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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 making presentation to the Chairperson of COMSATS, the Prime Minister of Pakistan, H.E. Syed Yousaf Raza Gillani (Page 2)

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From the Executive Director's Desk

About 15% of the world's human population resides in Africa. However the burden of poverty, disease, socio-economic instability and under-development is disproportionality high, when averaged over all countries in the region. Thirty-three of the forty-nine Least Developed Countries are in Africa and the achievement of most of the Millennium Development Goals is particularly dubious for countries of the sub-Saharan Africa. On the other hand, the African Continent with 54 sovereign countries is rich in cultural and biological diversity, contains abundant mineral and natural sources, and possesses huge agri-potential. The reasons for this dichotomy are deeply rooted in history. The saga of African woes spreads over many millennia, but the advent of large scale colonization by Western powers in the 19th century marks the complete loss of indigenous control on the lives of the local people. Independence movements after the 2nd World War have led to political sovereignty but economic dependence persists and indigenous capacity, particularly in Science and Technology, remains, by and large, inadequate.

COMSATS has a special interest in Africa as it has nine Member Countries from this region and the transition to better socio-economic conditions through the application of Science and Technology can be most effective in this promising continent. The visit to two Member Countries, Senegal and Ghana, was undertaken (pages 5-7) with specific objective of stimulating their participation in international scientific activities of COMSATS. In the case of Senegal, the mission was to evaluate the induction of a

Senegalese institution in the Network of COMSATS' Centres of Excellence. The absence of such an affiliated institution was a serious handicap for the involvement of Senegal in South-South cooperation initiatives of the organization. The participation of Ghana in COMSATS Coordinating Council meetings has been strong by virtue of its affiliated Centre of Excellence. Ghana is the 2nd biggest producer of gold in Africa. However, it earns less than 5% of the value of its gold exports as royalty from mine operators, according to an estimate of the United Nations Conference on Trade and Development¹⁾. The situation in other African gold-producing countries is not much different. With corporate tax-holidays extended over decades, it is obvious that the African natural resources have been filling the coffers of multinational companies, while indigenous populations were deprived of their own wealth. Unfortunately, the economic strangulation of Africa is being actively pursued through Economic Partnership Agreements with individual countries by the European Union as a block. The South Centre (Geneva) has determined that these agreements would damage African integration beyond repair and the national sovereignty and identity of states would be seriously eroded²⁾. The salvation of Ghana and other countries in the region lies in creating policy space for developing their own industries and self-controlled agricultural production units. There seems no alternative except to strengthen local institutions and invest in human resource development. The modest role that COMSATS can play in this epic enterprise was conveyed to the relevant Honourable Ministers both in Senegal and Ghana.

¹⁾ African Mining News, 21 Jan., 2010.

²⁾ Benjamin Mkapa, Workshop on Global Economy, Climate Change and Sustainable Development, Geneva, 26 Jan., 2011.

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NEWS/ACTIVITIES/HIGHLIGHTS FROM COMSATS SECRETARIAT

THE PRIME MINISTER OF PAKISTAN PLEDGES SUPPORT TOWARDS COMSATS

The Prime Minister of Pakistan, Syed Yousaf Raza Gillani received a presentation by the Executive Director COMSATS, Dr. Imtihan Elahi Qureshi, at the Prime Minister's Secretariat in Islamabad on September 20, 2011. Also present on the occasion were the Federal Minister for Science and Technology, H.E. Mr. Changez Khan Jamali; Federal Secretary, Ministry of Science and Technology, Mr. Akhlaq Ahmed Tarar; Member National Assembly of Pakistan, Ms. Farzana Raja; Additional Secretary PM Secretariat, Mrs. Fauzia Sana; Director External Campuses of COMSATS Institute of Information Technology (CIIT), Dr. Haroon Rashid, and senior officers of the Ministry of Science and Technology, Government of Pakistan.

The Executive Director highlighted the important role being played by COMSATS for the promotion of scientific cooperation among the developing countries. Giving an overview of COMSATS' recent initiatives, he elaborated the mechanism of International Thematic Research Groups adopted by COMSATS, whereby researchers belonging to different R&D institutions in COMSATS' Member States undertake joint research work on specific topics under the directions of designated group leaders based in lead countries. The Prime Minister was also informed about the phenomenal success of CIIT, where more than 18,000 students are enrolled in 53 degree programmes. The Prime Minister was kind enough to accept the invitation to inaugurate the new Campus of CIIT in Islamabad and assured more financial support to the Institute.

The Prime Minister appreciated COMSATS' international role and gave his consent to hold the COMSATS' Commission Meeting in 2012 at the level of Ministers of Science and Technology of Member States. Apart from the generous grant of Rs. 40 M (~ US\$ 0.5 M) being disbursed to

COMSATS on annual basis by the Government of Pakistan, he directed the Ministry of Science and Technology to provide an extra US\$ 20,000/- per year for COMSATS' scientific programmes.

THE 2nd MEETING OF THE COORDINATORS OF VSTGs OF IWSN WEB-PORTAL HELD IN MOROCCO

As a continuation of their efforts for strengthening the Web-portal 'Islamic-world Science Net' (IWSN), COMSATS and the Islamic Educational, Scientific and Cultural Organization (ISESCO) jointly organized the 2nd International Meeting of 'Coordinators of the Scientific Thematic Groups for Enhancing Cooperation among Islamic Countries', on 17th and 18th October 2011, at ISESCO Headquarters, in Rabat, Morocco. IWSN was launched in 2006 (www.icpsr.org.ma) with an aim to promote cooperation among scientists and scientific institutions from Islamic Countries. In March 10-12, 2009, thirteen Virtual Scientific Thematic Groups (VSTGs) were launched in the first meeting of the Coordinators of these groups held in Islamabad, Pakistan.

The two-day meeting in Rabat was attended by eminent scientists and experts from Algeria, Egypt, Morocco, Pakistan and Tunisia, who are the designated Coordinators of the VSTGs in the fields of New and Renewable Energy; Water Management; Mathematics; Science & Technology Park Management; Bio-sciences/Biotechnology and Genetic Engineering; ICTs in Science & Technology, and Universities.

