



*Participants of 21<sup>st</sup> Annual Meeting of COMSATS Coordinating Council gathered in Almaty, Kazakhstan (3-4 April, 2018)*

Fourteen centres participate and approve Tianjin Institute of Industrial Biotechnology as COMSATS' 22<sup>nd</sup> Centre of Excellence.

(Details on page 5)

## Inside this Issue

- From the Executive Director's Desk 1
- Highlights from COMSATS Secretariat 2
- Special Section: The 21<sup>st</sup> Meeting of COMSATS Coordinating Council, Almaty, Kazakhstan 6
- Some Activities of COMSATS' Centres of Excellence 13
- Profile: COMSATS' Centre of Excellence, KazNU-Kazakhstan 16
- S&T News from Member States 17
- Science, Technology and Development 18
- Profile of a Member of COMSATS' Technical Advisory Committee: Prof. T. M. Inerbaev, Kazakhstan 19

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## From the Executive Director's Desk

Science and Technology for sustainable development is one of the most decisive factors for survival of humanity and its wellbeing. Countries with well-defined goals in line with SDGs are better placed to achieve more sustainable, better and brighter future.

We at COMSATS are busy facilitating the South for having more focused targets and more efficient means to achieve them. To this end, we provide a platform for the developing countries to have more meaningful dialogue and partnerships. We believe that by sharing their strengths they can overcome their weaknesses and can convert threats into rewarding opportunities.

The Commission is constantly in touch with various diplomatic missions, government functionaries, R&D organisations, researchers, universities and funding agencies to support sustainable endeavours in science and technology. The growth and development of our Centres of

Excellence and Thematic groups is an encouraging evidence of our success and provides impetus for others to emulate.

Current newsletter encompasses various activities of the Commission and its partners towards attainment of its mission. I take this opportunity to thank the management and the faculty of Kazakhstan National University, one of our esteemed centres of excellence, and the Kazakh Government for honouring myself and the Commission with their prestigious Al-Farabi Gold Medal in recognition of our humble services to the cause of science and technology for sustainable development in the South.

I also take pride in congratulating the staff and students of COMSATS University on being elevated to the status of a federal university. As one of our ace centres of excellence, COMSATS Institute, rendered remarkable service to the cause of science and technology for sustainable development in the South.

## HIGHLIGHTS FROM COMSATS SECRETARIAT

### COMSATS signs Cooperation Agreements with ISESCO and PIDF

On 12<sup>th</sup> March 2018, COMSATS signed a Memorandum of Understanding (MoU) with the Pacific Islands Development Forum (PIDF) in Islamabad. The Executive Director COMSATS, Dr. S. M. Junaid Zaidi, and the Secretary General PIDF, Mr. Francois Martel, signed the agreement on behalf of their organizations. The MoU was signed among a gathering of diplomats of COMSATS' member countries, Vice Chancellors of local Science and Technology Universities, representatives of various government officials and representatives of international organizations actively working in Pakistan. According to the agreement, both the organizations will collaborate to promote Science, Technology and Innovation (ST&I) to meet the Sustainable Development Goals (SDGs).

An Agreement for Joint Cooperation Programme was signed with the Islamic Educational, Scientific and Cultural Organization (ISESCO) on 13<sup>th</sup> April 2018. Dr. Zaidi and Dr. Abdulaziz Othman Altwajiri, Director General ISESCO signed on behalf of their respective organizations. The agreement strengthens the partnership and coordination between ISESCO and COMSATS for facilitating the socio-economic development of the common member countries. COMSATS and ISESCO have 17 common member countries, 9 belonging to Africa and 8 belonging to Asia. Under the Agreement, COMSATS and ISESCO would organize 03 international capacity building events during 2018 in the fields of cyber security; agriculture, food security and biotechnology; and repair and maintenance of scientific equipment.



Since 2004, the two organizations have jointly organized 52 capacity building events in those fields of science and technology, which are most relevant to the Sustainable Development Goals (SDGs).

### Strengthening Ties with Foreign Missions of Member and Non-Member States

During March-April 2018 representatives from foreign mission belonging to Russia, Kyrgyzstan, and Malaysia were met. The officials were informed about the scope, mission and mandate of the organization. The Ambassadors were also informed about the benefits and obligations of joining COMSATS as a member state. A welcome reception in honor of Ambassador of China was also hosted.

Some specific points of these engagements are given below.

#### Ambassador of Russian Federation to Pakistan (6<sup>th</sup> March 2018)

His Excellency Alexey Yurievich Dedov, the Ambassador of Russian Federation to Pakistan, visited COMSATS Secretariat, Islamabad, on March 6, 2018. The Ambassador was accompanied by Mr. Pavel Didkovsky, First Secretary to the Embassy of Russian Ambassador.

Welcoming His Excellency, Dr. Zaidi apprised the Ambassador of the mandate and achievements of COMSATS. He further sought the Ambassador's counsel for exploring different avenues for expansion of COMSATS' membership with the involvement of Russia. Dr. Zaidi hoped to have contacts established with the Russian Academy of Sciences in order to engage the academy for exchange of students and scientists, and identification of institutes for collaborations with relevant organs of COMSATS.

The Russian Ambassador appreciated the role COMSATS Secretariat has been playing for S&T-led development through South-South Cooperation and pledged all possible support to COMSATS programmes.

#### Ambassador of Kyrgyzstan (25<sup>th</sup> April 2018)

The Ambassador of Kyrgyzstan H. E. Mr. Eric Beishembiev visited COMSATS Headquarters on April 25, 2018. His Excellency was accompanied with Mr. Aibek Tilebaliev, Deputy Head of Mission of the Embassy.

The Executive Director informed them about COMSATS' vision and mission and the potential benefits of COMSATS' membership. The Executive Director also extended invitation to the





Kyrgyz Republic to join COMSATS as member. His Excellency showed keen in COMSATS' membership and pledged to pursue the matter with relevant ministries to expedite the process.

Tunisia, Morocco, Yemen, Poland, Kyrgyzstan, and Portugal. Deputy Head of Missions of Belarus, Sudan, Russia, Norway, Kazakhstan, Romania, Hungary, and Ukraine also attended the meeting.

### COMSATS' Delegation Strengthens Contacts with Scientific Institutions in Italy and Turkey

#### High Commissioner of Malaysia (26<sup>th</sup> April 2018)

COMSATS' officials led by Executive Director, Dr. S. M. Junaid Zaidi, visited Malaysian High Commission in Islamabad to hold a meeting with His Excellency Mr. Ikram Mohammad Ibrahim, High Commissioner of Malaysia to Pakistan. During the meeting, avenues of mutual cooperation in the field of science and technology were explored.

His Excellency appreciated the accomplishments of COMSATS and pledged his full support.

Noting the phenomenal growth the country has undergone during the last four decades, Dr. Zaidi considered China a relatable example of growth and development in present times for the South. Dr. Zaidi sought enhanced involvement of China in COMSATS' programmes through the Ambassador's office for the development of COMSATS' member states. He highlighted the objectives and mission of COMSATS. Appreciating the country's One Belt One Road project, he stated that it is a prominent example of how growth can be mutually beneficial among many countries.

