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

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Patron

Dr. Imtihan Elahi Qureshi, T.I.
Executive Director

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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.

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From the Executive Director's Desk

The Coordinating Council of COMSATS has held its annual meeting this year in Trieste, Italy. It is for the first time that the Council has met outside the countries where COMSATS' sixteen Centres of Excellence are located. The reason for this exceptional choice was to honour the suggestion of the outgoing Chairperson Coordinating Council, Prof. Dr. M.H.A. Hassan, who holds the office of Executive Director of the Academy of Sciences for the Developing World (TWAS). Prof. Hassan played a key role in the establishment of COMSATS and its Network of Centres of Excellence. Since then, he has been studiously helping to strengthen the Network as the Chairperson of the Coordinating Council.



Participants of COMSATS' 13th Coordinating Council Meeting (page 3)

Dr. Hassan's advice to choose a new Chairperson of the Council this year was also honoured with the election of Prof. Eduardo Posada F. (page 6) for a period of three years. It is expected that his position of high academic standing within his country, Colombia, and in the Latin American region, in general, would be helpful in expanding the role of COMSATS. Among the major decisions taken by the Council this year was to consolidate the establishment of thematic research groups for research and development in selected disciplines of S&T with the participation of different clusters of member countries. Alongwith the future plans to strengthen COMSATS' impact on socio-economic development in Member States, the advocacy role of COMSATS was also manifested in the Communiqué issued at the end of the meeting (page 7). The report of the Council meeting is included as a special feature in this issue of the Newsletter.

In light of experience gained during the publication of 9 issues of COMSATS Newsletter, it is planned to enhance its circulation and widen the scope of its contents. All readers, whether within COMSATS' community or outside, are cordially invited to send their feedback, comments and suggestions. Your opinions will be taken into account in preparing future issues of the Newsletter.

NEWS/ACTIVITIES/HIGHLIGHTS FROM COMSATS SECRETARIAT

COMSATS CONTRIBUTES TO NATIONAL S&T POLICY-MAKING OF PAKISTAN

Two more meetings of the sub-committee to review 'Draft National S&T Policy-2009' were held at COMSATS Secretariat during June 2010. The sub-committee was especially constituted by the Minister for Science and Technology, Government of Pakistan, to re-draft the policy document and present it before the Review Committee constituted under the directive of the Prime Minister of Pakistan in April 2009. The Federal Minister for S&T and the Special Advisor to the Prime Minister on Social Sector are, respectively, the Chair and Co-chair of the Review Committee.

The sub-committee comprises the Executive Director COMSATS as the Convener and the Chairman Pakistan Council for Science and Technology (PCST) as ex-officio member, with co-opted members from Planning Commission of Pakistan, Higher Education Commission, Pakistan Atomic Energy Commission, PCST, Sustainable Development Policy Institute, COMSATS, and Federation of Pakistan Chamber of Commerce and Industry.

The Draft National S&T Policy-2009 was reviewed keeping in perspective the human resource development; R&D organizations; strategic organizations and private sector of Pakistan. A critical analysis of the past S&T policies of Pakistan was provided and a comparison was drawn between the Draft National S&T Policy-2009 with S&T policies of other countries as well as other sectoral policies of Pakistan. As decided in the first meeting of the subcommittee, inputs and proposals received from its members, would be reflected in the new draft.

With these meetings, Phase-1 of the deliberations of the subcommittee has been completed. The revised draft is under preparation at PCST and COMSATS, which will be presented to the Review Committee after completion. Upon approval of the Review Committee, a white paper of this draft will be prepared and circulated to different stakeholders in Pakistan for consensus building.

EXECUTIVE DIRECTOR COMSATS PARTICIPATES IN THE MEETING OF THINK TANK OF CIS

A meeting of think tank of COMSATS Internet Services (CIS) was held in Islamabad, on June 10, 2010. Besides other senior officials of COMSATS Secretariat and CIS, the meeting was attended by the Executive Director COMSATS and Director General CIS. The participants of the meeting believed that a mutually beneficial collaboration can be reached between the two flagship projects of COMSATS, i.e., CIIT and CIS. The knowledge base of the former and the telecom infrastructure of the latter could help provide a number of services, e.g. e-Education, to the remote areas of Pakistan. A possibility of CIIT-CISCO-CIS collaboration was

also explored. Speaking on the occasion, the Executive Director highlighted the role CIS should be playing as a flagship project of COMSATS. He observed that CIS should help realize COMSATS' mission to promote science and technology among the Member States with a visible impact and tangible output.

COMSATS AND JBHT TO COLLABORATE FOR TELE-HEALTH SERVICES IN SKARDU

In order to continue its tele-health services in Skardu city and other Northern Areas of Pakistan more effectively, COMSATS signed a Memorandum of Understanding with Jabir Bin Hayyan Trust (JBHT), on May 28, 2010, Islamabad. JBHT maintains its presence in Skardu through its work in health and education. The agreement was signed by the Executive Director COMSATS, Dr. Imtihan Elahi Qureshi, and the Managing Trustee JBHT, Sheikh Muhsin Ali Najafi, on behalf of their respective organizations. Since 2005, COMSATS has been providing tele-health services in the area through a Tele-health Resource Centre established at its Headquarters in Islamabad. Specialist help was provided in the fields of dermatology, gastroenterology, cardiology and general medicine using live internet consultations as well as store and forward method. So far, over 3000 patients have benefited from these tele-consultations. By virtue of this agreement, JBHT, which has recently taken over the operational management of Abdullah Hospital in Skardu, will facilitate COMSATS in continuing the tele-health services for the marginalized communities of the district and the surrounding areas by providing medical examination facilities and paramedic staff.

