



COMSTECH News

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ORGANIZATION OF ISLAMIC COOPERATION STANDING COMMITTEE ON SCIENTIFIC AND TECHNOLOGICAL COOPERATION

From Coordinator General's Desk



Prof. Dr. M. Iqbal Choudhary
H.I., S.I., T.I.

As world is in the midst of the third wave of COVID-19 pandemic, and it is apparent that pandemic will continue to effect lives and economies in many years to come.

Science and technologies have played an important role in our capacity to meet the challenge of this devastating health crisis, and they will continue to play a key role in meeting challenges in future as well. As per an estimate without appropriate and timely response based on scientific research, global death toll could have exceeded hundreds of millions.

As a whole OIC region has handled the pandemic very successfully. However, almost paralytic dependence of many OIC member on other countries for everything, from diagnostic kits to hospital devices, PPEs, and now vaccine has exposed the vulnerabilities and lack of preparedness. With a few exceptions, countries in the OIC region are dependent on global vaccine manufacturers or multilateral organizations for their vaccine demands. Vaccine crisis is a stark reminder for us to develop our own capacity to develop

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First Meeting of COMSTECH Scientific Advisory Council Held

COMSTECH Scientific Advisory Council comprises upon 15 eminent scientists and science leaders from Pakistan, Saudi Arabia, Malaysia, Senegal, Egypt, Algeria, Oman, Sudan, Jordan, Kazakhstan, Qatar, Lebanon, and Turkey. All fifteen members of the advisory council participated in first meeting held online on January 27, 2021.

In his introductory remarks, Coordinator General COMSTECH, Prof. Dr. M. Iqbal Choudhary, briefed the council on the establishment, role, aims and objectives of COMSTECH, its mechanism of work and collaboration with OIC institutions and international organizations. Dr. Choudhary mentioned current programmes and past progress of COMSTECH, and shared the organization's strategic priorities and challenges. He cited the resolutions that emanated from the first OIC Summit - held in Kazakhstan in 2017 – that called on COMSTECH to strengthen cooperation between OIC countries in the domain of STI capacity building and policy formulation, as well as in developing STI monitoring mechanisms. Dr. Choudhary requested the council to review the existing programmes of COMSTECH, and advise on how COMSTECH can emerge as a more effective organization for S&T based development.

Dr. Zou'bi, Former Director General, Islamic World Academy of Sciences, Science Adviser, InterAction Council, Co-Founding Director, World Sustainability Forum, Jordan, introduced a brief synopsis on past and present science advisory mechanisms in OIC countries, identified institutional and individual advisors from the OIC and highlighted the importance that countries such as the US attach to the position of science

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A Nation of 220m can not Rely on Others

Pandemic has taught us a lesson that “no one will come to help us in global crises”. A nation of 220 million people can not rely on others for literally everything, said Prof. Dr. M. Iqbal Choudhary, Coordinator General, COMSTECH in his inaugural address of the national seminar on 'Global, strategic and socio-economic impacts of COVID-19 and Pakistan' organized by National Defence University.



The keynote address of the session was delivered by the Chief Guest, General Nadeem Raza, NI (M), Chairman Joint Chiefs of Staff Committee.

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COMSTech and Cuban Embassy Agree to Work for Capacity Building of OIC States

Coordinator General, COMSTech, H. E. Prof. Dr. M. Iqbal Choudhary along with Dr. Syeda Tanveer Kausar Naim, Former Chairperson, Pakistan Council for Science and Technology, UNESCO International Advisory Board (IAB), had a meeting with H.E. Mr. Zéner Javier Caro González, the Ambassador of Republic of Cuba on Feb. 18, 2021 at the Embassy of Cuba in Islamabad to discuss avenues of cooperation for capacity building of OIC member states.

During the meeting it was agreed upon that COMSTech would work closely with the esteemed Embassy of the Republic of Cuba and collaborate with the Ministry of Foreign Affairs of the Cuba for capacity building of OIC member states in the fields of virology, vaccines, nutrition, agriculture, and training of paramedical staff.

