



COMSATS Newsletter

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

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Patron

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Contributions from readers are welcome on any matter relevant to the mission of COMSATS, namely the promotion of South-South cooperation in science and technology for sustainable progress of the developing countries. The responsibility for the accuracy of any information rests with the original source. Views expressed in this publication do not necessarily reflect those of its editors, publisher or COMSATS.



Executive Director COMSATS, Dr. I.E. Qureshi, presenting COMSATS' Shield to Director General UNESCO, Dr. Irina Bokova, in Islamabad

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From the Executive Director's Desk

The development challenges for most of the countries of the world, especially the ones that constitute the South, are multifarious. These are also getting more numerous and complex, in view of the increasing environmental concerns in the backdrop of global climate change impact. The countries that have benefited most from industrialization are mostly responsible for environmental degradation, which is affecting all nations. In addition to other handicaps for the rest of the world to achieve prosperity in a reasonable timeframe, this legacy role of industrialized countries is yet another barrier. The leaders of these countries balk at the idea of bearing the cost of climate change mitigation measures worldwide and take exceptions to the suggestions of common but differentiated responsibilities. The new paradigm being promoted is the requirement of an ambitious and inclusive agreement¹⁾ that could put all countries at the same level of responsibility, irrespective of their state of economy, current and historical contributions to green house gas emissions, and the vulnerabilities that they face because of actions taken elsewhere. Obviously, while natural resources of a large part of the world were usurped during the era of colonization, the affected countries have been unaware that the prospects of their future progress had also been jeopardized because of certain developments that were taking place during that period.

It is some consolation that various United Nations agencies, non-governmental organizations, enlightened governments, and Western philanthropists, are all offering helping hands to tackle issues of under-development, which is the root-cause of illiteracy, disease and hunger in most parts of the world. The common wisdom is that the problems, which are man-made, should have solutions that are within the capacity of man. A major part of this capacity lies in Science and Technology. It is in this context that UNESCO and COMSATS share a common vision of achieving inclusive sustainable development through education and technology. During the visit of Director General UNESCO to Pakistan on February 6-7, 2014 (page 3), the COMSATS team extended the offer of cooperation to UNESCO and submitted a proposal of formal cooperation agreement for the consideration of the UNESCO Executive Board. The meeting was also significant, because of the signing ceremony of UNESCO Chair agreement with one of the Centres of Excellence of COMSATS, the COMSATS Institute of Information Technology (CIIT), Pakistan. The Chair on Knowledge Systems for Integrated Water Resources Management was considered to be the most appropriate in view of UNESCO's very broad International Hydrological Programme, and COMSATS focus on

¹⁾ Barak Obama and Françoise Hollande, Washington Post, 10th Feb., 2014

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NEWS/ACTIVITIES/HIGHLIGHTS FROM COMSATS SECRETARIAT

COMSATS' RESEARCH GROUP ON 'CLIMATE CHANGE AND ENVIRONMENTAL PROTECTION' HOLDS ITS THIRD MEETING

Climate change has adversely affected almost all countries of the South during the recent years in the form of flash floods, droughts, rising sea levels and receding glaciers. International cooperation for issues related to climate change and environmental degradation should be expanded under the umbrella of international organizations like COMSATS and TWAS. Prof. Dr. Zhaohui Lin the Director of International Center for Climate and Environment Sciences (ICCES), China, expressed these views in his address welcoming the participants of the third meeting of COMSATS International Thematic Research Group (ITRG) on Climate Change and Environmental Protection held on January 22, 2014, in Islamabad, Pakistan. The meeting was held on the sidelines of the International Conference on Asian Monsoon and Climate Change (more on page 6).

The group members belonging to Bangladesh, China, Iran, Malaysia, Nepal, Pakistan, and Sri Lanka met under the Chairpersonship of Prof. Lin to review the progress of the joint research project being undertaken by its members, entitled Characteristics and Mechanism of the Extreme Climate Events under the Climate Change Background .

The meeting was opened by the Executive Director COMSATS, Dr. Imtihan Elahi Qureshi, with his remarks on history and ideology behind establishing COMSATS ITRGs. He informed that these groups were constituted to undertake collaborative research for finding solutions to common problems of the developing countries. Explaining the concept and modus operandi of the groups, Dr. Qureshi pointed out that while all Members of the Group work on a specific thematic research project, they remain stationed in their respective institutions in different countries and mainly interact with the group leader through internet-based communication channels. Noting the effectiveness of such

groups in facilitating the sharing of technical know-how and pooling of the necessary laboratory resources, he showed satisfaction towards the performance of Climate Change group.

The group members that attended the meeting included: Dr. G. A. Chandima Gomes, Associate Professor (Electrical Engineering), Department of Electrical & Electronics Engineering, Universiti Putra Malaysia, Malaysia; Dr. Shahina Tariq, Chairperson, Department of Meteorology, COMSATS Institute of Information Technology (CIIT), Islamabad, Pakistan; Dr. Kalim Ullah, Head, Department of Meteorology, CIIT, Pakistan; Mr. W. R. Keerthi Fonseka, Principal Research Engineer, Industrial Technology Institute (ITI), Sri Lanka; Dr. D. Ballab Kattel, Foreign Professor, Department of Meteorology, CIIT, Pakistan (representing Dr. R. B. Kayastha, Assistant Professor, Himalayan Cryosphere, Climate and Disaster Research Centre (HiCCDRC), Kathmandu University, Nepal; Dr. M. Molanejad, Acting President for International Cooperation, Iranian Research Organization for Science & Technology (IROST), Iran; Dr. Abbas Ranjbar, Atmospheric Science and Meteorological Research Center, Iran; Mr. Muhammad Munir Sheikh, Head of Climatology Section, Global Change Impact Studies Centre (GCISC), Pakistan; Mr. Shahbaz Mehmood and Mr. Muhammad Amjad, Scientific Officers from GCISC, Pakistan; Mr. Muhammad Aleem-ul-Hassan Ramay, Senior Meteorologist, National Weather Forecasting Centre, Pakistan Meteorological Department (PMD), Pakistan; Prof. Dr. Iftikhar A. Raja, Foreign Professor, CIIT Abbottabad, Pakistan; and Prof. Dr. G. M. Tarekul Islam, Institute of Water and Flood Management (IWFM) of Bangladesh University of Engineering and Technology (BUET), Bangladesh. Mr. Tajammul Hussain, Advisor (Programmes) and Mr. Farhan Ansari, Sr. Assistant Director (Programmes) represented COMSATS Headquarters during the meeting as the programme coordinators.