A delegation comprising of senior officials of COMSATS visited partner R&D institutions in Italy and Turkey from March 12<sup>th</sup> – 22<sup>nd</sup> 2018. The visit of COMSATS' delegation resulted in useful exchange of information and best practices.

The period included a week-long interactive training at The World Academy of Sciences (TWAS), and interactions with the Abdus Salam International Centre for Theoretical Physics (ICTP) Organization for Women in Science for the Developing World (OWSD), The InterAcademy Partnerships (IAP), and International Centre for

#### Welcome Reception in honor of Ambassador of People's Republic of China

A welcome reception was organized in honor of H. E. Mr. Yao Jing, Ambassador of People's Republic of China to Pakistan, on 6<sup>th</sup> March 2018. Mr. Jing took charge in late 2017. A number of Ambassadors and foreign missions of Islamabad attended the ceremony to welcome the new colleague. These belonged to China, Turkey, Bosnia and Herzegovina, Turkmenistan, Azerbaijan, Uzbekistan, Sri Lanka, Egypt, Syria,





Genetic Engineering and Biotechnology (ICGEB). The training at TWAS touched upon a number of operations of TWAS, including Fellowships, Exchanges, Research Grants, Prizes, Information and Communications, Finance and Administration and Science Diplomacy. After a warm welcome by the Executive Director TWAS, Dr. Romain Murenzi, the following officials made interactive presentations on the TWAS operations: Max Paoli – TWAS Programme Coordinator; Cristina Simoes & Sara Dalafi – TWAS Fellowships Office; Payal Patel – TWAS Research Grants Office; Antonella Mastrolia – TWAS Prizes Office; Edward Lempinen – Public Information Officer; and Ophelia Stephenson-Odle – Finance & Administration Officer. Presentations by OWSD and IAP were given by Tonya Blowers – OWSD Coordinator,

and Peter McGrath – IAP Coordinator, respectively.

At ICTP, COMSATS’ officials received a presentation by Prof. Sandro Scandolo, Head Scientific Programmes and Outreach, ICTP. Dr. Lawrence Bank, ICGEB Scientific Coordinator, and his colleagues held a detailed meeting with COMSATS’ officials on earlier collaborations and future prospects in this regard.

The visit to the Italian organizations was followed by a visit to COMSATS’ Centre of Excellence in Turkey, TÜBİTAK Marmara Research Centre (MAM). The delegates received a briefing on the Centre and its departments by Vice President TUBITAK Mam, Prof. Dr. Murat Makaraci and his team. Later a visit to the Genetic Engineering

and Biotechnology Institute and the Technology Park (MARTEK) within the same premises was arranged. The delegates learnt about the contribution of MAM in Turkey’s national development in this regard. The delegation was also shown some applications and products developed by TUBITAK MAM in food, chemical, defense and energy.

Visits to the facilities of these organizations were also arranged, which included a close look at sophisticated instruments, and lab equipment, as well as interactions with the scientists and researchers working there.

### **Visit of UNESCAP Regional Advisor on Climate Change**

On 20<sup>th</sup> April 2018, Dr. Laura Altinger,







Regional Advisor on Climate Change, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), visited COMSATS Secretariat in Islamabad, Pakistan. The UNESCAP official was warmly welcomed by the Executive Director of COMSATS, Dr. S. M. Junaid Zaidi, along with his team including, Ambassador (R) Shahid Kamal, Head/Advisor, Centre for Climate Research and Development (CCRD); Ambassador (R) Fauzia Nasreen, Advisor (SDGs); Dr. Kamran Jahangir, Advisor (Technical Advisory Committee); Ms. Huma Balouch, Sr. Assistant Director (Programmes), and Ms. Mehwish Durrani, Sr. Program Officer.

The meeting sought to explore the possible collaboration with UNESCAP especially in the field of Climate Sciences and to discuss a roadmap to ensure the establishment of a Climate Change center. Dr. Altinger hoped for an effective follow-up of actions proposed in the Memorandum of Understanding signed between both organizations in December 2017. Joint intersectoral and interregional project proposals in the field of Climate Change, ensuring reciprocal representation of both organizations at their respective Statutory bodies meetings; and UNESCAP's support to enhance COMSATS' membership drive are among several potential areas for cooperation between COMSATS and

UNESCAP which were subsequently discussed.

Further discussions focused on the development of initiatives that will help to build resilience and provide support and funding for adaptation activities for scaling up the Climate Adaptation and Mitigation Programme in common Member countries of COMSATS and UNESCAP through the Green Climate Fund (GCF).

### COMSATS Tele-Health (CTH) at Summer Tourism Festival, AJK

COMSATS Tele-health (CTH) is trying to increase its outreach and regional partnerships. A step in this regard was CTH participation in the Summer Tourism Festival Mirpur, Azad Kashmir



organized by Tourism Department of Azad Jammu & Kashmir, from April 27<sup>th</sup> to 29<sup>th</sup>, 2018. Officials from COMSATS and CIS Technology Park arranged a stall where the Tele-Health services were demonstrated.

The event was inaugurated by H.E. Mr. Masood Khan, President of AJK. Apart from the President, a number of government officials and locals of AJK showed keen interest in the demonstrations of CTH.

### Forum at COMSATS Discusses Women Immigration Trends

A discussion session held at COMSATS Secretariat on 27<sup>th</sup> March 2018 took stock of immigration trends in Pakistani population, especially with regard to job opportunities and gender parity. Ms. Tamriz Khan, an Independent Policy Researcher and Analyst, who was representing the International Labour Organization (ILO) and Ambassador Fauzia Nasreen of COMSATS, steered the discussion.

The points of discussion revolved around some major questions related to the views of professional and skilled women regarding job opportunities exploration and the impediments experienced in this regard.

## SPECIAL SECTION: THE 21<sup>ST</sup> MEETING OF COMSATS COORDINATING COUNCIL, ALMATY, KAZAKHSTAN

The Coordinating Council promotes scientific and technical cooperation among the members of COMSATS' Network of International S&T Centres of Excellence with the objective of achieving sustainable development through ST&I. The progress of COMSATS' Network is appraised in the annual meetings of the Council held at one of the Centres. Additionally, during the meetings, the Council also reviews the scientific programmes and activities of the Network along with determining its rules, regulations and future course of action.

The 21<sup>st</sup> Meeting of COMSATS Coordinating Council was held on 3-4 April 2018, in Almaty, Kazakhstan, hosted by Al-Farabi Kazakh National University (KazNU), Kazakhstan. The two-day meeting comprised three technical sessions in addition to an inaugural and a closing session. The meeting was attended by the Council members or their representatives from 14 COMSATS' Centres of Excellence from Bangladesh, Brazil, Colombia, Egypt, Iran, Jamaica, Kazakhstan, Nigeria, Pakistan, Sri Lanka,

Sudan, Syria, Tanzania, and Tunisia. The representatives of partner organizations, SESRIC-Turkey, ICGEB-Italy, and Edibon International-Spain also attended the meeting as observers. Moreover, the meeting was attended by the Deputy Director-General of the Tianjin Institute of Industrial Technology (TIB), China, in connection with TIB's request for induction in COMSATS' Network of International S&T Centres of Excellence.