In order to suitably cater to the healthcare needs of these remote and marginalized communities, both the parties have agreed to collaboratively organize periodic medical camps in Skardu, whereby COMSATS will engage specialist doctors and bear the travel expenses involved, while JBHT will make arrangements for organizing the medical camps and providing the local hospitality to the specialists.



Signing ceremony of the MoU between COMSATS and JBHT

SPECIAL FEATURE: 13th MEETING OF COMSATS COORDINATING COUNCIL

INTRODUCTION

The 13th Coordinating Council meeting of the Commission on Science and Technology for Sustainable Development in the South (COMSATS) was held on 12th & 13th May 2010 in Trieste, Italy, under the chairmanship of Executive Director of the Academy of Sciences for the Developing World (TWAS), Prof. Dr. M. H. A. Hassan. The Coordinating Council is an important organ of COMSATS' Network of Centres of Excellence. The Council meets every year to take key decisions on the scientific and technical activities of the Network, including approval of its programmes and budget, and matters affecting the membership of the Network as well as to provide regular oversight and guidance to the Centres of Excellence. To take policy decisions and to steer the Network in achieving its objectives, the Council's membership is composed of the Heads of the Member Centres or their representatives.

The 12th meeting of COMSATS' Coordinating Council, held in concurrence with the 1st meeting of COMSATS' Consultative Committee, was hosted by National Mathematical Centre (NMC) of Nigeria. This year, 11 Centres of Excellence of COMSATS participated in the 13th meeting and highlighted the achievements of their organizations working in different fields of S&T, especially in agriculture, bio-technology, industrial products, information and communications technology, environmental studies, materials science and space technology. This meeting was exceptional in the sense that this is the first occasion when the Council met in a country that is not a member of COMSATS.

INAUGURATION

The meeting was inaugurated on 12th May 2010, at the Abdus Salam International Centre for Theoretical Physics (AS-ICTP), Trieste, Italy. During the inaugural/introductory session, the host of the meeting, Prof. Dr. M. H. A. Hassan

Participating Members of the 13th Meeting of the Council

- Prof. Muhammad Hag Ali Hassan, Executive Director TWAS, (Chairperson of the Council).
- Dr. Imtinan Elahi Qureshi, Executive Director COMSATS (Secretary of the Council).
- Dr. Eduardo Campello, Director General, Embrapa Agrobiologia, Brazil.
- Prof. Zhaohui Lin, Director, ICCES, China.
- Prof. Eduardo Posada Flórez, Director, Centro Internacional de Física, Colombia.
- Prof. Ashraf Shaalan, President, NRC, Egypt.
- Dr. Eugene Atiemo, Director, BRRI (CSIR), Ghana.
- Prof. Abbas Taeb, President, IROST, Iran.
- Prof. Syed Muhammad Junaid Zaidi, Rector, CIIT, Pakistan.
- Dr. Ahmad Obeid Hassan Gubelnour, Director General, IRCC, Sudan.
- Dr. Wael Khansa, Director, HIAST, Syria.
- Dr. Asifa Nanyaro, Director General, TIRDO, Tanzania.
- Dr. Mehmet Demirel, Vice President, MRC, Turkey.

delivered his Welcome Address and the Secretary to the Council, Dr. Imtinan Elahi Qureshi gave Introductory Remarks.

Dr. Hassan, in his capacity of the Chairperson Coordinating Council, thanked the participants for taking keen interest in the affairs of COMSATS. He was pleased that the present meeting was taking place in Trieste. Dr. Hassan, in his Welcome Address, gave a brief overview of the history of relationship between COMSATS and TWAS. He suggested that the member states can benefit by developing relationships with TWAS' Regional Offices in the world, establishing collaboration between their Academies of Science and the Focal Points and encouraging women scientists to collaborate with COMSATS. Considering the important role of emerging economies in Latin America, he expressed his pleasure on the participation of Brazil and Colombia in the 13th meeting of the Council.

Participants of the 13th meeting of COMSATS' Coordinating Council meeting on special invitation

- Mr. Tajammul Hussain, Director General, International Affairs, COMSATS Secretariat, Pakistan.
- Dr. Hasibullah, Advisor, International Affairs, COMSATS Secretariat, Pakistan
- Prof. Mohammad H. Entezari, Deputy of Scientific & International Cooperation, Iranian Research Organization for Science & Technology (IROST), Iran.
- Dr. Mahmoud Molanejad, Director, Regional Centre for Science and Technology Transfer (RCSTT), Iran.
- Dr. Albert Koers, Interim Director, InterAcademy Panel (IAP), Italy.
- Dr. Peter McGrath, Programme Assistant, TWAS, Trieste, Italy.
- Mr. Daniel Schaffer, Public Information Officer, TWAS, Trieste, Italy.
- Ms. Cristina Serra, Public Information Officer, TWAS, Trieste, Italy.



