholders of COMSATS. Broad themes of these articles were tele-health, bio-economy, science diplomacy and S&T for development. These articles were:

- Special Economic Zones: Socio-economic Impact on Pakistan by Amb. Fauzia Nasreen;
- Digital Health – An Overview of COMSATS Member States by Dr. Azeema Fareed;
- COMSATS and Promotion of Bio-economy by Amb. Fauzia Nasreen;
- COMSATS' Experience of Science Diplomacy by Amb. Fauzia Nasreen.

The Science Diplomacy aspect of the information covered in the newsletter majorly comes from the two sections on Science, Technology and Development, and S&T and Development news from

member states. The first aims to project important scientific and technological advancements that have potential to ameliorate the development process, especially in the countries of the South. The second one tries to highlight similar S&T and R&D potential in member states, especially in development sector.

The Newsletter is widely distributed to all the member countries, COMSATS' Centres of Excellence and other related organizations. Present and past issues of COMSATS Newsletter are available for viewing and downloading at the following URL: [http://comsats.org/?page\\_id=150](http://comsats.org/?page_id=150).

## COMSATS Work on Sustainable Development Goals (October 2019)

COMSATS' undertakings and collaborations are reflective of organization's firm resolve and commitment towards its mission achieving sustainable development in the South. A major part of such operations pertain to





capacity-building events organized to create awareness, promote networking and knowledge sharing, provide solutions and recommendations for meeting sustainability related challenges, all in some way related to the 2030 Development Agenda.

A dossier overviewing COMSATS' programmes and activities addressing various goals and targets of SDGs, was brought out during the reporting period. The publication specifically catalogued events and activities in accordance with the United Nations Sustainable Development Goals (SDGs) and their respective targets. The booklet is available online at the following URL: [http://comsats.org/wp-content/uploads/2020/02/COMSATS-Work-on-SDGs\\_Booklet\\_October2019.pdf](http://comsats.org/wp-content/uploads/2020/02/COMSATS-Work-on-SDGs_Booklet_October2019.pdf)

### Science Diplomacy Booklet (December 2019)

A publication on COMSATS' efforts for Science Diplomacy Programme

was released in December 2019. The publication highlighted efforts of COMSATS at various levels for the advocacy of science for prosperity, human and socio-economic development among its Member States. The booklet was distributed among the members of the diplomatic community as well as representatives of international and national scientific institutions on the occasion of COMSATS Silver Jubilee celebrations at President House, Pakistan.

### South-South and Triangular Cooperation: COMSATS' Experience (February 2019)

During the reporting period, a publication titled "South-South and Triangular Cooperation – COMSATS' Experience" was compiled highlighting COMSATS' profile on South-South and Triangular cooperation over the span of organization's existence.

Along with an overview of the organization's structure supporting South-

South Cooperation, the report focused on COMSATS' efforts for strengthening cooperation within the South through various means and mechanisms such as institution-building, policy and advocacy, promoting joint research, and facilitating academic and scientific programmes. COMSATS' collaborations and partnerships to this end as well as future aspirations were also one of the features of this publication.

The publication is available online at COMSATS' website on the following URL: [http://comsats.org/wp-content/uploads/2019/02/South\\_South\\_Triangular\\_Cooperation\\_Feb\\_2019.pdf](http://comsats.org/wp-content/uploads/2019/02/South_South_Triangular_Cooperation_Feb_2019.pdf)

### Tele-health Flyer

An information leaflet on COMSATS Telehealth Programme, one of the flagship projects of COMSATS, was released in 2019. The publication delineated the goals and aspirations of the Programme along with outlining the achievements since the launch of the Programme in 2001. The



electronic version of the flyer is available at the given URL: [http://comsats.org/wp-content/uploads/2020/02/TeleHealth\\_Flyer.pdf](http://comsats.org/wp-content/uploads/2020/02/TeleHealth_Flyer.pdf)

### Summary of COMSATS Activities (1994-2019)

A handbook on 'Summary of COMSATS Activities (1994 – 2019)' was brought out as a special publication in connection with COMSATS forthcoming statutory bodies' meetings. The publication was a graphical representation of COMSATS' programmes focusing on capacity-building events, scientific exchanges and scholarships availed. All the twenty-seven (27) Member States of COMSATS are covered in this document with a homogenous format presenting the statistics and data relating to various programmes.

