



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.

On November 10, 2020, we will celebrate "World Science Day for Peace and Development", with renewed commitment of developing responsible science which benefit humanity in general. Science provides

opportunities to young people to contribute in scientific global enterprise. Most importantly deployment of science for the benefit of people who need this the most.

Post-COVID-19 world demands a fresh thinking towards the applications of STI (science, technology, and innovation) for human well-being, preparedness against future health challenges, and for solving enduring global problems. Science should transform from a tool of profit making and economic dominance to an enterprise for global common good and human dignity.

Major contributions of Muslim scholars in the fields of science, technology, and philosophy have benefitted the humanity at large, and laid the foundation of the world of knowledge we live in today.

COMSTech, jointly with its partners (UNESCO, COMSATS, ECOSF, PSF, ICESCO and PAS) plan to celebrate the scholarly contributions of

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2nd OIC Summit on Science and Technology in December 2020

The Assistant Secretary General (S&T) of the OIC, Ambassador Askar Mussinov, informed an online meeting of all the S&T OIC organs of the OIC that due to the continuing pandemic situation, the next S&T Summit of the OIC would be held on-line in early December and would be organized by the Government of the UAE. He stated that the Summit would provide an opportunity for the member States to reaffirm their national commitments towards cooperation in science and technology and for strengthening actions at the science-policy interface. He was addressing the Steering Committee for Implementation of the OIC Science and Technology Agenda comprising the Heads of twelve OIC organs in an online meeting organized by COMSTech.

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COMSTech Announces Award Winners

COMSTech confers awards biennially in 'Basic Sciences' and in 'Excellence in Science and Technology' to recognize outstanding research work carried out by scientists who are citizen of, and working in, OIC member states.

In the category of basic sciences, awards are given in Biology, Chemistry, Physics and Mathematics. COMSTech confers awards in two fields alternating biennially. Each award carries a cash prize of US\$5000, a shield of honor and certificate.

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COMSTech Announces Annual Scholarships for Turkish Scholars

His Excellency Mr. Tolga Uçak, Consul General, Turkish Consulate General in Karachi visited International Center for Chemical and Biological Sciences, University of Karachi, Pakistan.

H. E. Prof. Dr. M. Iqbal Choudhary, Director ICCBS and Coordinator General

COMSTech, received the Consul General and briefed about the various projects and activities going on at the ICCBS as well as COMSTech. It was indeed a very useful and pleasant meeting with lots of excellent ideas exchanged.

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COMSTECH and Pink Pakistan Trust Sign MoU to Achieve SDGs and Promote Women Wellbeing in Muslim Countries

COMSTECH and Pink Pakistan Trust have agreed to work towards the achievement of shared objectives of good health and wellbeing of women in OIC region. Particularly, they will work together for spreading awareness to reduce the mortality rate of breast cancer and promote women wellbeing and empowerment. The MoU between the two organizations signed by Coordinator General, COMSTECH, Prof. Dr. M. Iqbal Choudhary and the President Pink Trust Pakistan, Dr. Zubaida Qazi, here on Tuesday, October 13, 2020 at COMSTECH headquarters, Islamabad.

Both the Parties will jointly organize awareness sessions, seminars, conferences, workshops and training research and counseling support for eradicating breast cancer to the women of the marginalized communities of the OIC member countries.

COMSTECH through its various Inter-islamic Networks and

programmes shall partner with the Pink Foundation towards spreading awareness regarding breast cancer and early detection of breast cancer purely on voluntary basis for the welfare and wellbeing of marginalized communities to work for the noble cause.■



The MoU signing ceremony by Coordinator General COMSTECH, Prof. Dr. M. Iqbal Choudhary and the President Pink Pakistan Trust, Dr. Zubaida Qazi, held on Tuesday, October 13, 2020 at COMSTECH headquarters, Islamabad

Value Oriented Research Key to Prosperity

Muslim scientists are still recognized with significant contribution to science. Muslims were at the peak of science. All the science that provided the seeding to western culture and societies came from Muslim countries, said Dr. Niazi. He asked what went wrong then, and answered that we lost the link between science and technology because of the sultans. We did not allow the enough freedom, we preferred to be sultans rather than leaders of the society. This is the exactly what happened for the Muslims' decline, he observed while addressing a seminar on 'intellectual property rights for scientists' organized by COMSTECH.