A technical session of the 13th Coordinating Council meeting in progress

Dr. Hassan lauded COMSATS Secretariat for making comprehensive preparations for the meeting, particularly with respect to the production of the 'COMSATS Annual Report' and the 'COMSATS' Strategy Document'. He said that such occasions as the present one provide a good opportunity to promote scientific cooperation among the Network members.

Speaking on the occasion, the Executive Director COMSATS underscored the importance of international organizations, such as COMSATS that are playing a crucial role in the development of S&T cooperation among developing countries. He noted the unique nature of COMSATS, being an apex organization established by the countries of the South and having sixteen renowned R&D Centres affiliated with it as a Network of Centres of Excellence.

"...the platform of COMSATS that we have under our joint control is a very unique and potent forum. This annual meeting, in itself is a remarkable occasion, wherein the Heads of major R&D organizations present the programmes and achievements that they have made and share their experiences with their peers from other centres in COMSATS member countries. It is a remarkable opportunity because it provides a rare chance of one centre to understand what other centres are focusing on and why; what is it that is making their programmes successful; what activities, if any, can run into difficulties; what elements of their programmes can be emulated by others; and what inspiration can be derived from success stories..."

....I would like to remind you that the world is steadily moving towards a stage where the competition for resources, as fundamental as clean air and potable water, is going to be more and more fierce. We will have to pool our abilities to preserve our interests as developing nations, in the face of tough challenges posed by the interest groups wishing to maintain the status quo. Our peoples have legitimate desire of enjoying the fruits of development and we are the people who can play a leading role to help realize the wishes of teeming millions in our countries...."

Extracts from the Introductory Remarks of the Executive Director COMSATS

DISCUSSIONS AND DELIBERATIONS

A twelve-point agenda was covered in five technical sessions, spread over two working days. Apart from the routine agenda-items of discussion, the Council deliberated upon important matters, such as the reconstitution of the COMSATS' Technical Advisory Committee, Strategy Proposal for Thematic Technical Cooperation Programmes and convening of the 2nd Commission Meeting. Another important matter of the meeting had been the presentation of COMSATS' Annual Activity Report (2009-10) to the participating members of the Council.

The major component of the meeting was the presentation of reports of Centres of Excellence, which is a regular



Participants of the meeting from Pakistan, Turkey, Brazil, Sudan, Syria, Tanzania and Colombia

feature of the Council's meeting. All the Network members presented salient developments, during the period of last 12 months, within the context of the overall potential and scientific capacity of their organizations.

The Strategy Document (2010-14), which had been under consideration of the Coordinating Council for the last three years since its 10th meeting held in Cairo, Egypt, was presented to the Council and its approval was sought. The Advisor (International Affairs) of COMSATS Secretariat, Dr. Hasibullah, gave a presentation on the background and progress made for the finalization of the document alongwith its salient features.

An extensive discussion took place on the present status of the activities of various thematic groups. The discussion revealed that, in many cases, the lack of adequate communication and coordination among the thematic groups impeded preparation and launching of the projects. It was evident that the Lead Centres of the thematic groups were keen to initiate various projects, but were faced with management and financial issues. However, the Council was pleased and encouraged to learn that Iran, Pakistan and China had already prepared specific project proposals. It was urged that efforts should be made to reinvigorate the collaboration among the member countries through the activities of the thematic groups.

The reconstitution of COMSATS' Technical Advisory Committee (TAC), comprising 10 members, has been under consideration of the Coordinating Council for the past couple of years. A summary of the efforts made for reconstitution of the Committee was given by the Executive Director COMSATS. In light of the consent obtained from five new candidates, the Coordinating Council was requested to grant approval for the proposed list of members of TAC so that the Committee is reconstituted for a tenure of 3 years starting from 13th May 2010.

Members of COMSATS' Technical Advisory Committee as approved by the 13th Meeting of the Coordinating Council

Ex-Officio Members

- Dr. M.H.A Hassan,
Executive Director, the Academy of Sciences for the Developing World (TWAS), Italy.
- Dr. Imtihan Elahi Qureshi
Executive Director, COMSATS Headquarters, Pakistan.

Continuing Members

- Dr. Ishfaq Ahmad
Advisor, Planning Commission, Pakistan.
- Prof. R.J. Peterson
Professor of Physics and Associate Vice-Chancellor for Research, University of Colorado, USA.
- Prof. Dr. Lewis T. Chadderton
Professor of Physics, Atomic and Molecular Physics Laboratories, Australian National University, Australia.

New Members

- Dr. Jean-Pierre Revol
European Organization for Nuclear Research (CERN), Switzerland.
- Dr. Mactar Toure
Executive Secretary, SPAAR, The World Bank, Senegal.
- Prof. Farida Habib Shah
Novel Plants Sdn Bhd, and BioIT Technologies (M) Sdn Bhd, Malaysia.
- Dr. Afsaneh Safavi
Department of Chemistry, Shiraz University, Iran.
- Prof. Zhu Jiang
Deputy Director, Institute of Atmospheric Physics, Chinese Academy of Sciences, China.

The multimedia presentation on the 'Activity Report of COMSATS' by the Executive Director COMSATS explicated COMSATS' secretarial functions, expansion of working partnerships, programmes concerning member countries, COMSATS' flagship projects, Executive Director's visits to COMSATS' Member States (Syria, Egypt, Iran, Jordan and China) and Centres of Excellence, COMSATS' publications and information dissemination and COMSATS' activity plan 2010.