The Inaugural Ceremony was chaired by the Deputy Director General ISESCO, Dr. Mukhtar Ahmed, along with the Executive Director COMSATS, Dr. Imtihan Elahi Qureshi, and the Head of ISESCO Center for Promotion of Scientific Research (ICPSR), Ms. Wafaa El Alami.

In his opening remarks, the Executive Director COMSATS appreciated the services of Coordinators, who have been voluntarily spending time and effort for the management of their respective groups, in the best interest of OIC scientists. He hoped that this activity will result in strengthening linkages among scientific/research organizations of the Islamic countries and formulation of specific recommendations by the Coordinators to further improve IWSN web-portal. Dr. Mukhtar Ahmed in his address welcomed all the Coordinators of the Groups and expressed satisfaction over the scientific cooperation between ISESCO and COMSATS. He also highlighted the important role of Coordinators in establishing a virtual network and enhancing cooperation among OIC countries.

The Workshop comprised 5 technical sessions, and Inaugural and Closing Sessions. During the technical sessions, the Coordinators of VSTGs presented current status of their Groups and the plans to enhance Group



The Federal Minister Jamali presenting COMSATS Annual Report to the Prime Minister Gillani in the presence of the Federal Secretary MoST and E.D. COMSATS



A Technical Session of the 2nd Meeting of the Coordinators of the webportal IWSN in progress

activities. Mr. Tajammul Hussain, the Advisor (Programmes) COMSATS, highlighted the current status of IWSN, while stressing the key role of the Coordinators for the success of the web-portal. The Senior Assistant Director COMSATS, Mr. Nisar Ahmad, who is also the Technical Coordinator of IWSN, made a detailed presentation on the various features of IWSN, and the action plan for the year 2011. The presentation was followed by a training workshop on administrative and managerial aspects of the VSTGs and the participants of the workshop were provided hands-on training to use all the features of the portal.

The meeting concluded on a note of confidence in the efforts made by ISESCO and COMSATS for enhancing cooperation among Islamic countries through this network and a hope that the Thematic Groups would help achieve the mission set out for IWSN.

COMSATS' TELEHEALTH SERVICES EXTENDED TO ZHOB, BALOCHISTAN

COMSATS initiated its Telehealth Services in Zhob, Balochistan, with effect from 28th September 2011. As a part of COMSATS' efforts to expand its Tele-health programme, COMSATS in collaboration with Human Development Foundation (HDF), has setup the first ever Telehealth Centre at Zhob, Balochistan, which is equipped with video-conferencing facility for 'Live Tele-consultations'. This will enable the communities of far-flung areas of the region to seek medical advice from the medical specialists in main cities/hospitals more conveniently. The first tele-consultation, between Telehealth Resource Centre in Islamabad and the recently established Tele-health Clinic at the Community Health Centre (Zhob) of HDF, was carried out by the medical specialists, Dr. Afaq Ahmad (Dermatology) and Dr. Ehsan-ul-Haq (Gastroenterology/General Medicine). A General Physician, a Lab in-charge and a local lady health visitor (LHV) at Telehealth Clinic coordinated the Tele-consultation in Zhob. The Telehealth

services between Islamabad and Zhob is now fully functional and patients can benefit from specialists' consultation in the field of dermatology, gastroenterology and general medicine.

CLIMATE CHANGE: MORE CALAMITOUS THAN ONE MAY THINK

A special report on the 10th CTWF International Training Workshop on 'Regional Climate Change and its Impact Assessment', Beijing, China (September 26-29, 2011)

"China's Yellow River was running dry in the 20th century but will be wet in the 21st century; whereas Klamath River of USA, which was running dry in the 20th Century, will become drier in the 21st Century", predicts the forum of world leaders in Climatology who gathered in Beijing, in late September this year.

Attending the 10th CTWF International Training Workshop on 'Regional Climate Change and its Impact Assessment', the experts highlighted that the water resources worldwide are highly vulnerable to climate change and its consequences. There is a clear indication of changes in precipitation, runoff and hydrologic fluxes globally. Droughts have increased since 1980s due to less precipitation in many parts; surface runoff has decreased in 45 large rivers of Asia and Africa with increase in only 19 large rivers in high latitude areas; and global hydrologic system has been affected by regional

"Community based water resource-management system may be a useful strategy to encounter the negative impacts of climate changes".

and local climatic systems due to human influences, such as construction of large dams, and over exploitation of groundwater for irrigation.

The local and global impact of climate change on agriculture was also highlighted during the discussions.

Different global scale models showed that precipitation and runoff will increase in high latitude and decrease in mid-latitudes, while soil moisture will decrease globally in general.

The event was attended by a total of 63 local and foreign participants from 14 developing countries; Bangladesh, China, Egypt, Ghana, Iran, Jordan, Malaysia, Mongolia, Nepal, Pakistan, Sri Lanka, Thailand, Uganda, and Vietnam. The event was jointly organized by the Commission on Science and Technology for Sustainable Development in the South (COMSATS) and CAS-TWAS-WMO Forum on Climate Science (CTWF) and co-sponsored by the United Nations Educational, Scientific and Cultural Organization (UNESCO); Ministry of

Science and Technology (MOST), Government of China; Chinese Meteorological Administration (CMA), China; Institute of Atmospheric Physics (IAP), China; and COMSATS' Centre of Excellence in China, the International Centre for Climate and Environment Sciences (ICCES), China.

"Impacts of climate change on water resources are evident in the South Asian countries", stated the representatives of Nepal and Pakistan. "Glaciers are retreating at higher rates than before; glacial lakes are expanding and several new lakes are formed; equilibrium line of glaciers are shifting upward; and discharge from some rivers are changing", they added. The experts from Thailand showed that their country experiences increasing number of floods per year and attributed such observations to the climate change and human interference with the nature.