### Inauguration

The inaugural ceremony, held on 3<sup>rd</sup> April 2018, was attended by senior officials of KazNU and COMSATS as well as representatives of diplomatic missions of Pakistan and Egypt in Kazakhstan.

Prof. Dr. G. M. Mutanov, Rector, KazNU, mentioned that KazNU has been actively participating in COMSATS' programmes since joining the Network. He emphasized introducing cutting-edge technologies for improving the lives of people in the developing countries. He hoped that the Council

meeting would be successful in facilitating the collaboration of KazNU with other Centres.

Dr. S. M. Junaid Zaidi, Executive Director COMSATS, opined that multi-faceted global challenges can be resolved through Science, Technology and Innovation (STI) which is at the forefront of COMSATS' mission to achieve sustainable development. He appreciated the efforts of COMSATS' Centres of Excellence for achieving the objectives of the Organization.

Prof. Dr. Ashraf Shaalan, President NRC, Egypt, Chairperson COMSATS Coordinating Council, considered COMSATS a potent forum for such kind of collaborations. He urged the Centres of Excellence to collaborate in the field of renewable energy as it is the backbone of development.

The messages of the Chairman of the scientific committee at the Ministry of Education and Science, Kazakhstan, as well as the President of the National Academy of Sciences of Kazakhstan,



were read-out on the occasion by Prof. Dr. Tlekkabul Ramazanov, Vice-Rector for Research & Innovations, KazNU. In the messages, the Centres of Excellence were encouraged to determine effective mechanisms of collaboration for seeking new ways for the integration of science and technology and improving the standard of living of the masses.

## Plenary Session of 5<sup>th</sup> International Farabi Readings

In conjunction with the inaugural ceremony of 21<sup>st</sup> Meeting of COMSATS Coordinating Council, the plenary session of the 5<sup>th</sup> International Farabi Readings was held. During the session, Dr. S. M. Junaid Zaidi, Executive Director COMSATS, was awarded the Al-Farabi Gold Medal by (KazNU) for his outstanding contributions towards fostering international collaboration in science and technology.

Speaking on the occasion, Dr. Zaidi admired the enormous contributions of Al-Farabi in the fields of science, philosophy, mathematics and music, and pledged to follow his legacy and promote his philosophy by all means.



## Technical Deliberations

The technical sessions of the two-day meeting were presided over by Prof. Dr. Ashraf Shaalan. The Council deliberated upon a 15-point agenda and approved the Minutes of the previous (20<sup>th</sup>) Meeting of COMSATS Coordinating Council. As per regular practice, the Advisor (Programmes) COMSATS briefed the Council about the implementation status of the decisions taken by the Council in its previous meeting, while the Executive Director COMSATS presented COMSATS' Annual Activity Report (May 2017 –

March 2018). The Advisor (Programmes) also presented the administrative and financial matters of COMSATS. In the light of the presentations, the Council appreciated and expressed satisfaction over the annual activity report and COMSATS future plans, as well as administrative and financial matters of COMSATS.

During another agenda-item, the heads/representatives of Centres of Excellence made presentations on their scientific activities with a view to highlight their contributions toward South-South and Triangular Cooperation and to identify



### A Message from Prof. Jibin Sun, Deputy Director-General Tianjin Institute of Industrial Biotechnology

Tianjin Institute of Industrial Biotechnology (TIB), Chinese Academy of Sciences (CAS) is the second COMSATS member Centre of Excellence in China, after the International Center for Climate and Environment Sciences (ICCES). The participation of TIB in the COMSATS network greatly broadens TIB's international cooperation portfolio, bridges the Chinese biotechnology society with COMSATS Member States who are seeking for sustainable solutions, and will create mutual benefits to all the participants.



TIB would strengthen the cooperation with the members and function as a hub for bilateral/multilateral collaboration in the area of biotechnology to fulfill the commitments proposed by the Belt and Road Initiative as well as Sustainable Development Goals (SDG) and promote the synergetic and sustainable development both in China and in the South.





areas of potential collaboration. The representatives of international partner organizations attending the meeting as observers shared their ongoing programmes and activities and focused on the prospects of collaboration with COMSATS. Additionally, a presentation was made by the Chairman of the Edibon International-Spain, on the scientific expertise, equipment and soft-loan facilities available with the enterprise for the upgradation of the Centres of Excellence.

The Council accorded unanimous approval on the induction of Tianjin Institute of Industrial Biotechnology (TIB), China, in COMSATS' Network as its 22<sup>nd</sup> Centre of Excellence, based on the prescribed technical evaluation proforma submitted earlier as well as the presentation made by the Deputy-Director General of the Institute during the present meeting. Furthermore, the progress reports of the International Thematic Research

Groups (ITRGs) on 'Information and Communication Technologies', 'Mathematical Modeling', 'Renewable Energy' and 'Agriculture, Food Security and Biotechnology' were presented to the Council by the Group Leaders / representatives of the Lead Centres.

Under the relevant agenda-items, discussions were held regarding ongoing programmes of COMSATS, including MS and PhD scholarships, post-doctoral fellowships, tele-health programme, capacity building activities and publications, as well as possibilities of linking the COMSATS' programmes with SDGs.

The Centres explored the possibility of initiating joint projects having regional significance in line with SDGs.

The matter of formulation of criteria for evaluation of nominated Centres for induction in COMSATS' Network, as well as the role of Technical Advisory

Committee in enhancing collaborations among Centres of Excellence and their up-gradation were also discussed.

During the meeting, several offers were extended by Centres of Excellence. These offers resulted in four MoUs signed between the following Centres of Excellence: (i) NRC-Egypt and BCSIR-Bangladesh; (ii) NRC-Egypt and CIIT-Pakistan; (iii) CIIT-Pakistan and KazNU-Kazakhstan; and NRC-Egypt and ICCES-China for collaboration under the umbrella of COMSATS for achieving common objectives.

On 5<sup>th</sup> April 2018, the participants of the meeting visited various laboratories of KazNU in order to explore opportunities of collaboration. In this regard, TIB-China and KazNU will jointly execute a research project in the fields of mutual interest. Moreover, ICCES-China will soon send its delegation to KazNU in order to induct its relevant scientists in COMSATS' ITRG on 'Climate Change and Environmental Protection' for conducting joint research projects.

The discussions during the meeting and visit to KazNU laboratories opened new avenues of collaboration among the members of COMSATS' Network.

The meeting issued a Communiqué, which inter alia encouraged the Network members to streamline their programmes in accordance with the Sustainable Development Goals (Page 11).







The next (22<sup>nd</sup>) meeting of the Coordinating Council will be hosted by the Tianjin Institute of Industrial Biotechnology, China, during 2019.