Moreover, support was sought from all the Network members for COMSATS' publications and they were encouraged to contribute books, journals and other scientific material for COMSATS' Resource Centre at its Secretariat. The public version of 'COMSATS Annual Report', printed for the first time, was also presented to the Council.

DECISIONS AND OUTCOMES

Following are a few major decisions of the Meeting:

- Embrapa Agrobiologia (Brazil) agreed to accept research (PhD and Postdoctoral) students from various COMSATS' member countries in its 18 laboratories.
- Creation of collaborative programmes between IROST

(Iran) and Embrapa Agrobiologia through a workshop with the assistance of TWAS and COMSATS. In this regard, IROST would prepare the proposal for organizing the workshop and submit it to TWAS and COMSATS.

- ICCES (China) agreed to arrange capacity building programmes for the Technical Cooperation Thematic Group on Climate Change and Environmental Protection.
- IROST was made a new member of the Thematic Groups on Climate Change and Environmental Protection, and Natural Products led by ICCES (China) and ICCBS (Pakistan), respectively.
- Embrapa Agrobiologia was declared a member of the Thematic Group on Agriculture and Biotechnology with NRC (Egypt) as its Lead Centre.
- NMC (Nigeria) joined the Thematic Group on Agriculture and Biotechnology.
- A new Thematic Group on Space Technology was created under the lead of IROST. The other partners that joined the Group were CIF (Colombia) and Embrapa Agrobiologia.
- It was decided that the 'Strategy Document' will be divided into two parts. The first part will consist of the strategies and objectives and the second will contain the implementation mechanism. The assistance of Dr. Albert Koer of IAP will be sought to separate the two strategy parts. (The first part of the Document has already been sent to the Network members for comments and suggestions.)
- The Coordinating Council unanimously approved the Administrative and Financial reports by COMSATS Secretariat, which were earlier endorsed by the COMSATS' Management Committee.
- The members of the Council agreed to increase their efforts to improve the Annual Financial Contributions of their countries towards COMSATS.
- The Coordinating Council approved the list of the members of Technical Advisory Committee comprising



Rector CIIT and E.D. TWAS signing agreement of collaboration



The new Chairman of the Council presenting a shield to the outgoing Chairman, Prof. M.H.A. Hassan

10 scholars (as given at page 5) .

- COMSATS and TWAS to jointly work for the publication of 'profiles' of selected Centres of COMSATS' Network.
- Member Centres will assist TWAS to publish their profiles with relevant information including case studies.
- Member Centres will donate library books, journals, newsletters and other scientific material for establishing a Resource Centre by COMSATS.
- The Executive Director COMSATS will visit more Centres of Excellence, including those in Brazil and Turkey, whenever possible, to motivate their governments to become members of the Commission. Also the member countries of COMSATS with no Centre of Excellence will be visited to identify appropriate organizations for affiliation with its Network.

CONCLUSION

The Council, during its deliberations, expressed satisfaction over the follow-up of the decisions taken in its 12th meeting, held in 2009, in Abuja, Nigeria, endorsed the administrative decisions of COMSATS Secretariat, approved its budget for 2010-11, and expressed satisfaction over the support provided to COMSATS Secretariat by the host country, Pakistan. A 10-point Communiqué was issued at the end of the meeting, which endorses the plan of creating scientific thematic groups for research activities to be conducted by clusters of countries within the Member States of COMSATS. The Communiqué called upon the Member States to spend 2-3% of their GDP on R&D.

The Council applauded the services of Prof. Dr. M. H. A. Hassan, who has been the Chairman of the Coordinating Council since 1995, and unanimously accorded him the lifetime honorary membership of the Council. The Council also

elected a new chairperson for the next three years. Prof. Eduardo Posada Flórez, the Director of International Centre of Physics of Colombia, was unanimously chosen for this position. The 14th meeting of COMSATS' Coordinating Council will take place either in Colombia or in Turkey. The exact venue and dates of the meeting will be finalized after due consultations.

PROFILE OF THE NEW CHAIRMAN COORDINATING COUNCIL

Dr. Eduardo Posada Flórez, a Colombian physicist, is the Executive Director of COMSATS' Centre of Excellence in Colombia, the International Centre of Physics (CIF). Born in Bogotá, Colombia, in 1942, Dr. Posada completed his Bachelors in Physics (1966) from the University of Lausanne (Switzerland) and later, in 1972, received his Doctorate in Physics with honours.



Recognized as one of the fathers of the Science, Technology and Innovation Policy of Colombia, Dr. Posada is the co-founder of CIF where he has promoted several important projects in basic and applied research. At CIF, he has served as the principal investigator of several projects financed by Colciencias – Colombian National Research Foundation – and headed a project on semi-conducting thin films that included the construction of an ion-implanter and the establishment of a characterization laboratory. He also promoted several important projects, among which are the Research Institute on Corrosion in Bucaramanga, a business incubator and an Institute for Advanced Optics in Bogotá. Some of his notable contributions towards physics come from his research work on cryogenics and superconductivity that was undertaken in Colombia and Europe. Currently, Dr. Posada is the President of the Colombian Association for the Advancement of Science (ACAC), which is a promoter of the Colombian legislation for science and technology; the scientific fair 'Expociencia'; and the popularization journal 'Innovación y Ciencia'. He is the co-founder of the interactive Museum of Science 'Maloka' and the President of its Board of Directors.