Focusing on the significant implications for adaptation strategies and policies for agricultural production and water-management, Prof. Yinlong Xu from Institute of Environment & Sustainable Development in Agriculture, Chinese Academy of Agriculture Sciences (CAAS), Beijing, China, summarized the impact of regional and local climate change scenarios on socio-economic development of China in the long run. Another expert, Prof. Guoyu Ren, showed that there are many scientific riddles in the area of climatic change, yet to be solved in order to develop solutions to address the ever increasing extreme weather hazards. It was revealed during the presentations made during the event that the developing countries lag behind in capacity-building for managing, monitoring and mitigating impacts of climate change. Delineating further, Prof. Ren stated that the urbanization plays a vital role in the localized climatic change observed in China.

Affirming Prof. Ren's views, Mr. Sirapong Sooktawee from Thailand gave an insight into the changes happening in the climatic system in Indo-China region that comprises over seven countries. He emphasized that a good understanding of the interaction between climatic modes and variability of monsoon is required for proper management of water resources and agriculture.

In Bangladesh, the climate change has increased the intensity/frequency of the occurrences of salinity, storms, droughts, excessive and irregular rainfall, temperature rise, and flash floods, etc. "We have to focus our attention on specifically vulnerable sectors of environment, society and economy to develop solid action plan to mitigate the problems", says Ms. Moushumi from Bangladesh reflecting upon the predicaments faced by countries, such as Bangladesh, at present and in the near future.

Giving a slightly different view, Dr. Shahina Tariq from COMSATS Institute of Information Technology (CIIT),

Pakistan, emphasized that in the long term, the floods can be considered as an important factor in the process of soil fertilization and a source of enhancing soil-productivity due to deposition of fresh alluvium, as well as excessive soluble salts and minerals.

"Climate change has not only affected the water and agriculture, it is giving rise to unforeseen health hazards as well", believes Dr. Chandima Gomes, who represented Malaysia, pointing out the rapidly increasing cases of Dengue fever in many parts of South East Asia.

"Overall, Climate Change is a stark reality and the whole globe should stand hand-in-hand to counter the dreadful consequences of this tragic process".

Courtesy: Dr. Shahina Tariq, Chairperson, Department of Meteorology, CIIT, Islamabad - participant of 10th CTWF workshop.



Group photo of participants of the 10th CTWF, Beijing, China

COMSATS INTERNET SERVICES CELEBRATES ITS 15th YEAR OF EXISTENCE

COMSATS Internet Services (CIS) celebrated its '15 Years of Internet Excellence' at a ceremony held in Islamabad, on September 28, 2011. The Executive Director COMSATS, Dr. Imtinan Elahi Qureshi, graced the occasion with his presence as the Chief Guest. The other guests included former Director General CIS, Mr. Parvez Ahmed Butt; Rector COMSATS Institute of Information Technology (CIIT), Dr. S. M. Junaid Zaidi; and other officials of CIS, COMSATS Secretariat, and CIIT. A highlight of the ceremony was an award distribution, in which plaques and cash awards were given to the in-charge of the most profitable node and best sales persons for the year 2010-11. Special plaques and gifts were also presented to the former Director General, CIS, the Executive Director COMSATS and the CEO CIS, Mr. Asim Shahryar Husain.

SPECIAL SECTION: THE VISITS OF THE EXECUTIVE DIRECTOR COMSATS TO THREE AFRICAN COUNTRIES; MOROCCO, SENEGAL AND GHANA

Background

Conscious of its dual role of advocacy and facilitation, COMSATS Secretariat is actively engaged in sensitizing the Member States and affiliated partner institutions to play their due role for achieving the organization's mission of science-led sustainable development. In this regard the 12th meeting of COMSATS Coordinating Council (Abuja-Nigeria, 2009), mandated the Executive Director COMSATS to visit the member countries of COMSATS. The call was reiterated in the 13th and 14th meetings of the Council held in Italy (2010) and Colombia (2011), respectively. Consequently by mid-2011, six member countries and ten Centres of Excellence were visited by the Executive Director to garner the necessary highest level support of the Member States/governments and to make the first hand assessment of the scientific capacities of the Centres available for sharing within the Network of COMSATS.

With a similar objective as a guideline, the Executive Director COMSATS, Dr. Imtihan Elahi Qureshi visited three African developing countries, Morocco, Ghana, and Senegal, the latter two of which are also Member States of COMSATS. This section of COMSATS Newsletter features the main highlights and major outcomes of these visits.

Visit to Morocco (16-21 October 2011)

Upon his visit to Morocco to attend the 2nd meeting of the Coordinators of Scientific Thematic Groups of IWSN (page-2), the Executive Director COMSATS held a meeting with the Director General ISESCO, H.E. Dr. Abdulaziz Othman Altwaijri, at ISESCO HQ, Rabat, on 17th October 2011. Dr. Altwaijri expressed satisfaction over the on-going cooperation between ISESCO and COMSATS to organize joint scientific activities for the benefit of common Member Countries. He reaffirmed the commitment of his organization to continue such collaboration and desired to enhance the scope of joint capacity building programmes. Dr. Qureshi assured the honourable Director General that COMSATS considers this partnership very important and would like to join hands with ISESCO to launch scientific R&D initiatives aimed at solving pressing problems of developing countries. In particular, he mentioned the scheme of multi-national research groups that have been initiated by COMSATS to address challenges of clean water availability, food security, environmental changes and gaps in the development of biotechnology and ICTs in the South.

Also attending the meeting, Dr. Faiq Billal, Director (Science) ISESCO and Mrs. Wafaa El Alami, Head ICPSR, noted that COMSATS' strong technical support has resulted in successful organization of a number of training programmes, workshops and symposia since 2004. The launching of web-portal 'Islamic-world Science Net (IWSN)'



A meeting between Executive Director COMSATS and Director General ISESCO

in 2006 was a significant step towards sharing the expertise between COMSATS and ISESCO.