Bring forward science and scientists from the corner for coming back to higher level of economic growth and innovation, he urged. Scientists are the one who make difference in how a country progresses, how a society develops so there are lot of obligations on scientists, Prof. Dr. Sarfaraz K. Niazi said.

Dr. Niazi mentioned that many OIC or developing countries are very smart in the use of available minimal input resources and getting high value output but not good in producing higher GDP because of the missing factor of entrepreneurship. Productivity and efficiency do not necessarily always result in better GDP. It requires a covalent bond between the innovation, GDP and entrepreneurship.

The number of patents is one indication of innovation. A patent gives you the economic advantage for taking a product to the market and making a GDP contribution out of it. Patent is not an intellectual exercise it is a business exercise, he highlighted. The role of patent is to encourage technological innovation, promote competition and investment and to provide information on the latest technical developments and promote technology transfer, he said.

The scientists of OIC countries are no less smart than any other country Europe and US combined. We have to find the missing link and one of the links is to find how do we get them to secure IP specially in those jurisdictions where it matters. He encouraged the countries which are not part of the patent cooperation treaty (PCT) should become as soon as possible.

He said, planning is where the value is, nobody has money or time to waste in research which is not productive, plan to answer, how you will create a value proposition instead of just a proposition. He encouraged the scientists to do research for patenting not just for publishing.



You are a part of global economy, the value you create is a global value, creating value is your moral obligation and responsibility, he reminded. Improving the lives of people living around the world is the moral obligation of scientists. Islamic countries need a quick revival, scientists should take more practical approach like China, Japan, South Korea which are great examples, he informed.

Dr. Niazi defined IP, patents, trade mark and its types and the method of filing and securing protection in detail. He talked about treaties and conventions, plagiarism and copyright along with the history of patenting in his lecture.

Professor Dr. Sarfaraz K. Niazi, FRSB, FPAMS, FACB, SI, is a patent law practitioner in the US, an entrepreneur, a teacher and researcher. He owns more than 200 US patents, authored over 100 research papers and 60+ major technology books. He serves on the editorial board of several journals and a fellow of Royal Society, Pakistan Academy of Medical Sciences and American Society of Clinical Biochemistry. In 2013, he received Sitara-e-Imtiaz from the President of Pakistan. He has hosted a radio show at Voice of America every week for more than seven years. Professor Niazi has been helping the HEC in developing US IP for the Pakistani scientists for more than 15 years.

This seminar was jointly organized by COMSTECH, ICCBS, and Sindh Innovation, Research, and Education Network (SIREN). ■

Every Challenge Humanity Faces Today has Science Dimension



The nature of science is changing, the relationship of science and society is changing, the nature of policy making is evolving, there is a linkage between society and policy making. The importance of social sciences in science policy is crucial and inclusion of social scientists in the dynamic of science advice is key, said Prof.

Dr. Tan Sri Zakri Abdul Hamid while addressing COMSTech webinar participants on the topic of “Science advice to governments” here at COMSTech Secretariat on September 23, 2020. Prof. Zakri has shown the way to the development to Malaysia said Prof. Dr. Atta-ur-Rahman in his introductory remarks.

Prof. Zakri talked about principles and practices of science advice to the governments. He said to be successful in policy making we have to engage different tiers not only the politicians, and policy makers but also the public, media, agencies, recipients and international organizations. The reliance is now on more evidence-based policy making, he said.

Every challenge governments face has a scientific dimension, which may or may not be recognized. Science alone does not make policy many values and political considerations do. The

science, public opinion, political ideology, electoral contract, fiscal objectives and obligations, and international obligations are the inputs to the policy making, he mentioned.