H. E. Prof. Dr. Choudhary appreciated the vision of the

Ambassador and his support to Pakistan at the critical moments. He also invited His Excellency to visit COMSTech headquarters in Islamabad. ■



Left to Right: H.E. Mr. Zéner Javier Caro González, Dr. Syeda Tanveer Kausar Naim, H. E. Prof. Dr. M. Iqbal Choudhary

Indonesian Envoy Louds COMSTech Services to OIC States

H.E. Mr. Adam M. Tugio, Ambassador of the Republic of Indonesia, visited COMSTech Headquarters. Prof. Dr. M. Iqbal Choudhary, Coordinator General COMSTech warmly received him and gave him a tour to the COMSTech facility. Dr. Iqbal briefed him on the state-of-the-art facilities available at COMSTech headquarters.

The Coordinator General took His Excellency to the poster exhibition site and highlighted the current economic status of Indonesia by describing him the poster of Indonesia displayed there. COMSTech has prepared one poster of each OIC member state highlighting key socio-economic, and scientific development indicators.

Prof. Choudhary briefed the Ambassador on the current COMSTech activities and future programmes and vision for the socio-economic uplift of the OIC member states by the application of modern technologies. Prof. Choudhary requested the Excellency to arrange visits of OIC scholars to OIC center of excellence in vaccine technology in Bandung, Indonesia. The Ambassador proposed to organize exhibitions of technologies developed in leading OIC countries to fight against COVID-19 pandemic. He also proposed to

collaborate in the applications of IT-based technologies for the effective vaccination process.

H.E. Mr. Adam, appreciated the current programmes of COMSTech and the vision for the future. Prof. Choudhary presented a shield of memento to the Ambassador. ■



1st MoU Follow-up Meeting between COMSTech and Al-Shifa Eye Trust Held

The first follow-up meeting of COMSTech and Al-Shifa Trust Eye Hospital, Rawalpindi was held on February 17, 2021 at COMSTech Secretariat, Islamabad to review the implementation status of Memorandum of Understanding (MoU) signed between the two organizations on 1st January 2021.

The delegation level meeting was jointly chaired by H.E. Prof. Dr. M. Iqbal Choudhary, Coordinator General COMSTech and Maj. Gen. Rehmat Khan (R), President Al-Shifa Eye Trust. ■

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From Coordinator General's Desk and manufacture vaccines and biologicals for local needs. It has emerged as an important component of health security regime. It is high time that we work together towards achieving this critical goal through mutual commitment and multilateral cooperation.

COMSTech is in the process of developing networks and alliances of virology laboratories in OIC region, and to engage vaccine developers in Cuba, Indonesia, Turkey, Iran and other countries to establish such facilities under joint venture arrangements. Parallel to this, human resource capacity development in the field is also pursued through mobility, exchange, and visits. Kindly visit COMSTech website – www.comstech.org – to participate in these programmes. ■



COMSTech-ICYF Announce Winners of the Essay Competition on Artificial Intelligence

COMSTech, the OIC Ministerial Standing Committee on Scientific and Technological Cooperation, and ICYF, the Islamic Cooperation Youth Forum jointly organized an essay competition on Artificial Intelligence (AI) for OIC youth.

The competition aimed to enhance awareness of AI in OIC as a leading technology of the contemporary era and its potential in varied areas of economy and society.

The competition was open to participants from all OIC countries and consisted of two categories viz. students (18-25 years) and young professionals (25-35 years). The essays were in any of the three official OIC languages (English, Arabic or French) and were required to be original and unpublished. They were assessed by an international Jury of four experts from different OIC countries on the basis of the structure and organization of the essays, technical mastery of the selected topic, novelty of the idea being proposed, and finally, realistic potential of the proposed theme for application.

Possible themes for the essays were identified as AI in Health/Education, Technology Frontiers, E-Governance, Ethical & Regulatory Issues and application of AI in Social Development.