REMARKS OF THE PARTICIPANTS / GROUP MEMBERS

It is a great initiative by COMSATS to form an ITRG that is enabling regional researchers to carry out research on climate change. Studying climate change requires sharing regional data and cooperation to seek sustainable solutions to its adverse impacts. I hope that I would be able to contribute to the ITRG as an academic and researcher from Bangladesh. I wish every success to ITRG.

Prof. Dr. G. M. Tarekul Islam

Institute of Water and Flood Management, BUET, Bangladesh

COMSATS' ITRG on 'Climate Change and Environmental Protection' is the only regional research group in this area. I have attended this programme earlier in China but today (the third) meeting really enlightened us about the programme. More practical issues were discussed and a clear road map was developed. I would like to thank COMSATS for inviting me and for the excellent hospitality that I really admire.

Mr. W. R. Keerthi Fonseka

Principal Research Engineer, Industrial Technology Institute (ITI), Sri Lanka

I think COMSATS has a good vision and mission. However, the extreme climate events have a complicated nature and most of them are beyond human control. The level of human vulnerability to these extremes can be managed by enhancing the quality of human responses to them. So increasing public awareness is very important.

Dr. Abbas Ranjbar

Atmospheric Science and Meteorological Research Center, Iran

The participants of the meeting presented their progress reports and shared their country-specific meteorological data. Communicating their strengths to contribute to the joint research project of the Group, they also pointed out areas in which trainings are required, to which ICCES-China agreed to fulfill the need by organizing short-term trainings and international capacity building events for the eligible Group members. Stressing the importance of availability of meteorological data for authentic research findings, it was agreed that after an analysis of the data available with their institutions, the participants may discretionally share it with other group members. Some consensus views shared during the event were as follows:

- Linkages formed during the meeting would facilitate institution building in the countries of the group members.

- There is a need to foster greater international cooperation among the countries of the South for meeting common global challenges pertaining to Climate Change.
- Owing to the common challenges posed by climate change, such as extreme weather events, all the participants would contribute to the group activity.

The Action Plan for the biennium 2014-2015 finalized during the meeting outlined the future responsibilities of the Group Leader and Members. The plan entails:

- gathering the relevant meteorological data of collaborating countries with daily/monthly temporal resolution;
- preliminary analysis of the data; execution of different segments of the joint research project; and
- submission of periodic progress reports to the Group Leader.

Agreeing to the timeline and responsibilities chalked out in the Action Plan, the participants pledged to dedicatedly contribute to the joint research project of the Group. The ITRG members also agreed to publish joint research papers in peer reviewed journals based on their collaborative research findings through participation in the group activity.

UNESCO PLEDGES SUPPORT TO COMSATS

The Director General UNESCO, Dr. Irina Bokova, has pledged support to COMSATS for activities related to science, technology and innovation, which she considered pivotal for the future development frameworks. Acknowledging COMSATS efforts for South-South cooperation for sustainable development, Dr. Bokova has considered cooperation between UNESCO and COMSATS useful for achieving the common objective. She expressed these views on February 6, 2014, during the signing ceremony of an agreement to establish UNESCO Chair on Knowledge Systems for Integrated Water Resources Management at COMSATS Institute of Information Technology (CIIT) Wah Campus, Wah, Pakistan (more on page 6).

Held at the Ministry of Science and Technology, Islamabad,

contd. from page 1 ... From the Executive Director's Desk

management of natural resources and environmental preservation.

COMSATS administration is committed to expound the aspirations of developing countries, create opportunities for enhancing their S&T capacities through mutual

cooperation, and joining hands with other international organizations to achieve these objectives. The readers of this Newsletter in COMSATS Member Countries are welcome to write to the editors, if they want their views to be published in the Readers Column. Some changes in the format and scope of the Newsletter have been made with effect from this year. General comments on the usefulness and quality of the Newsletter will be highly appreciated.



H.E. Mr. Zahid Hamid at the Signing Ceremony of UNESCO Chair to be established at CIIT Wah Campus

the ceremony was presided over by the honourable Minister for Science and Technology, Government of Pakistan, H.E. Mr. Zahid Hamid. Dr. Bokova, and the Rector CIIT, Dr. S.M. Junaid Zaidi, signed the agreement on behalf of their respective organizations. The ceremony was witnessed by the State Minister for Education, Trainings and Standards in Higher Education, Government of Pakistan, Mr. M. Balighur-Rehman; Federal Secretary Ministry of Science and Technology, Mr. Kamran Ali Qureshi; Executive Director COMSATS, Dr. Imtihan Elahi Qureshi; Resident Director UNESCO to Pakistan, Dr. Kozue Kay Nagata; Secretary-General Pakistan National Commission for UNESCO, Ms. Amna Imran Khan; as well as other high officials of the Ministry and its affiliated departments, UNESCO, COMSATS Secretariat, and CIIT.