To make the science policy to be really owned by the public, scientists must link up with the political leaders, he suggested by mentioning many examples from his experience.

During the discussion session participants came up with two conclusions. First, we should make small groups of like-minded countries and start work in those countries and after getting success we should spread it to other countries. Second, COMSTECH should establish a “COMSTECH Network on Science Advisory”.

Dr. Zakri worked as research scientist & academic, senior university administrator, diplomat, negotiated UN treaties, member of Ban Ki-Moon's scientific advisory board. He is founding chair of intergovernmental platform on biodiversity and ecosystem services, vice-chair board of trustees of the UN technology bank for least developed countries, member of IsDB President's scientific advisory council and science adviser to the prime minister of Malaysia. Currently he is chairman of Atri Advisory, Chairman of BCSD of Malaysia and Pro-chancellor of Multimedia University in Malaysia.

This webinar was attended by a large audience from OIC member states. Prof. Dr. M. Iqbal Choudhary Coordinator General COMSTECH thanked the participants and Prof. Dr. Zakri Abdul Hamid and Prof. Dr. Atta-ur-Rahman for their precious time and recommendations. ■

COMSTECH and IUCr Agree to Start Joint Projects

International Union of Crystallography (IUCr) and COMSTECH agree to start joint projects in the field of crystallography for OIC member states in a virtual meeting. COMSTECH and IUCr will collaborate to promote Science and Technology via X-ray crystallography in African and Central Asian OIC member states. The meeting was attended by Prof. Dr. M. Iqbal Choudhary (Coordinator general COMSTECH), Dr. Samar Hasnain (University of Liverpool), Dr. Sven Liden (IUCr President), Mr. Michele Zima (IUCr Outreach officer), Mr. Alex Ashcroft (IUCr Executive Secretary), and Dr. Smmer Yousuf (Associate Professor, ICCBS).

The Coordinator General COMSTECH, Prof. Dr. M. Iqbal Choudhary, briefed the participants on the current and the future programmes and initiatives of COMSTECH and

highlighted the mutual benefits of the IUCr and COMSTech joint collaborative projects. Responding to Prof. Choudhary, President of IUCr, Prof. Sven Lidén agreed to initiate collaborative projects with COMSTech and invited Prof. Choudhary to attend general assembly of IUCr.

This meeting was facilitated by Prof. Dr. Samar Hasnain, an acclaimed mentor of crystallographic community in Pakistan. COMSTECH and IUCr upon suggestion of Prof. Dr. Samar Hasnain, agreed to plan activities through targeting countries like Cameroon, Nigeria and Kazakhstan.

Prof. Dr. M. Iqbal Choudhary, termed this meeting historical with the confidence of vibrant collaboration between the two organizations and appreciated the leadership and the team of the IUCr in his concluding remarks. ■

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COMSTech Announces Annual Scholarships for Turkish Scholars

H. E. Prof. Dr. M. Iqbal Choudhary announced 5 annual research scholarships to the Turkish graduate and post-graduate scholars in the field of chemical and biological sciences at the ICCBS through TWAS/ COMSTech fellowship programs. These students will be placed in various sections of ICCBS based on their fields of interest for 6-12 months. ICCBS will cover their bench fee, accommodation and research expenses.

Establishment of Pak-Turk Mirror Research Centers in the

Field of Halal and Textile Product Development were also proposed.

Excellency the Consul General of Turkey, welcomed the proposals of collaboration and ensured the full support in both initiatives. He agreed to coordinate with Turkish universities and research institutions in this regard. A detailed discussion on the status of various clinical trials on COVID-19 drugs/ vaccines was also held. ■

Online Certificate Course on Serological Testing of SARSCOV2: Sample Collection, Testing & Result Interpretation

COMSTech organized 2nd Online Certificate Course on SARSCOV2 in collaboration with National University of Sciences and Technology (NUST), Pakistan on 24TH September 2020. This course had participation from Pakistan, Turkey, Cameroon, Nigeria, Iran, Indonesia, Sudan, Azerbaijan, Senegal and other countries. This course was conceived to benefit scientists and research scholars from different fields of biological sciences including Molecular Biology, Biochemistry, Genetics, Immunology, and Biotechnology.