Dr. Othman Altwaijri encouraged his senior officials to utilize the occasion of Dr. Qureshi's visit to work out the details of joint ISESCO-COMSATS activities for 2012 and beyond. The COMSATS' delegation comprising Dr. I.E. Qureshi, Mr. Tajammul Hussain (Advisor - Programmes) and Mr. Nisar Ahmad (Sr. Assistant Director - Systems) undertook consultations in this respect with Dr. Mukhtar Ahmed, the Deputy Director General, ISESCO, along with Dr. Faiq Billal and other Directors and Heads of Divisions of Science Directorate of ISESCO. It was agreed that: a workshop on repair and maintenance of scientific equipment would be jointly organized in Jordan during 2012; cooperation to update the web-portal IWSN would continue; and the third meeting of the Coordinators of the VSTGs of IWSN would be held after 2 years, i.e. in 2013. Arrangements were worked out for holding three workshops on Internet Security, Nanotechnology and Renewable Energy in OIC member countries during 2011-12.

During a meeting with the Secretary General, Ministry of National Higher Education, Professional Training and Scientific Research, Mr. Abdelhafid Debbarh (19th October 2011), the Executive Director took up the matter of Morocco's accession to COMSATS. Acknowledging the usefulness of COMSATS' membership for Morocco, the Secretary General informed the Executive Director about the contacts being made by the Embassy of Pakistan in Rabat with the Moroccan Ministry of Foreign Affairs, in this connection.

Visit to Senegal (23-25 October 2011)

Senegal's Minister for Higher Education and Scientific Research, H. E. Prof. Amadou Tidiane BA, received the



Dr. Qureshi with Prof. Tidiane BA and other officials of Senegalese Government

Executive Director COMSATS at his office in Dakar, Senegal, on October 25, 2011, and discussed possibilities of enhancing cooperation between his Ministry and COMSATS. The Executive Director informed the Minister that he has visited various research centres of the University Cheikh Anta Diop (UCAD) during his visit to Senegal, and on the basis of his discussions with relevant faculty members and the Rector of the University, it is understood that the UCAD will be recommended as a Centre of Excellence of COMSATS for approval in the next meeting of its Coordinating Council. With the induction of the University in the COMSATS' Network, it will be possible to involve Senegalese scientific community in the capacity-building programmes of COMSATS. The Minister, who himself is an accomplished scientist, welcomed the proposal and assured full support of his Ministry during the process of affiliation of UCAD in the COMSATS' Network. The Minister further expressed willingness to consider his personal presence during the forthcoming Commission Meeting of COMSATS as representative of the President the Republic of Senegal. The First Advisor to the Minister, Prof. Tahir Diop, appreciated that a National Workshop on "Repair and Maintenance of Scientific Equipments in Teaching, Research Institutions, and Small Scale Industries" was jointly organized by COMSATS and ISESCO in Dakar, last year.

A member of COMSATS' international Technical Advisory Committee, Prof. Moctar Touré, who was also present during the meeting, supported the proposal of affiliating the University with COMSATS as its Centre of Excellence. He stressed that the three major research institutes of the University can become nodes for participation in international activities of COMSATS and for faculty-exchange visits between UCAD and COMSATS Institute of Information Technology (CIIT). The institutes identified for this purpose pertain to Renewable Energy, Biotechnology and Bacteriology/Virology. Prof. Touré had earlier

accompanied the Executive Director during visits to various laboratories of UCAD.

Visit to Ghana (27-28 October 2011)

Visit to Ghana constituted the final leg of the Executive Director's visit to African countries. A meeting was held between the honourable Minister for Environment, Science and Technology (MEST), Republic of Ghana, H. E. Ms. Sherry Ayittey, and the Executive Director COMSATS, at the former's office in Accra (Ghana) on 27th October 2011. The Minister reaffirmed the support of her Ministry towards COMSATS' programmes and desired to expand cooperation in areas of environment, agriculture and biotechnology. She also expressed keen interest in educational opportunities available for Ghanaian students at COMSATS Institute of Information Technology (CIIT). Other senior officials of Ghanaian scientific institutions present in the meeting included: Mr. George K. Scott, Chief Director, MEST; Dr. A. B. Salifu, Director General Council for Scientific and Industrial Research (CSIR); and Dr. Eugene Atiemo, Director Building and Road Research Institute (BRI).

Dr. Qureshi gave a brief presentation on COMSATS' recent initiatives, especially launching of ITRGs. He informed the Minister that Ghanaian scientists are welcome to join three operational groups in the areas of Climate, Medicinal Plants and ICTs. Dr. Salifu, who had held an exclusive meeting with the Executive Director earlier during the day, welcomed the invitation and assured that relevant Ghanaian scientists would be identified for participation in ITRGs. Dr. Atiemo mentioned that COMSATS had sponsored a Ghanaian scientist to participate in the recently held CTWF-COMSATS joint International Training Workshop on 'Regional Climate Change and its Impact Assessment' (China).

Later, Dr. Qureshi visited BRI in Kumasi and made a presentation highlighting COMSATS' regional programmes.



Dr. Qureshi with Ms. Sherry Ayittey, Dr. Salifu and Mr. Atiemo

This presentation was subsequently sent to the Directors of other departments of CSIR for possible future cooperation. As agreed earlier by the Director General CSIR, COMSATS would designate CSIR as its Centre of Excellence to enable other departments of CSIR, apart from BRRRI, to participate in COMSATS' programmes. Touching upon the issues of financial support for Science and Technology, Dr. Qureshi stressed that all developing countries are direly in need of greater funding for R&D. Organizations like COMSATS, which depend on voluntary contributions of Member States, also need to be financially supported in order to enhance their ability to execute projects directly contributing to the socio-economic uplift of the developing countries. Dr. Qureshi invited the honourable Minister to personally represent Ghana in the forthcoming Commission Meeting of COMSATS. The Minister assured Dr. Qureshi that his suggestions would be discussed at appropriate level.

The relevant Ministers both in Senegal and Ghana were also delivered personal letters of the Minister for Science and Technology, Government of Pakistan, H. E. Mr. Changez Khan Jamali, in which it was desired that these countries may consider enhancement of scientific cooperation with Pakistan on bilateral level, as well as through the platform of COMSATS.