### COMSATS Centre for Climate and Sustainability - Brochure

COMSATS Centre for Climate & Sustainability (CCCS) was launched in August 2018 as a platform to promote coordination, advocacy, and regional and international collaboration in the area

of climate change and environmental sciences. During the reporting period, an information hand-out was produced that entailed the rationale, goals, scope and aspirations of CCCS. The electronic version of the flyer is available on the given URL: [http://comsats.org/wp-content/uploads/2019/07/Flyer\\_CCCS.pdf](http://comsats.org/wp-content/uploads/2019/07/Flyer_CCCS.pdf).

### Accra Forum Flyer

In connection with COMSATS forthcoming Accra Forum on S&T for Sustainable Development, a publication summarizing the objectives, purpose, impact and outcomes of the said Forum was brought out.

### Profiles of COMSATS' Network of International S&T Centres of Excellence (January 2019)

COMSATS' Centres of Excellence are a major source of technical and human resources for COMSATS' programmes. In order to provide ready information on the background, scope, history, human resources and expertise available in the Network, as well as to encourage important relevant collaborations, a

document has been developed bearing brief profiles of the network of COMSATS' Centres of Excellence. These profiles provide a quick overview of expertise available, sought as well as the existing portfolios of these institutions.

All twenty-two (22) centres have been included in this document with a uniform format. The document can be accessed at the following URL: [http://comsats.org/Publications/Profile\\_of\\_COEs\\_January\\_2019.pdf](http://comsats.org/Publications/Profile_of_COEs_January_2019.pdf).

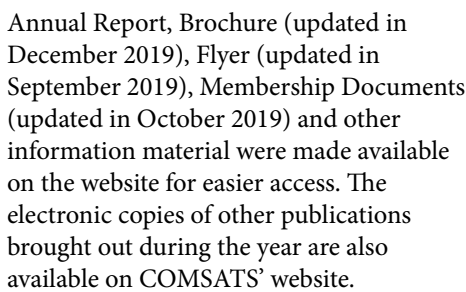
### Print, Electronic and Social Media

As per practice, the official website of COMSATS was kept updated with information on various undertakings and related aspects of the organization. The information made available on the website included: announcements, news and reports of all major happenings of the organization; new and updated information material; and updated contact information of members of major organs of COMSATS.

The PDF versions of all the publications of COMSATS including the Newsletters,







As part of its advocacy of science and



relevant issues, COMSATS engages with the local print media by means of important messages and information on the organization. Three major events of this sort had the participation of COMSATS: 70th Anniversary of People's Republic of China (October 01), World Science Day (November 10) and 144th birth Anniversary of Quaid-e-Azam (December 25). Advertisements and relevant articles in these issues helped

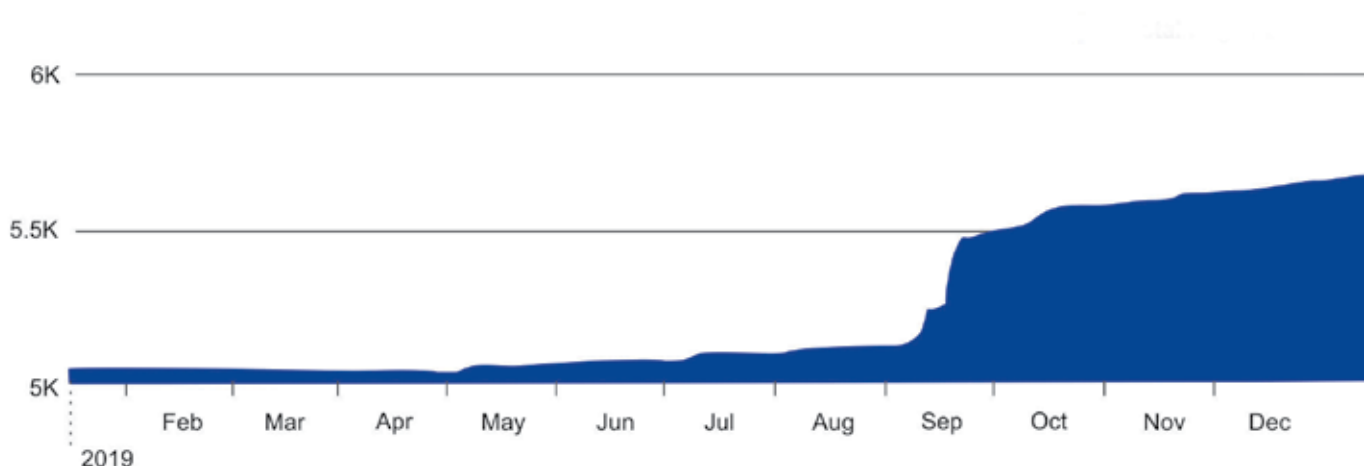
create awareness on the event themes as well as on the mandate and scope of the organization.