Dr. Posada has also been the Director of the Investigation Laboratory in Coffee Chemistry (1975-1992), affiliated with the National Federation of Coffee Growers, that is contributing research on physical phenomena involved in processing of natural products, particularly in drying, freezing and freeze-drying. Besides his current full membership of Colombian Academy of Sciences, Dr. Posada has been the President of the Colombian Physical Society (1984-1987) and the Association for the Promotion of the International Center of Physics (1982-1987). He has been a member of the Commission on Science, Education and Development (1993-1994); the Board of the National Bank Foundation (1992-2003); the Board of the Nuclear Affairs Institute (1991-1994); and the International Scientific Council of the ICTP, Trieste (1984-1988). He is also Professor at the Rosario University and Emeritus Professor at the National University of Colombia (1990), and is the recipient of the National Science Prize 'Alejandro Angel Escobar' (1989).

COMMUNIQUE OF THE 13TH COORDINATING COUNCIL MEETING OF COMSATS

- The Members of the Council concur that economic progress depends in large part on a nation's ability to harness science and technology for addressing wide-ranging socio-economic challenges. A growing number of countries have recently taken important steps to enhance indigenous S&T capacity. COMSATS is committed to working with member states to strengthen this process.
- Investment in S&T must be a cornerstone of strategic planning for long-term prosperity of the South. The norm of spending on R&D in developed countries, which is 2-3% of GDP, should be adopted by all States. Encouraging progress made by some member states of COMSATS in this respect needs to be emulated by others.
- An essential component of S&T capacity building is human resource development, for which the policy makers should devise ambitious plans. Political will plays a key role in the successful implementation of these plans. Members of COMSATS' Council reiterate their commitment to provide state-of-the-art research and training facilities to scientists from COMSATS Member States and, in general, to cooperate in the sharing of science and technology whenever and wherever feasible.
- The ultimate objective of developing or adapting scientific and technological solutions is to help society by promoting industrial productivity, food security, public health, environmental conservation, energy supplies and advanced communication. COMSATS' Centres of Excellence are engaged in R&D activities to address such issues. The strengthening of the Centres' infrastructures and facilities by national authorities will make international collaboration more effective, leading to more rapid achievement of the desired goals.
- The existing institutional infrastructures for R&D in the

South require review and upgrading. A national evaluation mechanism for achieving maximum performance at par with international standards is an essential component of research productivity. The success achieved among different members of the COMSATS Network in this regard is a matter of great satisfaction and could serve as a model for others.

- COMSATS' Coordinating Council Members realize that global scientific advances are taking place at a breathtaking pace and that new fields of study – for example, in the biological and material science – are gaining prominence. To keep abreast with such emerging fields in science and technology will require the creation of new institutions and new collaborative scientific ventures.
- To advance the interests of developing countries in commerce, trade, environment, security and international stability, cooperative efforts are indispensable. Realizing the importance of research collaboration, members of the COMSATS Council resolve to establish thematic research groups for technical cooperation with the participation of clusters of countries within the membership of COMSATS. The groups would undertake research projects in selected areas of high socio-economic impact, including ICTs, agriculture and biotechnology, material science, mathematical modeling, environmental studies and space technologies.
- In view of the significance of scientific meetings and training workshops, COMSATS Council members will also make earnest efforts to hold at least one scientific activity every two years for scientists from COMSATS Member Countries, and to participate in scientific events under this arrangement taking place in other Member Countries.
- International fora devoted to South-South cooperation in S&T, including COMSATS, deserve the greatest financial support possible by the respective Member States. Adequate funding for organizations, such as COMSATS, is indeed in the best interest of the States.
- The Council calls upon the scientific communities in their countries to redouble their efforts to achieve excellence in their respective areas of expertise, request their governments to accord the highest priority to S&T capacity building, and earnestly call upon the world leaders to help achieve scientific progress throughout the globe. To achieve these lofty goals will require both political and financial commitments from governments, international collaboration and a willingness on the part of the scientific community to conduct research in society's interest.



Delegates ready for official banquet

ACTIVITIES/NEWS OF COMSATS' CENTRES OF EXCELLENCE

CIIT SIGNS AN MOU WITH THE NATIONAL CENTRE FOR PHYSICS (NCP), ISLAMABAD

The COMSATS Institute of Information Technology (CIIT) has signed an MoU with the National Centre for Physics (NCP), Pakistan, on 4th June 2010, to boost research and technical cooperation in the areas of basic and applied physics. The ceremony was held at the Chak Shahzad Campus of CIIT in Islamabad. The Rector CIIT, Dr. S.M. Junaid Zaidi and the Director General NCP, Dr. Hamid Saleem, signed the agreement in the presence of Dr. Ishfaq Ahmad, Advisor Planning Commission of Pakistan, and Dr. I.E. Qureshi, Executive Director COMSATS.

Under the provisions of this MoU, the two institutions will, inter alia, cooperate to: exchange and train scientific and technical personnel; collaborate for research in high energy physics; hold joint conferences/seminars/workshops; undertake joint research projects; and share research, teaching and computer facilities.