In his remarks on the occasion, the Minister for Science and Technology stated that his Ministry has been endeavouring to enhance all sorts of cooperation and collaboration with UNESCO in every field through its affiliated scientific and academic institutions. Acquainting the D.G. UNESCO with the mandate, role and responsibilities of his Ministry, His Excellency viewed the recently adopted National Science, Technology and Innovation Policy (2012) of Pakistan as a step in the right direction for national development.

Speaking on the occasion, the Executive Director COMSATS expressed his organization's desire to have long-term partnership with UNESCO based on synergy and complementarity. While introducing COMSATS as a high level international forum, he noted that COMSATS advocates S&T related South-South Cooperation as means to achieving socio-economic development. He informed that COMSATS has an international Network of 18 S&T Centres of Excellence, including a full-fledged university, in the form of COMSATS Institute of Information Technology, giving the organization leverage for its S&T-led development activities. Recalling his meeting with Assistant Secretary General for

Natural Sciences, Prof. Gretchen Kalonji, held on the sidelines of the 37th Session of General Conference in Paris (November 2013), Dr. Qureshi requested Dr. Bokova to duly consider concluding a cooperation agreement with COMSATS, a draft of which, he noted, had been submitted to UNESCO earlier.

Sharing her views on the occasion, Dr. Bokova reiterated UNESCO's pledge to work with the Government of Pakistan to elevate the level of knowledge and expertise in the country. She stated that UNESCO supports initiatives that aim at S&T advocacy, knowledge-sharing and excellence in higher education, and considered the signing of the UNESCO Chair agreement a testimony of the importance UNESCO gives to Science, Technology and Innovation for development.

After the signing ceremony, the Executive Director COMSATS presented COMSATS shield to the Director General UNESCO. Two publications, COMSATS-UNESCO Cooperation Programme (2006-2013) and COMSATS-UNESCO Future Cooperation were also presented.

COMSATS AND ICCBS-KARACHI SIGN AGREEMENT TO CO-ORGANIZE A SUMMIT MEETING ON "VISTAS IN STRUCTURAL CHEMISTRY"

COMSATS and its Centre of Excellence in Karachi, Pakistan, the International Center for Chemical and Biological Sciences (ICCBS), reached an agreement that entails cooperation on co-organizing the Summit Meeting on "Vistas in Structural Chemistry". The Executive Director COMSATS, Dr. Imtihan Elahi Qureshi, and Director ICCBS, Prof. Dr. M. Iqbal Choudhary, on behalf of their respective organizations signed an MoU in this connection on 19th February 2014. According to the understanding reached, COMSATS has agreed, inter alia, to invite and manage nominations from Member States of COMSATS for



ED COMSATS and Director ICCBS signing agreement for co-organizing IYCr at COMSATS Headquarters

participation in the Summit, and sponsor air travel for the selected participants. The responsibilities of ICCBS on the other hand pertain to the overall organization and administrative matters of the event, which include ensuring participation of scientists, researchers, academicians, and practitioners from relevant national and international organizations; necessary consultation and coordination with all partner organizations, and documentation of the event proceedings.

To be held on 28th to 30th April 2014, at ICCBS, Karachi, the Summit is one of the three regional events to mark the International Year of Crystallography 2014 (IYCr2014) being organized under the International Union of Crystallography and UNESCO, the lead custodians for IYCr2014. Other partners of this international event are the Ministry of Science and Technology, Government of Pakistan; Pakistan Academy of Sciences; Chinese Academy of Sciences; and Indian National Science Academy. One hundred and fifty scientists and students are expected to benefit from the event.

The brief signing ceremony held at COMSATS Headquarters, (Islamabad) was witnessed by senior officials of COMSATS Headquarters, including Advisor Programmes, Mr. Tajammul Hussain. Speaking on the occasion, Dr. Choudhary considered the Regional Summit an important step towards popularizing Crystallography as an important field of science having important impact on other fields. He noted with satisfaction ICCBS partnership with COMSATS for the event and lauded the timely efforts being made by the Headquarters.

In his capacity as the leader of COMSATS International Thematic Research Group on Natural Products Sciences, he informed that collaborative work on the joint research project on Drug Discovery from Nature for Neglected Diseases is in progress and currently samples are being collected. He noted with satisfaction the regular meetings of the Group held so far in Pakistan, Iran, and Turkey.

Dr. Choudhary also sought the support of COMSATS Headquarters in helping ICCBS acquire the status of a UNESCO Category II Research Centre, for which the process has already been initiated. Dr. Qureshi assured him of all the possible assistance from COMSATS Headquarters. He noted that facilitation to all its Network members is one of the most important responsibilities of the organization. The idea behind affiliating the institutions from the developing world as Centres of Excellence of COMSATS, he added, was to enhance their international stature, in which COMSATS has considerably succeeded. He also highlighted that COMSATS-TWAS publication of profiles of Centres of Excellence, titled Excellence in Science, has played an important role in promoting these Centres. Dr. Qureshi also believed that research

breakthroughs to be made by these Centres through the International Thematic Research Groups are going to be lasting contributions to S&T-led development.

COMSATS INTERNET SERVICES HOLDS ITS ANNUAL EMPLOYEE EVENT IN LAHORE, PAKISTAN

COMSATS Internet Services (CIS) held its annual employee event on February 27, 2014, in Lahore, Pakistan, which was attended by the management and employees of CIS and officials from COMSATS Secretariat, as well as by the representatives of the corporate sector in the country. Dr. Ejaz Sandhu, Director of Lahore Chamber of Commerce, graced the occasion as the Chief Guest. Speaking on the occasion Dr. Sandhu appreciated the progress made by CIS over the last couple of years. He opined that CIS should create awareness about its different services with the chambers of commerce in different cities of the country.