A special supplement was also issued on 25th Anniversary of COMSATS highlighting organization's major achievements, scientific programmes in the developing region as well as international outreach.

COMSATS also published over 20 articles in local journals featuring its various projects and initiatives and highlighting the impact and implications of development-related issues in the Global South. Furthermore, around 10 special articles were published in newspapers as part of COMSATS Silver Jubilee celebrations. The purpose of such articles was to mark COMSATS' achievements over the years in various scientific spheres and development paradigm.

COMSATS also effectively utilized social media platforms to connect to wider audience, engage with various state and non-state actors as well as to increase

**Graph representing the growth of followers on COMSATS' official Facebook Page (Jan-Dec 2019)**



the visibility of COMSATS' operations at various levels. Apart from keeping the stakeholders abreast of day-to-day undertakings, COMSATS' official **Twitter ([twitter.com/COMSATS\\_en](https://twitter.com/COMSATS_en)) and Facebook pages (<https://www.facebook.com/COMSATSoofficial/>)** highlighted recent developments, scientific

breakthroughs, success stories and best practices for achieving sustainability by all means. These social media handles were also soundly employed to broadcast information about various scholarships and sponsorships programmes available with COMSATS Network and elsewhere for the countries of the South.

During the calendar year 2019, the number of followers on COMSATS' Twitter and Facebook pages increased by 23 and 10 percent, respectively. Additionally, modalities are being worked out to launch the official Instagram page of the Organization in the upcoming year.



## 10. FINANCIAL AFFAIRS

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# Financial Affairs

*The major source of financing operations of COMSATS Secretariat is annual contribution of the Government of Pakistan towards running cost of COMSATS Secretariat. The other member states of COMSATS pay Annual Membership Contribution (AMC) towards COMSATS on voluntary basis. The AMC received from member states is kept as 'Trust Money' and is spent on activities related to the respective country. In order to have a regular source of financing technical programmes, COMSATS Secretariat created an Endowment Fund of US\$ 10.00 million in the 2nd General Meeting of COMSATS, held on 16-17 April 2012 in Islamabad, Pakistan.*

## Host Country (Pakistan) Contribution

Since establishment of COMSATS in 1994, the Government of Pakistan, being the host country, is meeting the running costs of COMSATS Secretariat under the International Agreement signed at the time of inception. In addition, the Government of Pakistan is also paying Annual Membership Contribution (AMC) towards COMSATS on regular basis since the financial year 2013-14. During the financial year 2019, the Government of Pakistan paid Rs. 40.00 million towards running costs of COMSATS Secretariat and US\$ 20,000/- as Annual Membership Contribution (AMC).

## Annual Membership Contribution (AMC)

The Annual Membership Contribution (AMC) received from the member states of COMSATS on voluntary basis is kept as "Trust Money" and utilized to support technical activities and programmes of the contributing country. During the reporting period, COMSATS received Annual Membership Contributions (AMC) from five (05) member states as shown in the table.

## COMSATS Endowment Fund

In order to strengthen the financial health of COMSATS and to have a regular source of income for technical activities of COMSATS, an endowment fund of worth US\$ 10.00 million was created during the 2nd General Meeting of COMSATS held on 16-17 April 2012 in Islamabad,

Country Name	Contribution for the period (s)	Amount (US\$)
China	2019-20	50,540
Jamaica	2017-18, 2018-19 & 2019-20	60,000
Nigeria	2017-18 & 2018-19	40,000
Pakistan	2018-19	20,000
Sri Lanka	2018-19	20,000
<b>Total</b>		<b>190,540</b>

Pakistan, by the then Prime Minister of Islamic Republic of Pakistan, in his capacity as the Chairperson of COMSATS. During this meeting, the Government of Pakistan pledged seed money of US\$ 1.00 million (Rs. 100 million) as its contribution towards the fund and representatives of other member states also made pledges to contribute towards the Fund.