The course was delivered by Dr. Ali Zohaib and Dr. Aneela Javed, Faculty members of NUST, Atta-Ur-Rehman school of Applied Biosciences. Contents of the course were related to basis and principles of Serological testing, Laboratory

procedures for COVID-19 sample collection, storage and transportation. Additionally, audience was briefed about current state of the art diagnostics used for SARS-COV2 19.

Prof. Dr. M. Iqbal Choudhary, Coordinator General COMSTech, welcomed participants and explained the significance of this important course. He delved into modalities COMSTech has adopted to enhance capacity of member OIC states for COVID-19 testing and creating mass awareness towards this pandemic.

In concluding session, facilitators and moderators briefed participants about COMSTech future initiatives and current research work on COVID-19 in Pakistan, Particularly NUST.■

Course on Symmetry Operations for Crystallographers Begins

International Center for Chemical and Biological Sciences in Collaboration with COMSTech organized an online course on "symmetry operations for crystallographers" which is being delivered by Prof. Dr. Richard C. Garratt, Department of Physics and Interdisciplinary Science, Institute of Physics of São Carlos, University of São Paulo, Brazil.

This course spans over 15 weeks from Oct. 13, 2020 – Feb. 02, 2021, in which two sessions each week on Tuesday and Friday are being conducted. The students from OIC member states are attending this course online. This two-credit hour free course is designed for postgraduate and Ph.D. students working in any discipline of Chemistry, Biology, and Physics.

At the end of this course the participants will be able to understand and apply current knowledge on the basics of symmetry operation as applied to chemical and biological structural studies on the basis of X-ray diffraction analysis.

Crystals are periodic arrays of atoms, ions or molecules. They can be described by the symmetry of "infinite" objects. They show translational symmetry along with the rotations, reflections and inversions found in finite objects. In three dimensions, there are only 230 possible symmetric arrangements which are compatible with translational symmetry. These are the crystallographic space groups, and they are derived from 32 corresponding point groups. It is

important to determine the space group of a crystal as it has implications at all stages of structure determination, from data collection to structure refinement, and sometimes even during the interpretation of the resulting structures. During this lecture the basics of the symmetry of three-dimensional objects relevant to crystallographic analyses will be presented in the simplest way possible.



Prof. Garratt is currently a full professor at the University of São Paulo working in the field of structural biology using protein crystallography and molecular modeling techniques. His current practice areas include septin, superoxide dismutases, the purine salvage pathway in parasites, nuclear receptors, protein-based drug and vaccine planning, protein engineering and the development of teaching tools for teaching structural biology. He is a member of the Academic of Sciences of the State of São Paulo and the Brazilian Academy of Sciences.■

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2nd OIC Summit on Science and Technology in December 2020

COMSTech is the OIC Ministerial Standing Committee on Scientific and Technological Cooperation with its Secretariat located in Islamabad. The Coordinator General of COMSTech, Prof. Dr. M. Iqbal Choudhary, shared with the members that the 1st Summit was held in 2017 in Astana, Kazakhstan, and had approved a vision and broad plans for a ten-year agenda of scientific and technological development of the OIC member states. This Agenda, known as the STI Agenda 2026, has been developed further by COMSTech as a series of action programs and initiatives for major priority areas such as food security, health and medicine, skilled manpower development, and frontier areas of science and

technology etc. COMSTech has been coordinating the efforts of all partners in the OIC for implementing various programs in these priority areas.

Prof. Dr. M. Iqbal Choudhary appreciated the role of OIC institutions in implementation of the STI Agenda 2026 and requested the institutions to forward their suggestions and achievements made in science, technology and innovation of the OIC countries in the past three years. These suggestions could form the basis of the concept paper and working documents of the upcoming Summit.■

Online Workshop on Innovation in Entrepreneurship Education

COMSTECH Online Workshop on “Innovation in Entrepreneurship Education - Using Experiential Learning to Connect Theory and Practice” held on September 30, 2020.