Mr. Asim Shahryar Husain, CEO CIS; Mr. Muhammad Hassan, General Manager, Administration; Mr. Khawaja Farrukh, Deputy General Manager, CIS Lahore made presentations on the occasion. It was noted that in 2013 the Lahore node launched a new data center and a new web conferencing service, branded as ComMeeting. Highlighting the diversity of his institution, the CEO emphasized that CIS social services, in the form of telehealth and training, set it apart from other ISPs. Some recent achievements of CIS noted on the occasion include; increase in revenue and profit; launching of three telehealth clinics that have benefitted 7,000 free tele-consultations, and acquisition of a storage area network. In near future, CIS plans to launch five more telehealth clinics, and acquire more hardware to offer cloud services.

Shields and cash prizes were awarded to the CIS employees who made remarkable performances during last year.



Group photo at CIS Annual Employee Event on Feb. 27, 2014

ACTIVITIES/NEWS OF COMSATS CENTRES OF EXCELLENCE

CIIT-PAKISTAN STRENGTHENS COLLABORATIONS WITH INTERNATIONAL INSTITUTIONS

COMSATS Institute of Information Technology (CIIT) continues to expand its international cooperation by exploring avenues of collaboration with universities in Russia.

A delegation from Eastern European Universities Association (EEUA) visited the Institute on February 25, 2014. It comprised senior officials from Center for International Education and Cooperation at Belgorod State Technological University; Moscow State University of Economics, Statistics and Informatics; and Eastern European Universities Association for South Asia. The officials of the Embassy of Federation of Russia in Pakistan also accompanied the delegation. The visit resulted in a realization of the importance of forging amicable relationships between CIIT and universities in Russia. Matters of mutual interest were also discussed during the meeting and both sides expressed their desire to collaborate on the lines of student exchanges, dual degree programmes, exchange of educational products, as well as joint research projects.

Earlier, matters of mutual cooperation were discussed with delegations from Poland and European Organization for Nuclear Research (CERN), on February 7 and February 11, 2014, respectively.

CIIT WAH BECOMES UNESCO WATER CHAIR

On February 6, 2014, COMSATS Institute of Information Technology (CIIT) formalized an agreement with UNESCO for the establishment of UNESCO Chair in Knowledge Systems for Integrated Water Resources Management at its Wah Campus, Wah, Pakistan.

The purpose of the Chair shall be to promote an integrated

system of research, training, information and documentation on water resources management; and facilitate high-level international collaboration between researchers and teaching staff of the university and other institutions in Pakistan with those in other parts of the world. The establishment of the UNESCO Chair is a milestone in the history of CIIT since it can now be ranked among a select group of institutions focusing on water resources management.

CIIT ORGANIZES INTERNATIONAL CONFERENCE ON ASIAN MONSOON AND CLIMATE CHANGE

The newly established Centre for Climate Research and Development (CCRD) of the Department of Meteorology at CIIT, organized a two-day International Conference on Asian Monsoon and Climate Change in Islamabad, Pakistan, on January 20-21, 2014. The event was organized in association with the Potsdam Institute for Climate Impact Research (PIK), Germany; and the International Center for Climate and Environment Sciences (ICCES), China the two institutions that have already formalized research partnerships with CCRD-CIIT. The event was sponsored by the COMSATS Headquarters and the Higher Education Commission (HEC) of Pakistan.

The conference was the first international event held under the CCRD umbrella that had participation of a large number of scientists, researchers and scholars from both developed and developing countries, including Bangladesh, China, Germany, India, Iran, Italy, Malaysia, Nepal, Pakistan, Sweden, Russia, and USA. Around 30 talks were delivered during the seven technical sessions of the event in addition to inaugural and closing sessions. Moreover, thirty-two posters were presented by the participants on research topics related to climate change and its implications. A cross-section of students, scholars, scientists, engineers, policy makers, diplomats, and media-men benefited from the two-day deliberations that helped improve general understanding on the impacts of climate change on monsoon system.

The Federal Minister for Science and Technology, Government of Pakistan, H.E. Mr. Zahid Hamid, presided over the Inaugural session of the conference held on January 20, 2014. Highlighting the importance of the theme of the conference to the Asian countries, the Federal Minister in his inaugural address remarked that developing countries are least responsible for climate change, contributing to only 10 percent of the annual global carbon dioxide emissions, but they are the ones most vulnerable to the environmental, social and economic impacts of climate change.

Addressing the gathering, Executive Director COMSATS, noted that the Fifth Assessment Report of



DG UNESCO and Rector CIIT signing agreement to establish UNESCO Chair at CIIT Wah Campus



Group Photo of the participants of International Conference on Asian Monsoon and Climate Change in Islamabad

Intergovernmental Panel on Climate Change (IPCC) attributes global warming to anthropogenic activities and called bringing equity in the roles of both developed and developing countries and urged for respecting the aspirations of the developing countries in future international agreements on climate change.

On the occasion, Director ICCES-China, Prof. Zhaohui Lin introduced his Center to the audience. He highlighted the Centers long standing cooperation with international organizations like COMSATS and TWAS. The Head of International Cooperation, PIK-Germany, Prof. Dr. Jürgen P. Kropp, noted that climate change is a constant phenomenon that influences human lives, especially in terms of water and food security, agriculture yield and energy production, among others. Due to the recent developments in climate sciences, projections on complex climatic phenomena are now possible, suggesting relevant changes in life styles to help cope with their effects.