A total of 110 participants from 23 different OIC countries applied for the competition. On the basis of their 300-500 words abstracts, 43 participants were shortlisted for the two categories.

Each essay was evaluated by several Jury members independently. On the basis of the average score achieved by each participant, COMSTech and ICYF announced the following winners in the two categories.

Professional Category

1st Prize is awarded to Mr. Beltus Nkwawir Wiysobunri of Cameroon for his essay, A Deep Learning Automatic Tactile Pavement Detection System for the Visually-Impaired



2nd Prize is awarded to Mr. Ousman Touray of Gambia for his essay, Monitoring Health: Monitoring Diabetes and Hypertension Using AI



3rd Prize is awarded to Mr. Selahattin Bingol of Turkey for his essay Do Judges and Prosecutors Need to Be Worried? (AI Contron on Laws)



Student Category

1st Prize is awarded to Ms. Sara Marhoon Al-Ghafri from the College of Engineering, National University of Science and Technology, Oman for her essay titled, SANAD: A learning tool for the visually impaired.



2nd Prize is awarded to Ms. Joanna Gomez of the School of Arts and Sciences, Division of Humanities and Social Sciences, University of the Gambia (UTG), Gambia for her essay titled, Certification and Auditing as Tools for Effective Data Regulation and Oversight in Artificial Intelligence.



3rd Prize is awarded to Ms. Samawia Rizwan of the National University of Science and Technology (NUST), Islamabad, Pakistan for her essay titled "Integrated machine learning and bioinformatics approaches for the development of potential therapeutics against pandemic diseases". ■



COMSTech Webinar on "The Story of Favicovir: Domestic Drug Development for Covid-19 Treatment"

As the world shaken by pandemic COVID-19, small molecule inhibitors have previously been heavily investigated in different studies as possible therapeutics in the treatment of SARS-CoV-2, said Prof. Guzel.

In Turkey we began investigating potential treatment options and decided to collaborate with a local pharma company named Atabay. Within a short period of time, we have successfully completed full lab and industrial scale of three molecules that have been vastly used for Covid-19 treatment such as Favipiravir (Fav), Hydroxychloroquine (HCQ), Remdesivir (Rem).

As the literature supports, Favipiravir is approved by some countries, including India, for COVID-19 treatment. Favipiravir has shown rapid viral clearance and faster clinical improvement, he informed.

Various treatment recommendations include Favipiravir for COVID-19 treatment. We began to investigate and

immediately started synthetic strategy for these medicines. To minimize and reduce the external dependency we as a group of 12 researchers started local synthesis and isolated our lab and stayed in the hotel during the entire project term.



During our study we have established cost effective route to expedite the process and filed a domestic patent and currently preparing manuscript for publication, said Prof. Guzel.

In this webinar, the short time success story and local licensing adventure of Favipiravir has been discussed in detail by Prof. Guzel. Complete video lecture can be watched at "comstech-oic" youtube channel.

Prof. Dr. Mustafa Güzel is currently serving as Director of Drug Discovery and Development Research Center, Istanbul Medipol University, Turkey. ■

Journalists' Training Crucial for Science Communication

The COVID-19 pandemic has accelerated the ability of researchers to reach the audiences so much more quickly. There are receptive audience, always waiting for information, and there is a lot of hunger about scientific information and research-based knowledge. Science communication is relatively a new field of study. We should organize training for journalists on science communication to educate masses and fight infodemic, said Mr. Ehsan Masood while addressing COMSTech webinar on "Pandemic lessons for science communication" held online, on Jan. 6.

He asked some basic questions; what is the criteria of lockdown, social distancing and when do we open and close borders, how do we test, trace and isolate and said that it does not relate to a sort of advance technology to answer these questions. There should have been some consensus amongst the world on it. But all of these things happening according to each country's own standards, everyone is doing by self, may I call it pandemic of selfishness or what, He lamented.