### Concluding Session

In his closing remarks, the Executive Director COMSATS paid gratitude to the organizing committees of KazNU and COMSATS for making excellent arrangements for the meeting. He hoped that the Centres of Excellence would actively contribute towards achieving the sustainable development goals through South-South and Triangular Cooperation in science and technology. The Chairperson Coordinating Council thanked the organizers for their tireless efforts.

Speaking at the conclusion, the Vice-Rector for Research & Innovations, KazNU, looked forward to active collaborations between KazNU and other Network Members.



### Participants of the 21<sup>st</sup> Coordinating Council Meeting Almaty, Kazakhstan

- Mr. Md. Sarwar Jahan, Chief Scientific Officer, Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh
- Dr. Robert Boddey, Research Scientist, Embrapa Agrobiologia, Brazil
- Prof. Dr. Ashraf Shaalan, President, National Research Centre (NRC), Egypt
- Prof. Hosam El-Sayed, Assistant Vice President for Research, National Research Centre (NRC), Egypt
- Dr. Eduardo Posada F., Director, Centro Internacional de Fisica, Colombia
- Dr. Mahmoud Molanejad, Acting President for International Cooperation, Iranian Research Organization for Science and Technology (IROST), Iran
- Mr. Johann Antoine, Head of the Nuclear Analytical Laboratory, International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica
- Prof. Dr. G. M. Mutanov, Rector, Al-Farabi Kazakh National University (KazNU), Kazakhstan
- 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. Raheel Qamar, Rector, COMSATS Institute of Information Technology (CIIT), Pakistan.
- Dr. Arshad Salim Malik, Head, International Office, COMSATS Institute of Information Technology (CIIT), Pakistan
- Dr. G.A.S. Premakumara, 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 (HIAT), Syria
- Dr. Lugano Wilson Mwansule, Senior Researcher, Tanzania Industrial Research and Development Organization (TIRDO), Tanzania.
- Prof. Ahmed Ghrabi, Director General, Water Researches and Technologies Centre of Borj-Cedria (CERTe), Tunisia
- Prof. Jibin Sun, Deputy Director-General, Tianjin Institute of Industrial Technology (TIB), China
- Ms. Maria Luisa Fichera, Chief, Legal & Administration, International Centre for Genetic Engineering and Biotechnology (ICGEB), Italy
- Dr. Atilla Karaman, Researcher, Data and Information Management Unit, Statistics and Information Department, Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRI), Turkey
- Dr. Elias Bonilla, Chairman, Edibon International, Spain
- Dr. Syed Muhammed Junaid Zaidi, Executive Director, COMSATS, Pakistan
- Mr. Tajammul Hussain, Advisor (Programmes), COMSATS, Pakistan
- Dr. Kamran Jahangir, Advisor (TAC), COMSATS Headquarters, Pakistan
- Mr. Farhan Ansari, Sr. Assistant Director (Programmes), COMSATS, Pakistan



### Collaborations Offered and Sought

- TIB-China: Collaboration offered in: bi-directional technology transfer; joint R&D projects under The Belt and Road Initiative; scientific events; training courses; and scholarships
- BCSIR-Bangladesh: Offers of collaborative research, inter alia, in materials and metallurgy, biomaterials, leather technology, nanotechnology, biotechnology, RETs, herbal medicine and medicinal plant, and bioequivalence study.
- CIF-Colombia: offered services including: courses in biophysics and neurosciences; short stays for scientists; co-direction of MS and PhD thesis in bio-physics; science policy.
- NRC-Egypt: Offers of fellowships in: textile processing; plant biotechnology; polymers; bioactive materials; and nanotechnology.
- ICENS-Jamaica: Technologies/expertise offered in environmental geochemistry; trace elements; heavy metal pollution; mineral composition of food; biogeochemical cycles; forensics
- CUI-Pakistan: To initiate collaboration in the field of cyber security and to jointly organize scientific events
- ITI-Sri Lanka and ICCES-China: To collaborate for establishing a Center for Extreme Climatic Events and to conduct joint research other Centres.
- IRCC-Sudan: Offer of building activities in renewable energy, waste management, products from essential oils, mining, and mechanical design, and joint research with ICCBS-Pakistan and PCSIR-Pakistan.
- HIAST-Syria pledged to initiate with the support of COMSATS.
- HIAST-Syria: To initiate Tele-health Program in Syria and sought collaboration in: nanotechnology; (ii) conductive polymers, hydrogels, superabsorbent polymers; and renewable energy.
- TIRDO-Tanzania and MAM-Turkey: Mutual collaborations in energy; engineering; food science and technology; biotechnology; materials technology; environment; and chemistry
- TIRDO-Tanzania and IRCC, Sudan: Collaboration in leather and textile research.
- CERTE-Tunisia: Technologies on treatment and valorization of the effluents of petroleum production; and sanitation.





## **Communiqué of the 21<sup>st</sup> Meeting of COMSATS Coordinating Council (3 – 4 April 2018, Almaty, Kazakhstan)**

The participants of the 21<sup>st</sup> meeting of COMSATS Coordinating Council, including the representatives of fifteen Centres of Excellence, deliberated upon the fifteen-point agenda of the meeting during 3-4 April 2018, and are pleased to unanimously adopt the following statement:

1. The Coordinating Council pays gratitude to the Al-Farabi Kazakh National University (KazNU) for making excellent arrangements for the meeting and for providing warm hospitality to its participants. The administrative support of COMSATS Secretariat to KazNU for the successful organization of the meeting, including active correspondence with the invitees and preparation of necessary documentation, is appreciated.
2. The excellent and efficient mode ration of the discussions during various technical sessions of the meeting by the Chairperson Coordinating Council, Prof. Dr. Ashraf Shaalan, President NRC, is commended.
3. The Coordinating Council is pleased to welcome the Tianjin Institute of Industrial Biotechnology (TIB), China, as a member of COMSATS' Network of Centres of Excellence. It is hoped that TIB will actively participate in the activities of the Network, play a vital role in the achievement of COMSATS' objectives as well as provide imperative support to Network members whenever and wherever required.
4. The Council appreciates the R&D and academic activities being undertaken by Centres of Excellence individually as well as collectively. The strong intent of the Centres of Excellence to collaborate with each other for executing joint research and development projects having social and economic impact is commendable. The Network members are encouraged to streamline their programmes in accordance with the Sustainable Development Goals (SDGs) as well as to engage in South-North-South Triangular Cooperation.
5. COMSATS Secretariat is encouraged to continue its efforts to extend the membership of COMSATS' Network to other states as well. The Council also advises COMSATS Secretariat to include state-of-the-art centres from the North and the South in the Network in order to upgrade those Centres that need support from the advanced Centres to become true Centres of Excellence.
6. The linkage of Coordinating Council with other organs including Consultative Committee and Technical Advisory Committee may be strengthened in order to facilitate the upgradation of Centres of Excellence as well as expansion of the programmes and activities of COMSATS' Network. In this regard, the international donor agencies may be approached for upgradation of labs and technical infrastructure of Centres of Excellence.
7. The Council encourages the establishment of new Centres of Excellence in the cutting-edge fields of science and technology for addressing national, regional and global challenges, with the support of international partner organizations and funding agencies.
8. The Centres of Excellence may benefit from the COMSATS Tele-health Programme for meeting the healthcare needs of the Member States.
9. The Lead Centres and collaborating institutions of ITRGs are encouraged to actively collaborate, share data, exchange expertise and laboratory resources, and build capacity in order to execute the joint research projects for the benefit of COMSATS' Member States. The ITRGs may also seek funding for this purpose from their respective Governments as well as international donor agencies.
10. The Belt and Road Initiative (BRI) of China is one of the largest infrastructure and investment mega-projects in history, involving 13 Member States of COMSATS. There are enormous opportunities of collaboration and funding under this Initiative. The Centres of Excellence are encouraged to capitalize on the opportunities available under this initiative for accelerating socio-economic development in the Member States.
11. The Council felicitates Dr. S. M. Junaid Zaidi, Executive Director COMSATS, on having been conferred upon the Al-Farabi Gold Medal for his outstanding contributions towards fostering international collaboration in science and technology.
12. The Council appreciates the efforts of COMSATS Secretariat to fulfil the objectives of the organization, and acknowledges the following achievements:

- i. Initiatives taken by the new Executive Director of COMSATS for enhancing programmes and activities of the Organization as well as fostering regional and international cooperation;
- ii. Steady growth of COMSATS flagship projects in Pakistan, i.e. the COMSATS Institute of Information Technology (CIIT) and COMSATS Internet Services (CIS);
- iii. Continuous expansion of COMSATS Member States and Centres of Excellence;
- iv. Organization of four (04) capacity building events in collaboration with Centres of Excellence and international partner organizations, which benefited various scientists, researchers, academicians, engineers and technicians belonging to Centres of Excellence and COMSATS Member States;
- v. Increased utilization of postgraduate scholarships at CIIT-Pakistan by COMSATS Member States;
- vi. Exchange of resources and enhanced scientific collaboration among Centres of Excellence in various R&D domains;
- vii. Networking with the institutions of the North for the mobilization of financial resources and technical support so as to meet the objectives of the Network;
- viii. Regular publication of COMSATS' Annual Report, COMSATS' Newsletter, journal 'Science Vision' and other information material about the organization.

13. The Council encourages the Network members to make efforts for the following:

- i. Availing the opportunities of scholarships / fellowships available with COMSATS' Centres of Excellence;
- ii. Conducting capacity building events in accordance with the needs and demands of the scientific workforce of the Centres of Excellence and COMSATS Member States;
- iii. Sensitizing their respective governments regarding the benefits of regularly making AMC for the financial sustainability of COMSATS; and
- iv. Keeping COMSATS Headquarters abreast of the developments and achievements of their respective Centres.





## SOME ACTIVITIES OF COMSATS' CENTRES OF EXCELLENCE

### BCSIR-Bangladesh Organizes Workshop on Science Advocacy

Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh, organized a one day workshop on the "Role of INGSA in Building Government Science Advice in Bangladesh" on 19<sup>th</sup> March, 2018. Scientists from different institutions and representatives of the ministry of Science and Technology and Bangladesh Academy of Sciences participated in the workshop.

Dr. Md. Sarwar Jahan, Chief Scientific Officer, Pulp and Paper Research Division, BCSIR, presented the theme lecture. He introduced INGSA and its activities and pointed out the need for a science advisory panel for Government of Bangladesh to effectively implement its science related policy.

Dr. Syed Farid Uddin Farhad of BCSIR delivered a lecture on "Science diplomacy" a new emerging tool for the promotion of Science, Technology and Innovation in Developing Countries" and Dr. Mohammad Nashir Uddin discussed the "Digitalization of Information in Scientific Activities towards BigData."



### Cluster Computer Machine Inaugurated at ICCBS, Pakistan

The German Consul-General, Rainer Schmiedchen inaugurated the latest Cluster Computer machine at the International Centre for Chemical and Biological Sciences (ICCBS), Pakistan. Alexander Von Humboldt Organization, Germany, has provided a sophisticated four-socket 4U rack-mounted server. Mr. Rainer Schmiedchen reiterated that the German government will continue to support ICCBS's leading research establishment. He appreciated the longstanding collaboration between Germany and Pakistan.

Prof. Iqbal Choudhary, Director ICCBS,

mentioned that this machine was one of the finest architecture (Enterprise X-Architecture) with special modular "book" design, which makes it highly fault tolerant. The machine was procured to carry out exhaustive Molecular Dynamics simulation to study the motion of molecular at a larger scale.

### NMC-Nigeria Celebrates International Day of Mathematics (IDM)

The National Mathematical Centre (NMC) Abuja, Nigeria, celebrated the Maiden Edition of United Nations Educational Scientific and Cultural Organization (UNESCO) International Day of Mathematics (IDM) on 14<sup>th</sup> March 2018.

The celebration aimed at creating awareness among decision makers in education, industry and other stakeholders on the importance of Mathematics for education and the future of Science, Technology, Engineering and Mathematics (STEM).

The activities of the day included a walk, presentation of papers by Mathematicians and Educationists,





and Addresses by Representatives of UNESCO and Secretary General of National Commission for UNESCO (NATCOM-UNESCO) in Nigeria.

Exhibition of Mathematical products of the NMC (Mathematics Kits, Books, Games, Journals, e-learning materials) and demonstrations of Mental Arithmetic skill by students from various schools having undergone training at NMC were highlights of the event, which attracted eminent personalities from universities, secondary schools, federal ministries and agencies across the country.

### **RSS-Jordan holds final ceremony of Aquifer Vulnerability Mapping Project**

Under the patronage of H.E. Eng. Walid Al Masry, the Minister of Municipal Affaires (MOMA), the Royal Scientific Society (RSS), Jordan and Swiss Agency for Development and Cooperation (SDC) held the closing ceremony of the project "Mapping of Aquifer Vulnerability to Contamination at Landfill Sites in Jordan" on 28<sup>th</sup> February 2018. The Swiss Ambassador, H.E. Hans-Peter Lenz, and representatives of SDC, RSS, related ministries, academia and donor agencies attended the ceremony.

The project, funded by SDC, aimed at assessing the impact of landfills on groundwater, was in a two pronged manner. The landfills of Akaidier, Al-Husaineyat, Madaba, Dair Alla and Azraq were mapped, and the zones, vulnerable to pollution, were identified. Simultaneously, a national geo-database was established, which contained comprehensive data on all landfills in Jordan.

These tools will help decision-makers responsible for solid waste management in the country. The Ministry of Municipal Affairs, Jordan, was a key partner in this project. The project is expected to improve the performance and effectiveness of all municipalities working in this sector.



### **CUI-Pakistan Strengthens linkages with Foreign Institutions**

The Ambassador of France, H.E. Dr. Marc Barety, accompanied by the Higher Education Attaché, Mr. Sebastien Cartier, visited COMSATS University Islamabad campus on March 26, 2018. This visit helped strengthen CUI's linkages with French institutions and strengthen its engagement with the French Embassy in Islamabad. The Ambassador also delivered a talk on Pakistan-France Relations.