Major Outcomes

The visits of the Executive Director COMSATS to these countries have served well to revive the existing working relations and establish new cooperative arrangements with these countries and their scientific institutions in pursuit of the common mission of socio-economic development. Following are some major outcomes of these visits.

- Agreements, in principle, have been made to working out the details of joint ISESCO-COMSATS activities for 2012 and beyond. ISESCO was also invited to become partners with COMSATS for its programme of International Thematic Research Groups for the coming triennium.
- Relevant Ministries of the two member countries have re-affirmed support to COMSATS, its Network and projects and programmes.
- Formalities are underway for the designation/re-designation of COMSATS' Centres of Excellence in Ghana and Senegal; Council for Scientific and Industrial Research (CSIR) becomes COMSATS' Centre of Excellence in Ghana, and its Chairman becomes the Ghanaian member of COMSATS' Coordinating Council, while University Cheikh Anta Diop (UCAD), Senegal, is to join COMSATS' Network of Centres of Excellence.

ACTIVITIES/NEWS OF COMSATS' CENTRES OF EXCELLENCE

THE PRIME MINISTER OF PAKISTAN AND FEDERAL MINISTER FOR SCIENCE AND TECHNOLOGY VISIT CIIT, PAKISTAN

On October 21, 2011, the Prime Minister of Pakistan, Syed Yousaf Raza Gillani, formally inaugurated the Islamabad campus of COMSATS Institute of Information Technology (CIIT) and laid the foundation stone for Students' Sports Centre. The Prime Minister was accompanied by the Federal Minister for Science and Technology and the Federal Secretary, Ministry of Science and Technology, Government of Pakistan. Other distinguished guests of the occasion included Federal Ministers, Ambassadors, Foreign Office representatives, Deans and Directors of CIIT.

The Rector CIIT, Dr. S.M. Junaid Zaidi, gave a briefing on the progress made by CIIT since its inception. He informed that the Institute has now reached a total number of 20,000 students, 1,900 faculty members, 53 degree programmes, and 7 campuses, and is rated 6th amongst all the universities accredited with the Higher Education Commission of Pakistan. He also highlighted the Institute's linkages with the international institutions. It was noted that CIIT generates 77% of the funds needed for its running on its own, while only 23% is acquired from the Government of Pakistan. Efforts are being made to establish more campuses of CIIT within

Pakistan, in Sindh and Baluchistan provinces, as well as abroad, in Mauritius, KSA and UAE.

The Prime Minister appreciated the role of CIIT in providing the latest inter-disciplinary science and technology education in Pakistan. He declared knowledge and innovation as important agents for development and advocated the need for linking industry and academia for research & development, under a well-formulated policy. The Prime Minister directed the Planning and Development Division and the Ministry of Science and Technology to submit a proposal for the Prime Minister's approval regarding funding for CIIT's projects. A generous grant was announced for the newly established library at the Islamabad campus.

On September 7, 2011, Mir Changez Khan Jamali, Federal Minister for Science & Technology, who is also the Chancellor of CIIT, visited the Lahore campus of the university. The honourable Minister visited the library and other departments of the campus. He appreciated the standard of facilities and services being provided by CIIT to its students. The Minister also chaired a meeting with the senior officials of CIIT and a delegation from the Lancaster University, UK.

CIIT PUBLISHES BOOKS OF SCIENTIFIC IMPORTANCE

CIIT has launched a book on engineering titled 'Wireless Sensor Networks' (ISBN 978-3-8443-3280-3), authored by Dr. Mustafa Shakir, Assistant Professor, Department of Electrical Engineering, CIIT. This book provides an up-to-date coverage of power management in Wireless Sensor Networks.

Another book has been launched by CIIT titled 'Handbook on Applications of Ultrasound: Sonochemistry for Sustainability', written by Dr. Robina Farooq (Professor, Department of Chemical Engineering). The book has been published by Taylor and Francis Group, LLC, UK.

EVENTS HELD BY RSS (JORDAN) AND ITS PARTNER ORGANIZATIONS

The 5th Arab Cleaner Production Workshop took place at the Royal Scientific Society (RSS), Jordan, on September 25-27, 2011. The workshop aimed at sharing of experiences in the light of readily available examples from the Arab world. The topics covered during the workshop related to environmental risk management, life cycle of products, and management of hazardous materials. More than 26 papers were presented during this workshop by participants from 12 Arab and other countries. The event was held in collaboration with UNESCO and Jordan's State Secretariat for Economic Affairs that has previously supported four more such workshops under its 'Cleaner Production' Project.



Participants of the 5th Arab Cleaner Production Workshop, RSS-Jordan

In her message read on the occasion by the Executive Director External Affairs of RSS, Dr. Tariq Al Hadid, HRH Princess Sumaya, the President of RSS, recommended that Cleaner Production should be a theme that dominates every industry or process that pollutes the environment. She stressed on the importance of regional cooperation to manage Jordan's natural environment by eliminating waste-generation to the greatest extent possible.

The 3rd Biosafety and Biosecurity International Conference (BBIC) concluded its activities at El Hassan Science City (which also encompasses RSS), under the patronage of HRH Prince El Hassan bin Talal. The conference, which commenced on September 13, 2011, and lasted for 3 days, discussed several biosafety and biosecurity related issues that are critical to the people of the region.

In addition to several diplomatic delegations and international organizations, such as UNESCO, UNICEF, and UNRWA, the conference had the participation of the Senior Biosafety Advisor to Canada's Global Partnership Programme; the Director General of the Foundation Mérieux; and the Director of Skoll Global Threats Fund; as well as several Ambassadors, Jordanian Ministers, CEOs and presidents of some universities.

PROGRESS OF DEVELOPMENT PROJECTS AT BCSIR, BANGLADESH

Three laboratories in the field of technological development in food processing and preservation, improvement of tools and bio-metallic implants, mining, mineralogy and metallurgy are in the process of establishment at the Bangladesh Council of Scientific and Industrial Research (BCSIR). To set up a National Analytical and Research Service Institute, a development project has been initiated recently. As a part of establishing 'Digital Bangladesh', BCSIR plans to implement a development programme that would facilitate automation of services, updating of databases, website development, and networking. At present seven development projects, including one on Technical Assistance (TA), are being implemented by the Council.