The first technical session comprised keynote addresses on topics: Nonlinearity of the 20th Century Asian Monsoon; On Gradual and Extreme Changes of Monsoon Rainfall; The Influence of the Tropical Atlantic on the South Asian Monsoon and Indian Ocean; Impact of Pre-industrial to Present-day Changes in Urbanization and Pollutant Emissions on the East Asian Summer Monsoon; as well as, Seasonal Climate and Hydrological Prediction over East Asian Monsoon Region.

The technical talks in the following six sessions of the conference highlighted the impact of climate change and monsoon variability, inter-alia, on extreme weather events, urban drainage system, food security, biodiversity and water resources. Various factors influencing the anomalous variations in rainfall patterns, their effects and possible predictive models were also deliberated upon.

In all, the meeting highlighted that monsoon has a critical influence on the climate system of the region and adversely effects more than 60 percent of the world's population. The need for building climate resilience has become critical, calling for more work on climate vulnerability, adaptation and disaster risk management. The participating scientists resolved to promote linkages to advance research on climate change, develop collaborations among data centers and with CCRD. It was also pledged to use CCRD as a platform for more workshops, trainings, seminar, joint projects and conferences on climate change and related themes.

EMBRAPA AGROBIOLOGIA BRAZIL CO-ORGANIZES A MODULE ON AGRICULTURE IN MOUNTAIN REGIONS

EMBRAPA Agrobiologia, Brazil, along with its sister organizations EMBRAPA Solos and EMBRAPA Food Technology organized the first module of the course "Agroecological Principles and Farming Practices in Mountain Environments", in Nova Friburgo, Rio de Janeiro, on the 18th and 19th of February 2014. It had the support of Municipal Agriculture of Nova Friburgo and Rio Emater.

The goal of the training was to increase awareness about the agricultural production in mountain regions and emphasis that there are market opportunities for products grown through sustainable processes. The event created awareness about the need for natural ecosystems in mountain regions that are often fragile and sensitive to climate changes, because of the shallow soils and geological variability.

Thematic presentations were made by researchers, such as Dr. Renato and Dr. Adriana Maria Linhares de Aquino of Embrapa Agrobiologia and Dr. Amazile Lopes Netto of INEA. Dr. Renato spoke on the pattern of alternative agriculture, the history of agriculture itself and the experiences of EMBRAPA in the region. Dr. Adriana, in her address, touched upon the aspects of agroecology and the market potential for sustainable products, while Dr. Amazile highlighted the environmental conditions on the mountains and the importance of conserving water and soil.

The training held in the mountain region of Nova Friburgo benefitted 50 people. It is part of the series of training comprising nine additional practical modules that will be carried out during rest of the year for a total of 76 hours.

IROST-IRAN HOLDS INTERNATIONAL WORKSHOPS

International workshop & exhibition on 'Sustainable Utilization of Natural Products for Human Health and Well-Being' was hosted and organized by the Iranian Research Organization for Science and Technology (IROST) during January 20-22, 2014. The co-organizers of the event

included the Indian Ocean Rim Association (IORA); Regional Centre for Science and Technology Transfer (RCSTT), COMSATS, and International Center for Chemical and Biological Sciences (ICCBS).

The event addressed some pertinent issues and highlighted latest developments in the science of natural products, herbs and traditional medicines. The topics covered during the event touched upon issues related to the use of natural products in human health and well-being, including ethnobotany, natural product chemistry, medicinal plants biotechnology, pharmacology; and safety, efficacy and standardization of clinical trials, which all contributed to a better

From February 25 to 26, 2014, IROST hosted a workshop on "Strengthening R&D Management Capacity of Researchers and Research Managers in the Area of Nanotechnology". The workshop was organized by the Asian and Pacific Centre for Transfer of Technology (APCTT) of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). This training workshop brought together researchers, research managers and decision-makers engaged in the area of nanotechnology, to increase their understanding of critical aspects of nanotechnology R&D management, such as nanosafety, standardization and certification.

About 35 Iranian participants were trained by the international experts from India, Pakistan, Thailand, South Korea and Singapore, who shared regional experiences and good practices in Nanotechnology R&D management. The lectures delivered during the two-day training workshop, inter alia, related to:

- South-South cooperation for capacity-building and R&D management in the new and emerging areas;
- R&D and commercialization of nanotechnology's applications in Iran;
- Environmental, health and safety implications arising from the use of nanomaterials;
- Intellectual property protection of R&D activities;
- Commercialization of nanotechnology's applications in Iran and Pakistan.

NEW PRESIDENT OF TÜBİTAK MAM-TURKEY APPOINTED

Dr. Bahadır Tunaboğlu has succeeded Prof. Murat Aydın as the incumbent President of TÜBİTAK Marmara Research Center (MAM), a Centre of Excellence of COMSATS in Turkey.

Dr. Tunaboğlu has over 25 years of professional experience working as researcher and academician. He holds a PhD in Materials Science (1997) from the



13TH CTWF INTERNATIONAL SYMPOSIUM ON EXTREME WEATHER AND CLIMATE: PAST, PRESENT, FUTURE Beijing China (September 8-11, 2014)

The 13th CAS-TWAS-WMO Forum (CTWF) International Symposium on Extreme Weather and Climate: Past, Present, Future, is being organized by CAS-TWAS Centre of Excellence for Climate and Environment Sciences (ICCES), Institute of Atmospheric Physics (IAP), Chinese Academy of Sciences (CAS). Sponsored by the Chinese Academy of Sciences, The World Academy of Sciences (TWAS) for the advancement of science in developing countries, and CTWF, the event will be held in Beijing, China, on September 8-11, 2014.