A 16-member delegation comprising Vice Chancellors and international office representatives from various universities of Italy visited CUI on 20<sup>th</sup> March 2018 to learn about Pakistan's higher education system and about CUI.

The Ambassador of Romania, H.E. Mr. Nicolae Goia, along with Counsellor/ Deputy Head Mission, Mr. Laurentiu Ciocan visited CUI Islamabad on 16<sup>th</sup> March 2018 and met with the Rector CUI and Head (International Office). They were given a brief introduction of CUI also indicating CUI's keenness for engaging with Romanian academic institutions through support of the Romanian embassy. Later, the Romanian



Ambassador elucidated Pakistan-Romania Relations.

To strengthen CUI's linkages with Germany and further engaging with the German Embassy in Islamabad, the German Ambassador, Mr. Martin Kobler, along with Cultural Counsellor, Burghard Brinksmeier, visited CUI on Monday 12<sup>th</sup> March 2018. The visitors first met the Rector, Deans, Principal Officers and the faculty members who had been trained in German universities, and later the Ambassador gave a talk to the young students and faculty members on his personal experiences of traveling in Pakistan.



A two-member delegation from the International Association for the Exchange of Students for Technical Experience (IAESTE) comprising of Ms. Sameen Arshad and Dr. Saleem Shahid, Exchange Coordinators for Pakistan, visited CUI on 8<sup>th</sup> March 2018 and shared the available partially funded internship opportunities for Pakistani students in various member countries of IAESTE.

### Rector KazNU-Kazakhstan Nominated for Presidency of EUA

The Rector of Al-Farabi Kazakhstan National University, Prof. Galym Mutanov, has been nominated for the position of President of the European University Association (EUA). The Association, headquartered in Brussels, unites more than 800 leading universities of Europe and assists the European universities in accordance with the modern needs and international standards. As a professional, progressive leader, a prominent scientist and initiator of many scientific and educational projects Prof.

Mutanov is held in high esteem by the international academic community.

### Al-Farabi Readings at KazNU, Kazakhstan

International Farabi Readings was held at Al-Farabi Kazakh National University from April 03 to 13, 2018. The Readings is a special, KazNU branded scientific event. The 2018 event included seventeen conferences, round tables, etc. attended by more than 300 academics, scientists and scholars from Kazakhstan and abroad. Geoff Levermore - Nobel Prize Laureate was among the special guests to visit KazNU during the event.

One of the events within the framework of the Farabi Readings was the 21<sup>st</sup> Meeting of COMSATS Coordinating Council, which was jointly organized by Al-Farabi KazNU and COMSATS (details on earlier pages). The meeting was attended by renowned experts in various fields.

### EMBRAPA Agrobiologia-Brazil Participates in Agriculture Forum

EMBRAPA Agrobiologia, Brazil, participated in the First Brazil-US-Haiti Family Agriculture Forum held on 25<sup>th</sup>-27<sup>th</sup> April 2018. The Forum was themed on Sustainable Alternatives for Strengthening Family Agriculture. The agenda of the forum was to encourage and promote awareness among women. Realized by the International Initiative for Rural Development (IIRD), the Graduate Program in Agricultural Education and the Post-Graduate Program in Organic Agriculture, both from UFRRJ, with the organization of Rural Consulting Junior (RCJR), the event brought together experts from all three countries to discuss sustainable alternatives to family farming.

During the event, the researchers from Embrapa talked about topics such as unconventional food plants (PANCS), recognition of natural enemies and attractive plants, gongolary and conservation of seeds, among other subjects related to family farming.

# PROFILE OF COMSATS' INTERNATIONAL S&T CENTRE OF EXCELLENCE

## AL-FARABI KAZAKH NATIONAL UNIVERSITY (KAZNU), KAZAKHSTAN

Al-Farabi Kazakhstan National University (KazNU), Kazakhstan, was inducted in as the 20<sup>th</sup> Centre of Excellence of COMSATS' during the 19<sup>th</sup> meeting of Coordinating Council held in Sri Lanka.

KazNU was founded in January 1934 as a state university on the basis of the pedagogical Institute by decree of the council of people's Commissars of USSR and VKPb regional committee. Its grand standing in the field of education made it possible to clinch the first place in the universities ranking in Kazakhstan.

The University has to its credit producing many graduates that became influential politicians, scientists, economic and cultural elites of the country. Moreover, the university prides itself in the mission not only of the transfer of existing knowledge as an educational institution, but also in the quest and collection of new science and technology based knowledge.

Thus, due to its high quality innovation and scientific research, KazNU is regarded as innovation-type Research University. The university's notable asset is its top-level faculty staff. Some statistics of the University are as follows:

These statistics give KazNU weight as an international Centre of Excellence.

*Al-Farabi KazNU has around 102 departments, 14 faculties, 20 scientific research institutions, a techno-park, 2,500 employed lecturers, among which more than 200 are PhDs and 800 science candidates, 21 honored figures of the Republic of Kazakhstan, over 30 Laureates of state and nominal awards of the Republic of Kazakhstan, 40 young Laureates of young scientists' awards, and 45 fellows of Government scholarships to mention but a few.*



The university offers programmes in Mechanics and Mathematics, Physics, Biology, Chemistry, Geography, History, Philology, Journalism, International Relations, Oriental Studies, Political Science and Philosophy, Economics and Business, and Law.

KazNU developed a test mode work in the field of Telemedicine that was launched in December 2017. In addition, since January 2018, video consultations are held weekly on Thursdays. Ten consultations have been provided under 8 specialties, otorhinolaryngology, cardiology, neurology, internal medicine, surgery, family medicine, dermatology and orthopedics. The cure TMS program developed by the Pusan National University hospital is of high value to KazNU's Telemedicine services.

### Some Recent Science and Innovation at KazNU

In the arena of scientific development and innovations, recently KazNU, led by the rector of the University – Galimakair Mutanov, developed a new technology for extraction of beryllium. This invention received international accolades alongside an award and a US patent as the most effective, ecological and unique technology. KazNU's scientists and its students of Centre

for Physical and Chemical Methods of Analysis created effective catalytic systems based on copper-polymer complexes for yellow Phosphorus oxidation reactions in aqueous and alcoholic solutions in order to get phosphorus containing inorganic compounds in oxygen medium.

Furthermore, Microsoft as a key and strategic partner to KazNU, poured encomiums to the work of the University among the world universities in the wide application of IT technologies and cloud services that brought the University to a much qualitatively new digital level (<http://bit.ly/2HWNRHn>).

During the 75 years of its history KazNU has always stayed the most prestigious university of Kazakhstan. The university strives to maintain this title today as well.

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## SCIENCE & TECHNOLOGY NEWS FROM MEMBER STATE

### China Brings Revolution in Energy Production

A research group in China has developed solar cells, which can produce energy from sunlight as well as from the motion of raindrops hitting and sliding off its surface (Asian Scientist, 19<sup>th</sup> March 2018).