Dr. Ishfaq Ahmad, Dr. Zaidi, Dr. Hamid and Dr. Qureshi during the signing ceremony of the MoU

CIIT HOLDS THE FIRST CEREMONY OF COMSATS INSTITUTE MEDALS FOR INNOVATION (CIMI)

The COMSATS Institute of Information Technology (CIIT) held the first ever award distribution ceremony of 'COMSATS Institute Medals for Innovation' (CIMI), on 24th May 2010, in Islamabad. The awards were given to acknowledge and promote innovation among scientists from various fields of science and technology, including mathematics, computer science, and electrical engineering.

The prize distribution ceremony of CIMI was presided over by Dr. Muhammad Azam Khan Swati, the Minister for Science & Technology, Government of Pakistan, and attended by senior management officials, faculty members and students of CIIT. Among the distinguished guests were Executive Director COMSATS, Dr. Imtinan Elahi Qureshi

and some foreign guests, including Mr. Willie Eerola, CEO RIDDES (Finland) and Prof. James Crabbe from the University of Bedfordshire (UK).

Out of 44 nominations received for the year 2008, eight individual innovations qualified for the award. The winners were awarded Certificates of Merit alongwith gold medallions and cash prizes of upto Rs. 100,000.

CIIT'S ENDOWMENT FUND AIDS YOUNG STUDENTS FOR HIGHER EDUCATION

In order to make higher education accessible to students from the marginalized communities of Pakistan, CIIT, over the years, has been taking initiatives, such as granting partial or full fee-waivers. Living upto its reputation, the Institute has created an Endowment Fund that comprises donations from government officials, COMSATS' alumni and the employees of CIIT. Scholarships for bachelors- and masters-level education, on merit-cum-need basis, are awarded through this fund. These scholarships were formally launched in 2009 during the 18th Convocation of CIIT.

On 22nd June 2010, during a ceremony held in Islamabad, the names of the first batch of awardees of the scholarship were announced. Executive Director COMSATS, Dr. Imtinan Elahi Qureshi; Rector CIIT, Dr. S. M. Junaid Zaidi; and Registrar CIIT, Dr. Arshad Malik were present on the occasion.

Speaking on the occasion, Dr. Qureshi called upon the Prime Minister of Pakistan (the Chairperson of COMSATS) and the President of Pakistan (the Patron of CIIT) to give generous donations to CIIT's Endowment Fund, which is meant to give assistance in the form of scholarships to the talented students from low-income families and make higher education accessible to them. Dr. Qureshi also made a personal contribution of Rs. 50,000 towards the endowment fund. Dr. Zaidi announced that CIIT is planning to increase the number of students that are awarded scholarships every year, and hoped that the number would reach 15,000 by 2016.

ROYAL SCIENTIFIC SOCIETY MARKS ITS 40TH ANNIVERSARY

The Royal Scientific Society (RSS) recently celebrated its 40th anniversary. During a meeting with the staff of RSS that was also attended by HRH Princess Sumaya bint El-Hassan, the President of El Hassan Science City and RSS, HRH Prince El-Hassan bin Talal, the Chairman of the Board of Trustees of the RSS said, "the Society should work towards a partnership with the 'Third Sphere' through cooperation with governments, the private sector and civil society institutions". Prince El-Hassan also called for taking several other key measures including, promoting inter-

disciplinary work that serves Jordan and the entire region and urged all the stakeholders to focus on developing human capital and social responsibility towards promoting communities to achieve positive change for the benefit of future generations in Jordan.

Also, during a meeting with the new Executive Body of the RSS, HRH Prince El-Hassan was briefed on the recent internal restructuring that took place at RSS. The new structure at RSS is the second phase in the evolution of the RSS, which is being carried out in accordance with international standards. The purpose of this restructuring is primarily to move RSS into the next era in terms of the services it provides, the efficiency with which it operates, and the impact it has in serving the community and the region. RSS now operates and develops all its activities around four major pillars or 'internal sectors', namely Testing, Knowledge, Quality, and Outreach.



Participants of the celebrations of 40th Anniversary of RSS

HRH Princess Sumaya informed that RSS will focus on the critical fields that affect the daily lives of the people of Jordan and the region. These fields are: environment, water, energy, industrial technology, construction, information technology and communications. The event's final communiqué recommended increasing the use of solar energy and raising public awareness on the importance of saving energy within the community.

ICCBS WINS IDB-PRIZE FOR BEST SCIENCE INSTITUTION IN OIC COUNTRIES

The International Center for Chemical and Biological Sciences (ICCBS), based in the University of Karachi (Pakistan), was awarded the 'Islamic Development Bank (IDB) Award' for the second time under the category of 'Best Science Institution in the OIC Countries'. During the award ceremony, held on June 23-24, 2010, Dr. M. Iqbal Choudhary, Director ICCBS, received the trophy and the cash award worth US\$ 100,000/-.

SCIENTISTS AT NRC DEVELOP A NATURAL INSECTICIDE FROM CITRUS PEEL

A research team at the National Research Centre (NRC) of Egypt, headed by Dr. Sameh Abd El Kader, a professor of Pesticide Science and Environmental Toxins at the Centre, succeeded in producing organic materials from citrus peel. The product thus developed is found to be resistant to household insects.

The research team managed to extract essential oils from citrus peels, like those of orange, lemon, grapefruit and mandarin. These oils exhibited the ability to kill flying insects that transmit diseases, particularly mosquitoes.