Important Dates

Deadline for on-line registration:	May 15, 2014
Deadline for abstract submission:	June 15, 2014
Notice of abstract acceptance:	July 1, 2014

For more information:

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University of California, San Diego, USA. Dr. Tunaboğlu is an engineer by profession, who did his BS degree in Metallurgical Engineering (1988) from Middle East Technical University, Ankara, Turkey, and MS in Ceramic Engineering (1991) from New York State College of Ceramics at Alfred University, USA. Before being designated as President MAM in 2014, he has served the Materials Institute of TÜBİTAK MAM from 2012 to 2013. Recipient of several awards, Dr. Tunaboğlu has to his credit 20 US patents and several research publications in reputed international journals and professional magazines.

BCSIR-BANGLADESH ORGANIZES WORKSHOPS ON SOPHISTICATED SCIENTIFIC INSTRUMENTS

Bangladesh Council of Scientific and Industrial Research (BCSIR) organized two training workshops on 21-22 January and 18-20 February 2014 on sophisticated scientific instruments to improve the scientific capacity of Bangladesh.

Resource persons from different institutes delivered lectures on sophisticated instruments. Practical demonstration was made during the program. Scientists from a number of Bangladeshi institutes participated in the training workshop.

NMC-NIGERIA ORGANIZES MENTAL ARITHMETIC WORKSHOP

A two week long Mental Arithmetic Workshop was organized by the National Mathematical Centre (NMC) of Nigeria, in Ibadan, Oyo State, Nigeria, from 19th to 31st January 2014.

Alongside a large number of students, 45 teachers were also trained. Cash prizes from the Director of the National Mathematical Centre, Prof. A. R. T. Solarin and the Chairman of the State Universal Basic Education Board (SUBEB), Oyo State, were given to the best students. The activity, besides enhancing students mathematical and computing skills, resulted in improving their attitude towards attending school and other curricular activities.

REVIEW OF THE REPORT

The Atlas of Islamic-World Science and Innovation Country Case Study: Jordan (*Published in August 2013*)

Ms. Suha Shouqar*

Since its independence in 1946, Jordan has remained stable despite political turbulences in its neighboring countries. This is due to the country's economic development strategy reposed thoughtfully on three pillars: foreign policy focusing economic growth, education policy aiming social development; and a security policy ensuring stability.

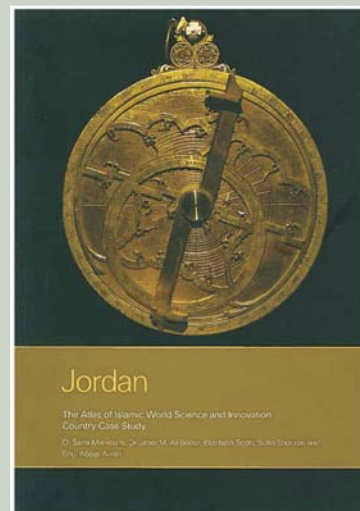
The report titled Jordan - Atlas of Islamic-World Science and Innovation presents a country case study of Jordan. The publication expounds that Jordan's development stems from establishing a solid Science, Technology and Innovation (STI) system, which will help the country in achieving its objectives of securing food, water and energy resources. The report aims at providing an overview of science and innovation dynamics, an analysis of opportunities and challenges, along with exploring new opportunities for collaborative research and cross-border partnerships for cooperation between the Organisation of Islamic Conference (OIC) member countries and the rest of the world. However, the report does not discuss innovation in a broader context, which might include the social innovation impact in bridging the gap between education, training and business.

The report was published in August 2013. It comprises eight chapters that delve into specified aspects of STI within geography, sustainability, manpower, and the intercession of institutions. At the outset, the report assesses the state of STI and presents an overview of socio-economic indicators, as well as the framework and the role of national innovation system in supporting existing innovative capabilities. The following chapters focus on local culture and its influence on the local entrepreneurial environment; assessments of the geographic spread of STI-related activities across the country; the importance of manpower and talent in Jordan; and challenges that the young and educated population faces in the wake of scarcity of natural resources coupled with

discussions on issues of sustainability and the natural environment.

Additionally found, are explorations of existing and evolving networks for collaboration between stakeholders, including scientists, government and private sectors, at the local, regional and international levels and an address of the business sector through industries that are engaged in R&D such as ICT, Pharmaceuticals, water, energy, agriculture and medical sectors. The report concludes by providing a prognosis for STI in Jordan, including an assessment of key strengths and weaknesses, and recommendations for ways in which STI can be advanced. It suggests that Jordan's future prosperity depends upon its ability to harness its human capital, comprising of a relatively young population, to support future economic growth. The development of a national STI system offers the country an excellent tool to ensure future economic development and the welfare of its citizens.

Finally, Atlas of Islamic-World Science and Innovation is an international initiative across Islamic countries in the Middle East, Africa and Asia. An international consortium of partners supports the project. It was launched as one of the actions to implement the specific recommendations of the OIC Vision 2020 for Science and Technology. To-date case studies of Malaysia (2011) and Egypt (2012) have been published under this initiative.



* The reviewer is a co-author of the report and Research Assistant to the President of the Royal Scientific Society (RSS), Jordan.

SCIENCE, TECHNOLOGY AND DEVELOPMENT

PANAMA S SLOTHS HARBOUR POTENTIAL DRUGS

Sloths may be slow, apparently boring animals, but their hair is fast becoming an intriguing avenue for scientists seeking new drugs, including antibiotics and cancer-fighting compounds. A paper published in *PLOS One*, and reported in *SciDev.Net* (January 30th, 2014), shows that sloth hair harbours a rich diversity of fungi whose extracts may contain a treasure trove of bioactive compounds.