Mr. Ehsan mentioned that in contrast, science is really fascinating. The pandemic has shown, that when researchers can set aside the desire to compete and when agree to work towards the greater shared goal, then look what can happen. He mentioned that I have not seen this level of cooperation in my 25 years long career in science journalism. The way researchers communicate with each other has been a much more collegial and cooperative endeavor.

Infodemic – a pandemic of misinformation, but also a pandemic of disinformation, which means deliberately intended to mislead or potentially to cause harm. The flow of scientific information has very heavily relied on social media. We have all benefitted massively from social media. But of-

course this ability to communicate so much more quickly and easily with very vast number of people has downside as well. It is fueling the infodemic. The concerning element of this is the scale and speed of it, he said.

He concluded by saying that science is happening faster, it is being communicated

faster, the regulatory process is happening quicker, many more people are now involved in the research process, we talk about citizen science, public involvement, public engagement, all these things are coming on the way on the scale that is different.

By answering the questions of the audience, he said that we need to have good research to cope with infodemic. He said that the role of local languages is most important for effective science communication. Scientists should communicate by using different communication means available.

Ehsan Masood is a personality who have inspired everyone. He has done a wonderful work in his field and has international recognition on his achievements in the field of science journalism, said Prof. Dr. M. Iqbal Choudhary, Coordinator General COMSTech while giving introductory remarks.

He asked that how much miscommunication has caused a damage to the humanity during this pandemic. Dr. Iqbal said that it happened because of lack of knowledge of science communication and ability to reach out to masses. He said that it has created a niche that science communication has real

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A Nation of 220m can not Rely on Others

Dr. Choudhary said that without indigenous science and technology capacity and its linkages with the industry, we will remain dependent on others. Public health care have strategic importance, technology development to fight pandemics will help us in bio-risk management and national biosecurity, he highlighted.

Dr. Choudhary said that Pakistan has the highest load of viral diseases in the world, very few trained professionals in the field, almost no institutional infrastructure in virology and vaccine development.

He said COVID-19 is here to stay and it is fast mutating, creating a need of constant nation-wide genomic surveillance. Our access to vaccines will remain limited, and we would need new vaccines every year, some especially designed for our own mutants.

To meet these current and future challenges, Dr. Choudhary suggested to invest more in health care research. Train at least 1000 young scientists and health professionals in virology research and clinical practices, and strengthen existing virology laboratories. He emphasized the establishment of

BSL-4 high-containment lab at national institute of virology, Karachi and at least one high tech viral disease diagnostic set up in each provincial and national capital. Dr. Choudhary also suggested

the establishment of 'National Disease Surveillance Center' with sample collection units in all major tertiary care hospitals. He stressed the need of setting up of "One Health Institute" to coordinate research on human and animal-borne virus outbreaks.

Dr. Choudhary said that we should develop academic and research linkages with virology and genomic research institutions in China under the CPEC programs. He said that indigenous vaccine, biologicals, and diagnostic development and production facilities may be granted a long term tax holiday along with buy back guarantee. He suggested the establishment of consortium of civil-military R&D institutions with clear plan, deliverable and funding mechanism. ■



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First Meeting of COMSTech Scientific Advisory Council Held

advisor. He identified policy gaps/problems in the STI ecosystems in OIC countries that can be studied/discussed by COMSTech advisory council including recognising the best science advisory mechanisms, and addressing the apparent lack of STI policies and STI observatories in such countries. He proposed a number of deliverables that COMSTech-SAC can accomplish including generating templates of STI policy instruments for OIC countries as well as an all-encompassing report on the status of STI in OIC countries.

Dr Atta-ur-Rahman, *FRS* who has served as Coordinator General, COMSTech, (Ex-Advisor and Federal Minister of Science & Technology and Information Technology, as well as Chairman, Higher Education Commission of Pakistan) identified four specific areas that can be the subject of analysis and action by COMSTech and COMSTech-SAC respectively; (1) strengthening COMSTech networks and founding new ones to cover topics such as AI, Nanomedicine, Virology, Biofuels and Energy Storage Systems, Advanced Genomics etc. (2) revamping the Science, Technology and Innovation Organisation (STIO); (3) carrying out foresight studies; and (4) developing model university-industry interactions.