A STUDY AT NRC INVESTIGATES THE IMPACT OF DIABETES IN MOTHERS ON FETUSES

A recent study at National Research Centre (NRC), Egypt, confirmed that diabetes in pregnant woman has an effect on the newborns, in terms of their anthropometric measurements such as length and circumference of head. The study also confirmed an increase in weight in infants born to mothers with diabetes during pregnancy, and showed decline in the level of Ghrelin hormone, which is linked to a child's vital growth. The research was conducted by Dr. Manal Mohsen of the Child Health Department, and Dr. Hanaa El Sherif and Dr. Hoda Ali Megahed of the Medical Biochemistry Department of NRC.

EMBRAPA AGROBIOLOGIA MARKS ITS 27TH ANNIVERSARY

The planting of ten royal palms marked the celebrations of 27 years of Embrapa Agrobiologia (Brazil), 100 years of Rural University, and 52 years of the founding of IPEACS, who originated the Embrapa Agrobiologia, PSA and the Experimental Station of PESAGRO Seropédica. The planting memorial took place on May 11, 2010, in the gardens of the Experimental Station PESAGRO-Rio.

CAPACITY BUILDING WORKSHOP AT NMC

National Mathematical Centre (NMC) of Nigeria, organized a Workshop on 'Capacity Building for the Lecturers of Mathematical Sciences in Tertiary Institutions', from 21st to 26th June 2010. The Workshop focused on: Model Teaching Method; Identification and Teaching of Difficult Concepts at Tertiary level; Research in Mathematical Sciences and Mathematical Sciences Education; Statistical Tools for Research in Mathematical Sciences and Mathematical Sciences Education; and Improving Performance and Enrolment of Students in Mathematical Sciences at the Tertiary level. The aim of the workshop was to create opportunity for lecturers of mathematical-sciences to update their knowledge on some concepts and to acquire necessary instructional skills and competencies for effective and efficient teaching of mathematical concepts.

SCIENCE, TECHNOLOGY AND DEVELOPMENT

LUNG-RESURRECTION WITH STEM-CELL ENGINEERING

Millions of people die each year due to complex lung diseases. Most of the deaths occur in the poor and developing countries, causing huge socio-economic burdens on their already stressed societies. Lung-transplants are extremely difficult due to various technical and social reasons. Scientists and stem-cell engineers have now turned their attention to the possibility of repairing of lungs. Stem-cell technology has shown very promising results in a large variety of medical treatments and this promise now leads the researchers to work on lungs resurrection, reports *Eureka! Science News* (June 24, 2010).

Lungs are very complex organs in terms of their anatomy. There are different types of cellular tissues at the entrance, inner parts and other deeper parts of the organ. Earlier, it was a very difficult task for scientists to sensitize undifferentiated stem cells to develop into the specific cell types to constitute different parts of a lung. Nevertheless, a revolutionary solution has been found as a result of experiments on rat-lungs. Scientists have reported success in seeding embryonic stem cells into rats' destroyed lungs and resurrecting different types of the destroyed tissues in different parts of the lungs. Such a site-specific cell-development in a natural tissue matrix is unprecedented. The success has raised hopes for scaling up the concept to produce replacement-tissues for humans, to improve upon test therapies and diagnostic techniques for a variety of diseases and agents, such as pneumonia, hemorrhagic fever, tuberculosis and hantavirus that cause damage to the lungs. This field of research is also ramifying into some other related medical areas.

COST-EFFECTIVE CATALYST TO PRODUCE HYDROGEN FUEL FROM SUNLIGHT

Hydrogen fuel is the future dream of the entire world. Hydrogen fuel, as an alternate source of energy and its production at an affordable cost, with little environmental concerns, is the ongoing enthusiasm of several world enterprises. Two important scientific developments have recently taken place in the area of production of hydrogen fuel. The required amount of power, to produce hydrogen from water, which is a major cost component of any industrial process, could come from solar panels coated with the newly developed and inexpensive metal catalysts, reported *SciDev.Net* (May 17, 2010). Also, two years ago, scientists have succeeded in splitting water into hydrogen and oxygen using sunlight and a cobalt catalyst. Doing so, they found a way to efficiently store the Sun's energy as fuel. Now, researchers have used a low-cost nickel-borate catalyst, which could replace nickel catalyst to make the solar-power less costly. With this system, the solar energy can be used

during the day to electrolyze water, to produce hydrogen and oxygen, store the hydrogen and then consume it later. Conventional photovoltaic and battery systems are already in use to store solar energy at night time, but these systems have limited storage capacity. Hydrogen stores a thousand times more energy per unit of volume than do the most efficient regular batteries. The catalyst is being further tested for its commercial value to make it more useful for the developing countries.

LOW-COST LIGHT FOR THE OFF-GRID POOR

Billions of poor people in the world are living without electric light and have little hope for electricity coming through grid connections, during their life-time. Several technologies are established and performing well with solar energy for handy lighting appliances but none is so cost-effective that could be afforded by the vast majority of the extremely poor. A very low-cost (about US\$ 4) pocket-sized torch usable for night-time navigation has been developed (*SciDev.Net*, June 14, 2010). The lamp is made from polymer solar cells and is claimed to be fairly effective under a variety of working conditions. Several versions of the lamp are under development to suit the need of every poor user, especially to ease the charging of the lamp. It is hoped that this device will help replace kerosene lamps, which are fire hazards and environmentally unfriendly. The availability of essentially free lighting after the initial purchase has a lot of benefits for both health and education. The device is absolutely sustainable and its commercial availability does not essentially depend upon funding from the western countries.