The study looked at what was hiding in the outer hair of three-toed sloths and identified diverse species of fungi some of them potentially new, and went on to test 84 extracts from those fungi for their activity against disease-causing microbes and cells. Two of the extracts were highly active against *Plasmodium falciparum*, the parasite that causes malaria, eight against *Trypanosoma cruzi*, which is responsible for Chagas disease, and 15 against human breast cancer cells. The researchers now plan to purify the bioactive compounds from the fungi and investigate their structures to determine if they are new and chemically interesting.

ALGORITHM DEVELOPED TO OPTIMIZE WIND ENERGY

Researchers at the North Carolina State University, USA, have found that an increase in the use of wind power generation can make the power grid more fragile and susceptible to disruptions. But the researchers didn't just identify the problem, they have also devised a technique for coordinating wind power generation and energy storage in order to minimize the potential for such power disruptions, says a news published in the January 2nd edition of *Science Daily*.

Specifically, the research team developed several algorithms that match control efforts between wind farms and energy-storage facilities. If the power output for the wind farm increases, the surplus can be siphoned off to charge batteries at the storage facility, instead of being dumped directly onto the power grid. Similarly, if the power output at a wind farm declines, the batteries can compensate for the loss and provide power to the grid. This issue is particularly important because wind energy is one of the fastest growing sources of renewable energy.

HOOKWORM GENOME SEQUENCE HELPS IDENTIFY DRUG CANDIDATES

According to a news appearing in the 22nd January edition of *SciDev.Net*, scientists have sequenced the genome of *Necator americanus*, the parasite behind around 85 per cent of human hookworm infections, giving them an unprecedented insight into the worm's biology that could help accelerate the development of drugs, diagnostics and vaccines against it. These findings were published in *Nature Genetics* on 19th January.

Hookworms are responsible for neglected tropical diseases

that affect 700 million people in poor communities. With treatment failure due to drug resistance already becoming a challenge for current anti-hookworm therapies, new interventions are needed. The researchers also used the new data on the hookworm's protein kinases, a group of enzymes that regulate many cell processes to screen existing drugs and inhibitors for potential drugs.

NANOTECHNOLOGY ON THE FRONTIERS OF VACCINOLOGY AND CANCER TREATMENT

Immunizations could be administered within minutes where and when a disease is breaking out, as reported in the news published in *Science Daily* on 7th January 2014. In typical vaccines, weakened pathogens or proteins found on the surface of microbes along with adjuvants to prepare a person's immune system to fight a particular disease. A research team at University of Washington injected mice with nanoparticles synthesized using an engineered protein that both mimics the effect of an infection and binds to calcium phosphate, the inorganic compound found in teeth and bones. After eight months, mice that contracted the disease made three-fold the number of protective "killer" T-cells; a sign of a long-lasting immune response. The approach could be useful in the future for vaccinating people in developing countries and would cut costs by not having to rely on refrigeration, and vaccines could be produced with rudimentary equipment in more precise, targeted numbers say the researchers.

In similar news a team of researchers at the University of Toronto has discovered a method of assembling "building blocks" of gold nanoparticles as the vehicle to deliver cancer medications or cancer-identifying markers directly into cancerous tumors, says a report published in the *Science Daily* on January 27, 2014. The long-term risk of toxicity from particles that remain in the body, however, has been a serious challenge to nanomedical research. DNA, though, is flexible, and over time, the body's natural enzymes cause the DNA to degrade, and the assemblage breaks apart. The body then eliminates the smaller particles safely and easily.

PLASTIC SHOPPING BAGS MAKE A FINE DIESEL FUEL

In a news published in the February 12th edition of *Science Daily*, researchers at the University of Illinois at Urbana Champaign, USA, have invented a useful means of converting plastic bag waste into diesel, natural gas and other useful petroleum products. The conversion produces significantly more energy than it requires and results in transportation fuels.

The researchers were able to blend up to 30 per cent of their plastic-derived diesel into regular diesel, "and found no compatibility problems with biodiesel," said Brajendra Kumar Sharma, a senior research scientist at the Illinois Sustainable Technology Center who led the research. "It's perfect," he said. "We can just use it as a drop-in fuel in the ultra-low-sulfur diesel without the need for any changes."

PROFILE OF HEAD OF COMSATS S&T CENTRE OF EXCELLENCE

DR. WAEL KHANSA, DIRECTOR HIAST, SYRIA

Prof. Wael Khansa is the Director of the Higher Institute for Applied Sciences and Technology (HIAST), the foremost higher education institution in Syria. The Institute is highly regarded for its quality engineering education and achievements its alumni have made in Syria and abroad. HIAST offers engineering degrees at Masters and PhD levels in Informatics and Information Systems; Communications; Mechatronics and Systems Engineering; as well as in Materials Science. The Institute was accredited as COMSATS Center of Excellence in 2009.



Prof. Khansa obtained his baccalaureate diploma in 1983. He studied at HIAST and the University of Damascus and obtained his first academic degree in mathematics in 1989. He then joined HIAST as a research engineer and simultaneously pursued higher education to obtain a Diploma of Specialized Studies (Diplome d'Etudes Spécialisées - DES) in Computer Science in 1991. Later, he proceeded to France to obtain a Masters degree in Operations Research from the University Joseph Fourier in Grenoble. In his Master's thesis (1992), Prof. Khansa worked on developing an algorithm for solving transportation problems using parallel computing. After his Masters, Prof. Khansa returned to HIAST to serve as an academician. Later, he obtained a scholarship for PhD studies in Automation at the Université de Savoie in France. His PhD thesis (1997) was entitled P_time Petri nets (place/transition net): A contribution to the study of discreet events systems, whereby he developed a mathematical-graphical tool and methodology to study and analyze discreet event systems under time constraint. His works made an important contribution to the characterization of the behavior of such systems, especially from the point of periodicity and robustness.