A study published in ACS Nano shows that scientists in China have developed hybrid solar cells that can generate energy not only from sunlight, but also from the motion of raindrops. Despite the numerous advances in solar cells, cloudy, rainy conditions put a damper on the amount of electricity produced. To allow solar cells to generate electricity regardless of the weather, researchers at Soochow University, China, added a triboelectric nanogenerator (TENG) to an existing solar cell. What the TENG does is allow the solar cell to convert the motion of raindrops into electrical energy. The researchers found that by adding texture to the PDMS, the TENG performance of the solar cell when raindrops touched and fell off its surface improved.



Another group of researchers in China has devised a method to generate electricity from body movements using a flexible triboelectric nanogenerator (TENG). They reported their findings in Nano Energy (Asian Scientific, 5<sup>th</sup> April 2018).

### Zika outbreaks in Philippines can be Eliminated by a Vaccine

Through a combination of direct protection and indirect reduction of transmissions, virtual elimination of Zika virus is achievable, even with imperfect vaccine efficacy and coverage, according to a new computer model (Science Daily, 2<sup>nd</sup> April 2018). Mosquito-borne and sexually transmitted Zika virus has become widespread across Central and South America, and the



Caribbean. A viable vaccine is expected to be available in the next several years, but a vaccine's effectiveness in preventing infections depends not only on its efficacy, but also on demographic and fertility patterns, local Zika attack rates, and the proportion of the population still susceptible when it becomes available.

Researchers developed a computer model to quantify the effect of a Zika vaccination strategy that prioritized females aged 9 to 49 years, followed by males aged 9 to 49 years. The model considered both vector-borne and sexual transmission, as well as country-specific mosquito density. The researchers found that a vaccine that was about 75 percent effective and covered about 90 percent of females aged 9 to 49 years would reduce the incidence of prenatal infections by at least 94 percent, depending on the country-specific Zika attack rate.

### Chinese Scientist Identify Bacteria that alleviate Diabetes

A research group in China has identified a group of gut microbiota that can alleviate the symptoms of type 2 diabetes in patients consuming a diet high in fiber (Science, 20<sup>th</sup> March 2018). Past clinical trials suggested eating a high-fiber diet can improve disease outcomes of T2DM, but responses to this treatment remain highly variable.

To improve the efficacy of dietary interventions, it is critical to understand how the gut microbiome responds to dietary changes. They play an array of protective roles in response to food intake; for example, hundreds of species can metabolize hard-to-digest carbohydrates to produce short-chain fatty acids (SCFAs).

### Residents of Pakistan are Prone to Pesticide Toxicity

Scientists from Pakistan's Quaid-i-Azam University and Lancaster University have evaluated the organophosphate pesticide concentration in dust from farms and also from pesticide manufacturing plants in the megacity of Lahore (Science Daily, 30<sup>th</sup> December 2017). The most prominent pesticides found in the studied areas were chlorpyrifos and diazinon, which has been outlawed for residential use in countries such as the US. It can affect humans through inhalation, ingestion of through absorption through the skin. The results suggest that dust contaminated with pesticides causes 'significant health risks' particularly related to the nervous and endocrine system. These risks affect not only workers directly exposed to pesticides, but also nearby residents.

## SCIENCE, TECHNOLOGY AND DEVELOPMENT

### Benefits of Ethanol Produced by Sugarcane

Producing ethanol from sugarcane could reduce fossil fuel imports in Latin American countries other than Brazil, where sugarcane is already a big part of the energy mix (SciDev.Net, 17<sup>th</sup> April 2018).

According to a study that analyzed the potential of sugarcane as a cleaner energy source in the region, bagasse, the pulp left after juice is extracted from sugarcane, can also improve electricity access in many countries. Brazilian and Colombian researchers evaluated the potential benefits of this crop for the energy supply, for cutting greenhouse gases emissions savings, and for decreasing oil imports in the region. The sugarcane residue can be used to produce surplus electricity, and hence can help improve electricity access.



Currently, Brazil is the world's largest sugarcane producer. The country mandates a 27 percent blend of ethanol with gasoline, and 16 percent of the national energy supply comes from sugarcane products.

### Developments in Cancer Therapeutic Research

Researchers have made the surprise discovery that the 'odd one out' in a family of proteins, which is known to drive cancer development, is instead critical for preventing stomach cancers (Science Daily, 23<sup>rd</sup> April 2018). The research team at Walter and Eliza Hall

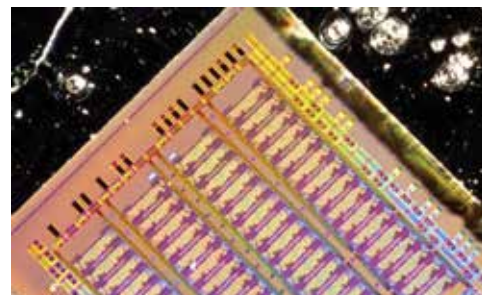
Institute, Melbourne showed switching off a certain gene caused spontaneous development of stomach cancers, driven by chronic inflammation. The study also revealed that immunotherapy may prove to be a significant tool for treating stomach cancers that are driven by runaway inflammation, warranting further investigation.

In another study researchers have shown that adenovirus binds to a specific type of carbohydrate that is overexpressed on certain types of cancer cells (Science Daily, 20<sup>th</sup> April 2018). Researchers at Umeå University study molecular mechanisms of infection in order to understand how adenovirus causes disease. The discovery opens up new opportunities for the development of virus-based cancer therapy.

### New Technologies based on Microelectronics

Researchers have developed a method to fabricate silicon chips that can communicate with light and are no more expensive than current chip technology (Science Daily, 20<sup>th</sup> April 2018). The electrical signaling bottleneck between current microelectronic chips has left light communication as one of the only options left for further technological progress. The traditional method of data transfer-electrical wires-has a limit on how fast and how far it can transfer data. It also uses a lot of power and generates heat. With the rising demand for higher performance and lower power in electronics, these limits have been reached. But with this new development, that bottleneck can be solved.

The new platform, which brings photonics to state-of-the-art bulk silicon microelectronic chips, promises faster and more energy efficient communication that could vastly improve computing and mobile devices.



### Adverse Effects of Climate Change and its Mitigation

A study conducted in Helmholtz Centre for Environmental Research – UFZ, Germany predicts that the global warming will exacerbate soil droughts in Europe (Science Daily, 23<sup>rd</sup> April 2018). If global warming rises by three degrees, the drought regions in Europe will expand from 13 percent to 26 percent of the total area compared to the reference period of 1971 to 2000. If efforts are successful in limiting warming to 1.5 degrees Celsius the drought regions in Europe can be limited to 19 percent of the total area. The duration of the largest droughts in Europe will also last three to four times longer than in the past. Up to 400 million people could then be affected.

Another development in climate change is a research conducted by a group of scientists from University of Alaska Fairbanks. It shows that controlling greenhouse gas emissions in the coming decades could substantially reduce the consequences of carbon releases from thawing permafrost during the next 300 years thus can contribute in controlling global warming (Science Daily, 26<sup>th</sup> March 2018).