M. Nauman Farooqi, Ph.D. Dean of Business & Social Sciences, Professor of Finance & Entrepreneurship Ron Joyce Center for Business Studies Mount Allison University Sackville, NB, Canada conducted this workshop.

The objective of this session was to share the instructor and student learning experience of the use of experiential learning pedagogy in an entrepreneurship course using Practical

Organization Behavior Education (PROBE) model. The PROBE model, which was originally developed to teach organizational behavior, has been modified and extended to effectively teach various business courses. However, the use of PROBE in an entrepreneurship course is innovative and as such needs to be shared with the learning community.

This was an interactive session. Diverse audience from university/college faculty, curriculum developers, researchers, policy makers and government attended this workshop.■

Resilient and Holistic Food System Must to Fight Hunger, Experts Warn

The experts stressed the need of taking immediate actions to protect food system to produce enough food in quantity and quality. The COVID pandemic has already posed a serious threat to our food system; we need to develop resilient and holistic food system to fight hunger, the panelists urged, while addressing the COMSTECH virtual seminar on World Food Day on the theme of “Grow, nourish and sustain together” organized in collaboration with UPSIGN and Pakistan Academy of Sciences.

They warned that the food system is facing tremendous pressure from climate change causing the depleting natural resources, soil degradation, water shortage and increasing threat from invasive species of pests and diseases. It was noted that the new varieties have low update of trace elements and essential minerals that needs to be addressed.

Prof Ratan Lal, The World Food Prize Winner 2020, was the chief guest speaker. A panel of distinguished scholars and policy makers who participated in this seminar include Dr Tina Barsby OBE, Director and Chief Executive Officer, National Institute of Agricultural Botany (NIAB), UK, Dr Shahid Mansoor, National Institute for Biotechnology and Genetic

Engineering (NIBGE), Prof Iqra Ahmed Khan, former VC of University of Agriculture, Faisalabad.

The Hon. Ms. Shandana Gulzar Khan, Chairperson of the Commonwealth Women Parliamentarians (CWP) network and chair of Agri products committee in National Assembly of Pakistan informed that the government of Pakistan is keen to develop a long-term strategy to protect its natural resources, especially soil and water for the coming generations in her closing remarks.

Prof. Lal stressed the need of teaching our young generation to protect our soil's health, which is living and improve organic contents, through restoration of soil health, we can improve the human health. Resilient systems are those that can bounce back, we need to encourage urban agriculture. Good food is a good medicine, improving nutritional value. He quoted verses from the Holy Quran meaning "Eat lawful and what is good on earth".

Dr Tina Barsby said, "If the world is to grow enough food for the projected global population in 2050, agricultural productivity will have to rise by at least 60%, and may need to grow more than double. Maize, Rice, Wheat and Soybean are only increasing by about 0.9% to 1.6% a year. We need to increase it to 2.4% per year to double yield by 2050". *Continued on pg. 5*

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From Coordinator General's Desk

great Muslim thinkers and scientists towards global intellectual heritage. In the first instance, COMSTECH is organizing “Global Al-Farabi Forum” during December 21-22, 2020 in Islamabad, Pakistan in collaboration with the government of Republic of Kazakhstan, celebrating scholarly contributions of a great Muslim scientist and philosopher Abu Nasar Muhammad Al-Farabi on the occasion of his 1150th anniversary.

Along with this, COMSTECH has initiated a large number of programs and initiatives for 2020-21 (www.comstech.org). We invite you to benefit from these programs, and help COMSTECH in spreading the light of knowledge far and wide. ■

COMSTECH Webinar on Light and Polymers

Prof. Dr. Yusuf Yagci, Professor of Chemistry, Istanbul Technical University, Turkey, discussed the development and application of light based technologies and their impact on electronics, medicine, and natural sciences in his COMSTech webinar. Complete lecture is available on COMSTech Youtube channel "comstech-oic."



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