After his PhD, Prof. Khansa continued to serve HIAST, first as Associate Professor then as Professor. As an academician, he extensively lectures at HIAST and Higher Institute for Business Administration (HIBA) in his areas of specialization, i.e., Informatics, Operations Research and Mathematics. He has been conducting courses on Databases and Distributed Systems (as part of informatics); Linear Programming, Waiting lines, Graph Theory, Petri Nets, Inventory Management and Project Management (as part of Operations Research); and Algebra, Analysis, Probability and Statistics (as part of Mathematics). Prof. Khansa has contributed to curriculum development for several engineering degrees and for the faculty of Informatics at the Damascus University. He has published two books in Operations Research and produced several research

papers in local and international scientific journals. Prof. Khansa has also made significant contribution to research in Syria by supervising, reviewing and evaluating the works of a number of Masters and PhD students.

In addition to his academic and research background, Prof. Khansa possesses remarkable managerial experience and competencies. At HIAST, he has rendered his services as the Head of Department and as Vice-Director for Scientific Cooperation, before being nominated as the Director of the Institute in 2008.

In his capacity as Director HIAST, Prof. Khansa has largely contributed towards promoting the Institute as a Centre of Excellence capable of developing and transferring technologies, in addition to its primary role of imparting engineering education. In this regard, Prof. Khansa worked on stimulating research activities at HIAST and supported research and development projects conducted in cooperation with local, regional and international institutions and organizations, such as the European Union, the United Nations Development Program (UNDP), the Arab League Educational, Cultural and Scientific Organization (ALECSO), as well as various ministries of the Syrian government.

The stimulation and development of research activities at HIAST were also complemented by the launch of Master and PhD level programs in Informatics (Decision Support Systems); Physics (Material Science); and Automation and Communication Systems. These contributions of Prof. Khansa have been based on his understanding of the role of higher education institutions in developing countries and their linkages with different sectors and the society at large. Prof. Khansa also occupied many distinguished positions in national and international organizations, such as:

- Member of the Board of Directors of the Syrian establishment for housing;
- Member of the Board of Directors of the Syrian Establishment for Constructions;
- Member of the Board of Trustees of the Arab School for Science and Technology (ASST);
- Member of the National Committee of UNESCO;
- Member of the Conférence des Recteurs de la Région Moyen-Orient (CONFREMO).

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COMSATS BRIEF AND ANNOUNCEMENTS

SELECTED FORTHCOMING SCIENTIFIC EVENTS IN COMSATS COUNTRIES

6-15 July 2014	2014 ICCES International Training Workshop on Asian Monsoon Variability and Predictability, Beijing, China (http://2014icces-trainingworkshop.csp.escience.cn)
11-13 August 2014	SAICON 2014 - 6 th South Asian International Conference, Islamabad, Pakistan (http://ww3.comsats.edu.pk/saicon/)

17th COORDINATING COUNCIL MEETING 19-20 May 2014, Tehran, Iran

The Commission on Science and Technology for Sustainable Development in the South (COMSATS) is convening its 17th Coordinating Council Meeting in Tehran, Iran, from 19th to 20th May 2014. The meeting is being hosted by COMSATS Centre of Excellence in Iran, the Iranian Research Organization for Science & Technology (IROST). The Council meets every year, inter alia, to: review the activities of COMSATS Network; follow up on the decisions and recommendations made in the last meeting; and outline the future course of action.

For details, please contact: Mr. Tajammul Hussain, Advisor (Programmes), COMSATS Secretariat (husseint@comsats.net.pk) or Dr. M. Molanejad, Acting President for International Cooperation, IROST (mmolanezhad@yahoo.com).

SEMINAR ON SCIENCE COMMUNICATION AND JOURNALISM April 8, 2014, Islamabad, Pakistan

Cognizant of the importance of science journalism for advocating science as a means to sustainable development and to promote a culture of science, COMSATS, in collaboration with ECO Science Foundation, is organizing a one day Seminar on Science Communication and Journalism in Islamabad, on April 8, 2014. A selected group of working and prospective journalists, as well as scientists and academicians will benefit from the presentations and lectures on different aspects of science reporting and relevant contemporary issues in mass media. The event is expected to raise awareness and interest in the field; promote relevant collaborations and synergies; and generate policy recommendations for developing curricula for science journalism. For more details, please visit: www.scijournalism.org.

CALL FOR PAPERS FOR COMSATS JOURNAL SCIENCE VISION: VOL. 20

Science Vision is a biannual scientific journal of COMSATS. It primarily aims at highlighting the important scientific and technological developments that have a bearing on socio-economic conditions of the people by publishing research as well as review articles. Scientists, researchers, policy-makers and young scholars from S&T organizations and R&D institutions are encouraged to contribute articles on any scientific field of interest relevant to the focus of the journal.

COMSATS invites scholarly contributions for the Volume 20, Issue 1 (January to June 2014) of its journal. In view of 2014 being celebrated as the International Year of Crystallography, scholars are encouraged to send papers highlighting the potential and applications of the field. As per the policy of the journal, contributors are compensated for their time and efforts with a modest amount of honorarium. Contributions may be sent to the Managing Editor at: comsats@comsats.org. For more details, please visit the journal's website: www.sciencevision.org.pk.

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A BRIEF ON COMSATS

COMSATS is an inter-governmental organization, with its Secretariat located in Islamabad, Pakistan. Currently it has 21 countries as its members from Africa, Asia and Latin America. A network of 18 International Science and Technology Centres of Excellence is also affiliated with COMSATS to contribute to scientific development of its Member States.

COMSATS NETWORK



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