Dr. Sindi, Senior Scientific Adviser to the President (IsDB) on Science, Technology and Innovation, presented an overview of the activities undertaken by the Islamic Development Bank (IsDB) in the domain of STI, essentially to nurture economic growth and help member-countries achieve the SDGs. She mentioned establishment of S&T department within the Bank, the launch of the US\$500 million Transform Fund and the Engage Platform, primarily to empower the S&T and innovation ecosystems in OIC countries. Dr. Sindi mentioned the establishment of an IP unit to support innovation in member countries, and highlighted efforts to integrate STI with those of national institutional and individual stakeholders. Dr. Sindi concluded by proposing a number of roles for COMSTech-SAC in line with the strategy of the IsDB.

Dr. Zakri, who has served as Science Advisor to the Prime Minister of Malaysia, commended the work of IsDB in the domain of STI and highlighted the activities of its Transform Fund. He also highlighted the role of the International Network of Government Science Advisors (INGSA) in the Science-Policy nexus adding that a national science advisory mechanism was the last piece of the giant jigsaw making up the national/international STI ecosystems.

Dr. Ousmane Kane, former Researcher and Director General of the Institute of Food Technology (ITA) and former Executive Director of the African Regional Centre (ARCT), Senegal, highlighted the issue of the COVID-19 vaccines that have been developed in response to the pandemic, adding that there were no clear strategies in OIC countries to manage the vaccination processes. Under the leadership of COMSTech, an effort would need to be initiated if the vaccination processes are to be successful in particular to advise on the choice of the

vaccine, he added.

Dr. Djeflat, Chairman, The Maghtech Network, senior fellow Clersé-CNRS Research Center and Associate Senior Researcher CREAD-Algiers, Algeria, said that although many countries boasted a variety of STI institutions, the effectiveness of such institutions was lacking. He suggested that national STI roadmaps have to be reviewed to render the STI enterprise more productive. He expressed his support of the OIC networks that COMSTech had established and suggested that countries in the West may at some point host such networks.

Dr. Al-Naimi, Chairman of the Doha International Centre for Interfaith Dialogue, Qatar, suggested that OIC countries need to prioritize their objectives and focus on specific issues in the domain of STI. He highlighted the important role of the Qatar National Research Fund as a possible sponsor of joint research programmes between OIC researchers and their counterparts from Qatar-based research centres and institutions.

Dr. Mouin Hamzé, Secretary General, National Council for Scientific Research (CNRS), Lebanon, highlighted the fact that there was a wealth of STI policies and strategies in OIC countries, however, there were many problems that hindered the adoption and application of such policies including but not only the dearth of financial resources, but also the limited trust between decision-makers and the scientific community at the national level. This was highlighted at the world level with onset of the COVID-19 pandemic, he added. There was a need for our countries to be more proactive and that ethics should be at the centre of the STI network.

Dr. El-Kharraz, Head of Research, Middle East Desalination Research Centre (MEDRC), Oman, suggested that the duplication of efforts in the domain of STI should be avoided, and that an attempt should be made to map the STI landscape and STI policies in OIC countries. He added that the onset of the COVID-19 pandemic has highlighted the need to localise technology, and support SMEs to achieve such a goal. He also highlighted a number of new areas that can be looked at including big data, artificial intelligence, green hydrogen, food and energy security, as well as climate change. He suggested that COMSTech-SAC should bring in added value and play the role of an observatory of the STI activities ongoing in the region for benchmarking and programme implementing purposes.

The representative of TUBITAK recalled the various STI-related decisions of the OIC Summit of 2017, and the efforts of COMSTech to establish to an R&D Fund for OIC countries.

Meeting ended with the vote of thanks by the Coordinator General COMSTech, who informed that the next meeting will be held in Islamabad (in-person) in April/May 2021. ■

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