To offset the ever-increasing demand of power, BCSIR has initiated a development project for establishing solar power plant and is carrying out research on solar energy technology, which is under consideration of the government for approval. Other three projects, mainly for infrastructural development to support SMEs and other industries, are in the 'Green Pages' of the current Annual Development Programme of Bangladesh. Under other projects, an institute for bioequivalence studies will be established, while two existing laboratories will be further developed for undertaking research on alternative and fossil-fuel, and technology development for leather-dye using khair (catechu) and other vegetable sources. To meet the target of setting laboratories in each division of the country, an institute for perfumes and cosmetics research will also be set up.

THE KING OF MALAYSIA CONFERRED A Ph.D DEGREE UPON THE PATRON-IN-CHIEF OF ICCBS, PAKISTAN

The King of Malaysia, Sultan Mizan Zainal Abidin, has conferred an honorary doctorate degree upon Prof. Atta-ur-

Rahman, *FRS*, Patron-in-Chief International Center for Chemical and Biological Sciences (ICCBS), Pakistan, on October 20, 2011. The degree was awarded during the 75th Convocation ceremony of the University of Technology Malaysia (UTM), in recognition of Prof. Atta-ur-Rahman's services to science and higher education sector within and outside Pakistan, especially to the Islamic World.

CAPACITY-BUILDING EVENTS ORGANISED BY ICCBS

ICCBS organized a workshop entitled "How to Write a Winning Scientific Research Proposal?" As many as 600 participants, including students, researchers and faculty members, from various universities and institutions of Pakistan attended the event. The HEJ Research Institute of Chemistry of ICCBS and Virtual Education Project Pakistan (VEPP) collaborated to organize this event. Out of the total participants, more than 150 belonged to remote areas of Pakistan. The highlights of the event include a comprehensive lecture on the theme of the workshop by the Director ICCBS, Dr. Iqbal Choudhary, and practical exercises on writing research papers.

An international workshop on Structural Biology was organized by ICCBS at its Dr. Punjwani Center for Molecular Medicine and Drug Research (PCMD), from October 1-4, 2011. Over 10 scientists from various institutions belonging to Germany, Turkey, Nepal, Nigeria, Sri Lanka and Sudan participated in the workshop, while around 40 local participants attended the event that was supported by COMSTECH. The primary objective of the workshop was to develop understanding of the emerging disciplines of structural biology. Prof. Dr. Christian Betzel, a renowned structural biologist of Germany, delivered a keynote lecture on the occasion.

ICCBS SEMINAR INCREASES AWARENESS ON DENGUE FEVER IN PAKISTAN

The management of PCMD has started a series of popular lectures for public awareness on common diseases in Pakistan. Health professionals, students, research scholars, representatives of NGOs, and general public will be the core beneficiaries of the programme.

In the same connection, a public awareness event on "Dengue Fever: Prevention & Treatment", was held on

September 24, 2011, at PCMD, ICCBS. The event was held in collaboration with VEPP.

During the event, a Bangladeshi scientist, Prof. Dr. Nurul Kabir, working at PCMD, delivered a lecture on the theme of the event. Apart from addressing some common misconceptions about the epidemic, Dr. Kabir noted that around 2.5 billion people, two-fifths of the world's population, are now at risk from dengue fever. Dr. Kabir informed that as per WHO estimates currently there may be 50 million dengue infections worldwide every year. The disease is now endemic in more than 100 countries in Africa, the Americas, Eastern Mediterranean, South-east Asia and the Western Pacific.

WOMEN SCIENTISTS FROM COMSATS' CENTRES OF EXCELLENCE WIN AWARDS AND RECOGNITION FOR SCIENTIFIC EXCELLENCE

The Elsevier Foundation, the Academy of Sciences for the Developing World (TWAS), and the Organization for Women in Science for the Developing World (OWSD) announced the recognition of eleven talented women scientists from Africa, the Middle East, Asia, Latin America and the Caribbean for their research excellence. Amongst these distinguished women are Dr. Nahla Ismail of National Research Centre (NRC), Egypt; and Dr. Farzana Shaheen of ICCBS, Pakistan. Dr. Nahla and Dr. Farzana have been recognized for their contributions in the field of chemical sciences.



Women scientists awarded recognition ELSWVIER Foundation, TWAS and OWSD, during WISE 2011, Kuala Lumpur, Malaysia

The announcement was made in Kuala Lumpur, on September 29, 2011, during the International Symposium on 'Women in Science and Engineering' (WISE 2011), which was hosted by the Ministry of Science, Technology and Innovation, and Institut Kimia Malaysia (IKM), Malaysia. Each winner received a cash prize of US\$ 5,000.

A CIIT faculty member, Dr. Robina Farooq (Professor, Department of Chemical Engineering) has recently received various distinctions. These are: Best Innovator Award (announced by Higher Education Commission (HEC) of Pakistan for CIIT's first patent registered in USA); Outstanding Research award by HEC; and Research Productivity Award (2011) by Ministry of Science and Technology. Moreover, Dr. Robina also has the honour of winning the second international patent for CIIT (registered in the United States of America).

SCIENCE, TECHNOLOGY AND DEVELOPMENT

SIMPLE METHOD OF CLEANING ARSENIC CONTAMINATED WATER

Availability of clean drinking water in the remote areas of the developing countries has always been a daunting challenge. Several easy-to-use and economical methods have been proposed by the inventors from various laboratories and commercial enterprises to ensure supply of potable water. One new method of cleaning drinking water from arsenic has been recently reported in SciDev.Net (7th September 2011). According to this report, chopped up plastic bottles covered in cysteine, a common food chemical, could be a simple and inexpensive method for removing arsenic from drinking water. It is found that bits of plastic coated with cysteine bind to arsenic. It has been claimed that the method is extremely efficient. The researchers have shown that this method can reduce the arsenic content from 20 parts-per-billion (ppb), two times higher than the safe standard set by the US Environmental Protection Agency for drinking water, to 0.2 ppb.