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

**PROF. DR TALGAT M. INERBAEV, NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY MISiS, RUSSIA**

Prof. Dr. Talgat M. Inerbaev is a member of COMSATS' Technical Advisory Committee since the Committee was reconstituted during the 20<sup>th</sup> Coordinating Council Meeting held in National Research Center(NRC), Cairo, Egypt, May 2017.



Currently, Prof. Talgat M. Inerbaev is a visiting professor in Gumilyov Eurasian National University, Astana, Kazakhstan, at the Physical & Technical department. He has been a prominent researcher at the National University of Science and Technology MISiS, Moscow, Russia since 2015. Prof. Dr. Talgat M. Inerbaev's research interest and area of specialization include:

- Theoretical/Computational Physics, quantum chemistry, Material Science;
- Method: density functional theory, density matrix theory, Lattice and Molecular dynamics; and
- Applications: electronic properties of nanoparticles, Surfaces and Solid; non-adiabatic charge relaxation in Semi-conductor and Metal-Oxide nanoparticles, Surface and Bulk System; polymers; nonlinear optical materials; thermodynamics and lattice dynamics of Solids.

Prof. Talgat M. Inerbaev has secured several awards and many grants from external sources, which include:

- Japan Society for the Promotion of Science, (JSPS), fellowship award (2004);
- Grant-in-Aid for JSPS postdoctoral fellows (2004);
- Allocation Year Startup/Production Award "Ceria nanoparticles as a perspective material for biomedical applications" (2009-2010);
- China Postdoctoral Science Foundation, "Photo-Induces Dissipative Dynamics in TiO<sub>2</sub> Nanorod Catalyzed with RuO<sub>2</sub>" (2011);
- Grant of Ministry of Science and Education Republic of Kazakhstan, "First Principle Modelling of Oxide Materials for Photocatalytic Water Splitting (2013-2015);
- Grant of Ministry of Science and

Education Republic of Kazakhstan, "Computer simulation of fluoride- and oxide-based optoelectronic materials doped with rare earth elements" (2015-2017); and

- Grant of Ministry of Science and Education Republic of Kazakhstan, "Ab-initio study of electronic structure and stability of double alkaline-alkaline earth carbonates, as a perspective materials for laser optics" (2015-2017).

Prof. Inerbaev has contributed to the research repository with as many as 42 research and 4 non ISI journal papers. He has an H-index of 13 with a total of 497 citations. He has a considerable conference proceedings experience and delivered over 16 talks in workshops and seminars. He has co-authored books with three chapters titled:

- Single site metal ions on the surface of TiO<sub>2</sub> nanorods –a platform for theoretical and experimental investigation In: Surface Chemistry for photocatalysis, D. Kilin, editors, ACS, 2015, in press.
- Theoretical modelling of oxygen and water Adsorption on Indium Oxide (III) Surface In: Surface Chemistry for photocatalysis, D. Kilin, editors, ACS, 2015, in press.
- Nucleation mechanism of clathrate hydrates In: Advances in the study of Gas Hydrates, C.E. Taylor, J, Kwan, editor, Springer 2004, p, 173-184.

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Prof. Inerbaev was born in Almaty, Kazakhstan in 1968 in the Russian Federation. He finished his Bachelor's Degree in Physics from Novosibirsk State University, Department of Physics in 1992. In 1994, he completed his Masters in the same field with the dissertation on "Spatial Structural Modulation Induced by Screened Ferroelasticity" from Nikolaev Institute of Inorganic Chemistry, Siberian Branch of Russian Academy of Science. He joined the same Institute as a research scientist and worked there from 1994-2003.

He completed his PhD in chemical physics at Nikolaev Institute of Inorganic Chemistry in 2003, and investigated the influence of the guest molecules on mechanical stability of the clathrate hydrates. There after, he proceeded for postdoctoral research associate at the Institute for material research in Tohoku University, Sendai, Japan (2003-2008). He left for the University of Central Florida in 2008 for another postdoctoral research associate at Nanoscience Technology Center, Orlando, FL, USA (2008-2009). His impressive services and contributions placed him to South China Normal University in 2009 as postdoctoral research associate in the School of Chemistry and Environment, where he served till 2012.

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

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

- Hundred scholarships for students/researchers for postgraduate studies and ten scholarships for post-doctoral fellowships at all campuses of COMSATS Institute of Information Technology (CIIT), Pakistan.
- Seven Ph.D scholarships [4 fully paid and 3 partially paid (50%)] and five-postdoctoral fellowships at the Iranian Research Organization for Science and Technology (IROST), Iran.
- Ten doctoral scholarships/post-doctoral fellowships at the International Center for Chemical and Biological Science (ICCBS), Pakistan.
- Five post-doctoral fellowships at the National Research Centre (NRC), Egypt, and International Centre for Climate and Environment Sciences (ICCES), China, each.
- One post-doctoral fellowship at Bangladesh Council for Scientific and Industrial Research (BCSIR), Bangladesh.

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

## Selected Forthcoming Scientific Events in COMSATS' Countries

- 25-30 Aug. 2018 3<sup>rd</sup> International Symposium on Phytochemicals in Medicine and Food, Kunming, China (<https://ispmf2018.wixsite.com/kunming>)
- 1-2 Sept. 2018 Clinical applications of Non-Invasive Brain Stimulation (NIBS): 2-day workshop, São Paulo, Brazil (<https://www.neurocaregroup.com/event-details/clinical-applications-of-non-invasive-brain-stimulation-nibs-2-day-workshop.html>)
- 03-05 Sept. 2018 International Agricultural, Biological and Life Science Conference, Istanbul, Turkey ([www.agbiol.org/](http://www.agbiol.org/))

## COMSATS Network of Centres of Excellence



BCSIR-Bangladesh  
[www.bcsir.gov.bd](http://www.bcsir.gov.bd)



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



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



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



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



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



CSIR-Ghana  
[www.csir.org.gh](http://www.csir.org.gh)



IROST-Iran  
[www.irost.org](http://www.irost.org)



ICENS-Jamaica  
[www.icens.org](http://www.icens.org)



KazNU-Kazakhstan  
[www.kaznu.kz/en/](http://www.kaznu.kz/en/)



RSS-Jordan  
[www.rss.jo](http://www.rss.jo)



ICCBS-Pakistan  
[www.iccs.edu](http://www.iccs.edu)



NMC-Nigeria  
[www.nmcabuja.org](http://www.nmcabuja.org)



CUI-Pakistan  
[www.comsats.edu.pk](http://www.comsats.edu.pk)



AQU-Palestine  
[www.alquds.edu/en](http://www.alquds.edu/en)



UCAD-Senegal  
[www.ucad.sn](http://www.ucad.sn)



ITI-Sri Lanka  
[www.iti.lk](http://www.iti.lk)



IRCC-Sudan  
[www.ircc.gov.sd](http://www.ircc.gov.sd)



HIAS-Syria  
[www.hiast.edu.sy](http://www.hiast.edu.sy)



TIRDO-Tanzania  
[www.tirdo.org](http://www.tirdo.org)



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



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

Honourable mentions: Ms. Isra Mahmood, Mr. Kehinde Musodiq Sanni, and Mr. Anya Augustine Igwebuike



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