The Government of Pakistan has contributed Rs. 10.00 million towards the fund against its total commitment of Rs. 100 million (US\$ 1.00 million).

The contributions received so far have been invested in the National Bank of Pakistan and total current worth of the fund is Rs. 15.016 million, as on June 30, 2019.

## Accounts and Audit

The accounts of COMSATS Secretariat are managed and maintained as per international practices and in compliance with the International Accounting & Financial Standards. The financial year of

COMSATS Secretariat begins on 1st July and ends on 30th June of the succeeding year. The accounts of COMSATS Secretariat are audited by a reputed chartered accountancy firm every year. The audited accounts, along with the auditors' report, are submitted to COMSATS Management Committee for endorsement and the Coordinating Council for approval.

The auditors' report for the financial year ended on June 30, 2018, approved by the Coordinating Council of COMSATS in its 22nd meeting held on 16-17 April 2019, in Tianjin, China, is included in this chapter.

The accounts for the financial year that ended on June 30, 2019, have been audited by M/s HLB IJAZ TABUSSUM & Co., Chartered Accountants. The auditors' report and audited financial statements for the year 2019 will be submitted to the Coordinating Council of COMSATS for approval in its forthcoming meeting scheduled to be held on 2-4 March 2020, in Karachi, Pakistan.



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Chartered Accountants

## **INDEPENDENT AUDITOR'S REPORT TO THE MANAGEMENT COMMITTEE**

### **Opinion**

We have audited the financial statements of COMSATS Secretariat here-in-after referred as ("the Secretariat"), which comprise of the balance sheet as at June 30, 2018, the income and expenditure account, cash flow statement and the statement of changes in funds for the year then ended, and notes to the financial statements, including summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the balance sheet of the Secretariat as at June 30, 2018 and the income and expenditure account and its cash flows for the year then ended in accordance with the Revised Accounting and Financial Reporting Standards for SSEs issued by Institute of Chartered Accountants of Pakistan (ICAP) in 2015 and Accounting Standards for Not for Profit Organizations (NPOs) issued by ICAP.

### **Basis for Opinion**

We conducted our audit in accordance with the International Standards on Auditing (ISAs) as applicable in Pakistan. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Secretariat in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for professional Accountants as adopted by the Institute of Chartered Accountants of Pakistan (the code), and we have fulfilled our other ethical responsibilities in accordance with the code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### **Responsibilities of Management and Those charged with Governance for the Financial Statements**

The Management Committee is responsible for the preparation and fair presentation of the financial statements in accordance with Revised Accounting and Financial Reporting Standards for SSEs issued by Institute of Chartered Accountants of Pakistan (ICAP) in 2015 and Accounting Standards for Not for Profit Organizations (NPOs) issued by ICAP, and for such internal control as the Management Committee determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, Management Committee is responsible for assessing the Secretariat's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Secretariat or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Secretariat financial reporting process.

### **Auditor's Responsibilities for the Audit of the Financial Statements**

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in

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accordance with ISAs as applicable in Pakistan will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs as applicable in Pakistan, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Secretariat's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of managements' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Secretariat's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Secretariat to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Date: 4-10-2019  
Islamabad

**HLB IJAZ TABUSSUM & CO.**  
Chartered Accountants  
Engagement Partner:  
Ijaz Akber – FCA



## LIST OF FOCAL POINTS IN COMSATS' MEMBER STATES

### **Hon. Architect Yafesh Osman**

Minister  
Ministry of Science and Technology  
People's Republic of Bangladesh

### **H.E. Mr. Wang Zhigang**

Minister  
Ministry of Science and Technology  
People's Republic of China

### **H.E. Dr. Mabel Gisela Torres**

Minister  
Ministry of Science, Technology and Innovation  
Republic of Colombia

### **Prof. Dr. Mahmoud M. Sakr**

President  
The Academy of Scientific Research and Technology  
Arab Republic of Egypt

### **H.E. Dr. Badara Joof**

Minister  
Ministry of Higher Education, Research, Science and Technology  
Republic of The Gambia