Arsenic has been linked to a variety of health problems ranging from stomach pains and blindness to various types of cancer. It has been estimated that approximately 100 million people are affected by arsenic contamination, causing heavy economic losses to the society, particularly in the developing world.

THE SOLAR POWERED AIRCRAFT

A Canadian company, Solar Ship, has designed an aircraft that will be able to travel one thousand kilometers carrying a cargo of upto one thousand kilograms, powered only by the sunlight. It will also be able to take off and land on a spot no larger than a football field. This aircraft is a hybrid of an airship and an airplane. The delta shaped aircraft will be filled with helium gas slightly less than needed to lift it off the ground. Solar panels on the body of the ship, backed by lithium-ion battery system, will supply enough electricity to drive it forward and into the air. The aircraft will be able to go where no roads are built, where landing locations are too small or have been destroyed or where existing airplanes and helicopters cannot reach on a single tank of fuel. The aircraft is going to be of tremendous help in remote areas, places of natural disasters and mining fields where access through conventional means is not possible. The test flight of this amazing aircraft is expected to take place in 2012.

UNRAVELING THE MYSTERIES OF IMMUNE SYSTEM

The immune systems of humans and animals have been under intense scrutiny of researchers for a long time. The immune system defends us from various pathogens, including bacteria, viruses, fungi, parasites and other micro-organisms. A lot of work has been done in the 20th century to understand the mechanisms involved in the functioning of the immune system. 'This year's Nobel laureates in

medicine and physiology have revolutionized our understanding of the immune system by discovering key principles for its activation', says a press release of 3rd October 2011 issued by the Nobel Assembly at Kavolinska Institutet, an organization that awards Nobel Prize in Physiology or Medicine. These discoveries have shed light on the functioning of both innate and adaptive immune systems.

There are two lines of defense in the immune system as mentioned in the press release. The first line of defense, innate immunity, can destroy invading micro-organisms and triggers inflammation that contributes to blocking their attack. In case the micro-organisms break through the first line of defense, the second line of defense, i.e. the adaptive immunity, is activated. After successfully destroying the invading micro-organisms, the immune system maintains an immunological memory that allows a more rapid and powerful mobilization of defense forces next time the same micro-organism puts up an attack.

The deeper understanding of immunity is linked with world's developmental parameters. Infectious diseases are major killers of human beings and animals. In the poor and developing countries, the infectious diseases have a high prevalence that cause crippling burden on their human, animal and agricultural resource. The new discoveries in the science of immune systems of humans and animals have provided new opportunities for the development of more effective methods for preventing and treating diseases.

MORE ACCURATE DETECTION OF TSUNAMIS BY RADAR

A tsunami has been observed for the first time with radar. This method is cost effective and gives more accurate early warning method (SciDev.Net, 19th September 2011). Researchers support their argument by citing example of the tsunami that hit Japan on 11th March 2011, which was detected about 45 minutes before it reached tide gauges, by using high-frequency radars installed along the shorelines in Japan. The warning time depends on how shallow the water is. The shallower the water, the farther away the radar can detect a tsunami. So this method could work best in regions having wide and shallow continental shelves, where it could give the maximum amount of warning time. The benefit of using shore-based radar system is that it provides warning data at many locations, improving the detection in terms of timing and intensity of tsunamis at the coast, which can vary significantly. Such a system would also measure waves that sometimes follow within a day of the initial tsunami and are not detected well by the present systems. Radar is already commonly used in ports around the world for various purposes, so transforming it for detection of tsunamis would be cost-effective. Adoption of this method would help saving human lives, property and the eco-system, thus averting severe economic crisis linked with tsunamis.

PROFILE OF HEAD OF COMSATS' S&T CENTRE OF EXCELLENCE

HRH PRINCESS SUMAYA BINT EL HASSAN, PRESIDENT RSS – JORDAN

Her Royal Highness Princess Sumaya bint El Hassan is a leading advocate for science as a catalyst for change in the Arab World. The Princess has dedicated herself to fostering an environment for the development of solutions to the pressing national and regional issues. Her focus on science in education, research and innovation is geared to encouraging sustainable development for the benefit of all sections of the Jordanian society. Considering the human capital as Jordan's greatest asset, the Princess is committed to maximizing the potential of young talent through the provision of quality education and professional opportunities.

Princess Sumaya chairs the Board of Trustees of the Princess



Sumaya University for Technology (PSUT), which was founded in 1991. She is dedicated to reinforcing PSUT's commitment to excellence in education and making the university a

regional hub for I.T. based research and development.

In October 2006, HRH was appointed as the President of the Royal Scientific Society (RSS) – Jordan's leading applied research institute – which has been providing support to national level initiatives via scientific research and technical application in the country for more than four decades (www.rss.jo).

As the President of RSS, HRH has spearheaded a restructuring programme for the organization, re-aligning the efforts of RSS to achieve its mission and objectives. The Princess has been successful in steering the organization to a sound fiscal footing while ensuring that RSS continues to play an important role in Jordan's economic development and prosperity.

Princess Sumaya has been instrumental to the progress of science and technology in Jordan. She has been actively contributing to the Higher Council for Science and Technology (HCST), which acts as a national umbrella organization for various S&T activities in Jordan. On April 17th 2007, His Majesty King Abdullah II inaugurated the El Hassan Science City (EHSC), with HRH Princess Sumaya as President of EHSC. The princess continues to build on her father's legacy of scientific institution-building for the benefit of humanity under the banner of 'Science for Peace'.

El Hassan Science City seeks to catalyse social and economic

progress for meaningful improvement in the quality of people's lives through scientific education, research, development and enterprise in the fields of Information & Communications Technologies, Clean Technologies and Human Safety & Security.

In the wake of the importance of information aggregation in dealing with future challenges, HRH has undertaken the Directorship and Chairpersonship of the National Campaign for Public Awareness of the Drivers of Change, a Jordanian initiative that seeks to foster the understanding, and debate on the factors that are driving change in the Kingdom. Under the direction of the Princess, the Campaign will help create a viable course of action for the local communities and Government in order to meet the future developmental challenges of the country.

Princess Sumaya is member of the Board of Directors of the Amman Baccalaureate School since 2005. She strongly believes in the importance of creative education not only at University level, but also at school level, and sees it as a key component for driving positive change to improve the quality of peoples' lives in the region. In 2009, Princess Sumaya became a member of the Jordan Council of Higher Education.

The Princess is an avid archaeologist and is closely involved with the work of the British Institute in Amman for Archaeological Research and the Council for British Research in the Levant. She is also the Patron of the Wadi Feynan project, an archaeological excavation in southern Jordan, and has worked with the Ministry of Tourism and Antiquities on several projects relating to the conservation and development of archaeological sites in Jordan.

More recently, under the direction of Her Majesty Queen Rania AlAbdullah, Princess Sumaya was invited to become the Vice Chairperson of the Board of Trustees of the Jordan Museum, where she is overseeing the development of Jordan's first national museum. Princess Sumaya is the Honorary Patron of the Jordan Computer Society and of several charitable organization.

In recognition of her support for the promotion of science, research, and technology, HRH Princess Sumaya has been conferred with a number of local, regional, and international awards, including:

- Albert Einstein Medal for Distinguished Achievement (University of Ulm, Germany, 2009);
- Lazio 'Between Europe and the Mediterranean' Prize (Italy, 2009);
- Grand Cordon of the Order of the Star of Jordan (Wisam al-Kawkab al-Urdani) (King Abdullah II of Jordan, 2006);
- The Order of the Crown from Her Majesty Queen Beatrix of Netherlands;
- Awards from the Governments of France and Sudan.

COMSATS' BRIEF AND ANNOUNCEMENTS

SELECTED FORTHCOMING SCIENTIFIC EVENTS IN COMSATS' COUNTRIES

- | | |
|---------------------|--|
| 27-29 February 2012 | EESD-2012 — 2 nd International Conference on Energy, Environment & Sustainable Development, Jamshoro, Pakistan
www.mueta.edu.pk/eesd2012 |
| 01-03 March 2012 | ICNBS Egypt 2012 — The International Conference on Nanotechnology, Biotechnology and Spectroscopy: Tools of Success in the Coming Era, Cairo, Egypt
www.ises-nakaa-conf.webs.com |
| 05-16 March 2012 | CIMPA School-2012 — Algebraic Structures, their representation and applications in geometry and non-associative models, Cartagena de Indias, Colombia
http://matematicas.udea.edu.co/cimpaschool2012/ |
| 26-28 March 2012 | REVEL — The first International Conference on Renewable Energies and Vehicular Technology, Hammamet, Tunisia
www.revel2012.aiem-tn.org |
| 27-28 March 2012 | Turing 2012: International Conference on Philosophy, Artificial Intelligence and Cognitive Science, Manila, Philippines
http://turing.pilosopiya.com/conference |

CALL FOR PAPERS FOR COMSATS' JOURNAL – SCIENCE VISION: VOL. 16

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. It invites research as well as review articles that have general scientific descriptions, with comprehensive elucidation of the impact of S&T discoveries and innovations for creating understanding of the contemporary issues and challenges. COMSATS invites scholarly contributions for the Vol. 16 of its journal. 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. As per the policy of the journal, contributors are compensated for their time and efforts with a modest amount of honorarium.

For more details, please visit COMSATS' official website: www.comsats.org or the journal's website: www.sciencevision.org.pk. Contributions may be sent to the Chief Editor at: comsats@comsats.org.pk.

EDITORS' NOTE

COMSATS Newsletter has now reached the end of the third year of its publication and is well recognized as means to disseminating information regarding COMSATS' projects and programmes. The support of all fellow colleagues, especially the ones from the Centres of Excellence is duly acknowledged, whose timely inputs and cooperation have made COMSATS Newsletter a success story. We hope for an even better participation in the upcoming issues of COMSATS Newsletter.

Apart from the highlights of this issue touched upon in 'From the Executive Director's Desk', we find it especially worth-mentioning to acknowledge the contribution from Dr. Shahina Tariq, Chairperson Department of Meteorology, CIIT, Islamabad, whose astute coverage of the 10th CTWF Workshop (Page-3) has become a welcome addition to this issue. We would also bring to our readers' kind notice that a regular feature of this Newsletter 'Profile of COMSATS' International S&T Centre of Excellence', has now been replaced with 'Profile of Head of COMSATS S&T Centre of Excellence'.

A BRIEF ON COMSATS

The Commission on Science and Technology for Sustainable Development in the South (COMSATS) is an inter-governmental organization, with its Secretariat located in Islamabad.

COMSATS, currently, has 21 countries as its members, spread across three continents, i.e., Latin America, Africa and Asia. A network, of 17 International Science and Technology Centres of Excellence, is also affiliated with COMSATS to contribute to scientific development of its Member States. For detailed information, please visit COMSATS' website: www.comsats.org.

COMSATS NETWORK OF INTERNATIONAL S&T CENTRES OF EXCELLENCE

- Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh
- Centro Internacional de Física (CIF), Colombia
- COMSATS Institute of Information Technology (CIIT), Pakistan
- Embrapa Agrobiologia, Brazil
- Higher Institute for Applied Sciences and Technology (HIASST), Syria
- Industrial Research and Consultancy Centre (IRCC), Sudan
- International Center for Chemical and Biological Sciences (ICCBS), Pakistan
- International Center for Climate & Environment Sciences (ICES), China
- International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica
- International Centre for Material Science and Technology (ICMST), Ghana
- Iranian Research Organization for Science and Technology (IROST), Iran
- National Mathematical Centre (NMC), Nigeria
- National Research Centre (NRC), Egypt
- Royal Scientific Society (RSS), Jordan
- Tanzania Industrial Research and Development Organization (TIRDO), Tanzania
- The Biosphere Reserve – Beni Biology Station (BBS), Bolivia
- TÜBİTAK Marmara Research Centre (MRC), Turkey