### **H.E. Prof. Dr. Kwabena Frimpong Boateng**

Minister  
Ministry of Environment, Science, Technology and Innovation  
Republic of Ghana

### **H.E. Dr Mansour Gholami**

Minister  
Ministry of Science, Research and Technology  
Islamic Republic of Iran

### **Hon. Fayval Williams**

Minister  
Ministry of Science, Energy and Technology  
Jamaica, West Indies

### **Hon. Dr. Fawaz Elkarmi**

Acting Secretary General  
Higher Council for Science and Technology (HCST)  
Hashemite Kingdom of Jordan

### **H.E. Mr. Askhat Aymagambetov**

Minister  
Ministry of Education and Science  
Republic of Kazakhstan

### **Hon. Mr. Jang Chol**

President  
State Academy of Sciences  
Democratic People's Republic of Korea

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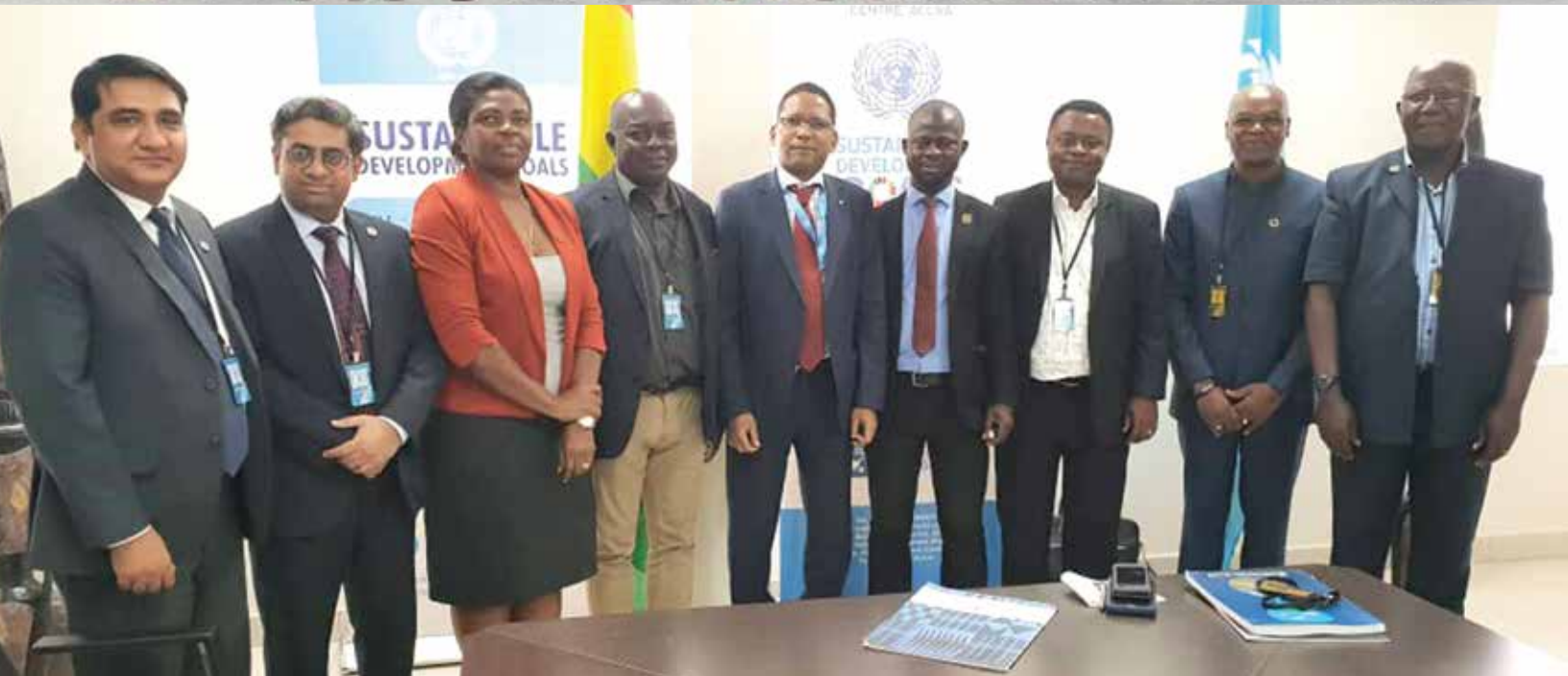
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