BEWARE OF TOXIC PLASTICS

Plastic materials are used very often in our everyday life. But some plastic materials are not very safe for humans as some of their ingredients contain toxic chemicals. One such example is plastics with bisphenol A. This was described in an earlier issue of COMSATS' Newsletter (Jan.-Feb. 2010). Bisphenol A was reported to cause cardiovascular disorders and is linked with the occurrence of a certain type of diabetes.

Now another identical chemical, known as bisphenol AF, has also been reported (*SciDev.Net*, June 8, 2010) to cause disorders of steroid hormone activity in human body. Bisphenol AF is fluorinated analog of bisphenol A and is considered to be more toxic in its action on human metabolism. A well-known action of this chemical is on functions of the hormone, estrogen. The report points out that the health-problems, like ovulation disorders in young women and reproductive cancers, could be linked with the toxicity of bisphenol AF. It is also reported that the bisphenol AF has been detected in women's fat as a contaminant, which implies that it can be passed along to a baby through breast feeding.

PROFILE OF COMSATS' INTERNATIONAL S&T CENTRE OF EXCELLENCE

INTERNATIONAL CENTRE OF PHYSICS (CIF), COLOMBIA

Introduction

The International Centre of Physics (CIF) was established in 1985 with the support of Prof. Abdus Salam of the International Centre for Theoretical Physics (ICTP). The Centre is a private, not-for-profit institution whose objective is to promote the development of physics and related sciences in Colombia and in Latin American countries by implementing basic and applied research programmes, and supporting high-level activities and technological development for industry. The Centre is playing an active role as one of the members of COMSATS' Network of International Science and Technology Centres of Excellence.

In addition to its scientific and academic services, the Centre has an important role in the policy making of Colombia for scientific cooperation amongst its neighbouring countries. Within Colombia, CIF is a pioneer in fields related to Science and Technology Legislation; the creation of research entities; promotion of science; relationship-building between academia and industries; and the creation of enterprises based on technology.

Objectives

The main objectives of the International Centre of Physics are:

- Development of basic and applied research facilities;
- Science and technology related training;
- Innovation and technological development in industry;
- Introduction of new technologies in the country; and
- Creation of knowledge-based industries.

Scientific Capacity

The substantial experience in a large number of fields that CIF has gained allows the Centre to offer basic and applied research and advisory services to the production sector in areas, such as electrophysiology; molecular and biochemical biology; plant biotechnology; industrial biotechnology; nuclear techniques and applications; optical measurement and control methods; environmental control; industrial instrumentation; industrial automation; data transmission and processing; optimization of industrial processes; and security systems. Additionally, the Centre has the capacity to offer training and updating programmes in the above-mentioned fields both at technical as well as graduate and postgraduate levels.

Training Activities

Since its inception, the International Centre of Physics has held a great deal of courses, meetings, seminars and workshops, both in basic and applied physics, engineering and related sciences. Including events organized by ACIF (Asociación pro Centro Internacional de Física) prior to the formal establishment of the Centre, up to the present date, some 200 regional events have been held. More than 8,000 scientists from over 50 countries have attended these. Twenty percent of these events have been held outside Colombia, in ten Latin

American Countries.

The Centre is offering a meaningful training programme for researchers, both in Colombia and abroad. Forty seven young researchers affiliated with the Centre's research projects that were funded by the Colombian National Research Foundation (COLCIENCIAS) and foreign governments, have pursued Ph.D. studies in physics, life sciences and engineering at prestigious universities abroad. Forty five more students are currently engaged in research work at graduate and postgraduate levels. They are involved in activities being carried out by research groups of the Centre. On the basis of COLCIENCIAS' financial support, most of these students will be pursuing doctoral studies in Colombia and abroad.

In addition to updating participants in different areas of science and technology, these events have fostered the establishment of close links between researchers from Latin American and industrialized countries. Often, the creation of new research-lines has been the outcome of these efforts, which have also allowed for a worthwhile cooperation, both in basic sciences and in technological applications, between groups from several countries. In agreement with criteria set forth by the Scientific Council, training activities are increasingly linked to the Centre's research-lines and to the particular requirements of the regional scientific community.

Research and Development

The research work at CIF was started in 1987 and was initially focused at biophysics. Since then, 8 groups on basic and applied research and technological development are working in the areas of: Biotechnology; Applied Physics and Technological Development; Nanotechnology; Biophysics and Membrane Biology; Classical Foundations of Physics; Materials; Nuclear Physics; and Optics.

International Collaboration

CIF has focused its activities in Latin America, particularly to the Andean region. Based on the quality of research-work undertaken, the Centre is recognized as: the Centre of Excellence by COLCIENCIAS; Centre of Excellence in Developing World by the Academy of Sciences for the Developing World (TWAS); and the Regional Node of the Non-aligned and Other Developing Countries (NAM S&T Centre), apart from being a Centre of Excellence of COMSATS.

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SELECTED FORTHCOMING SCIENTIFIC EVENTS IN COMSATS' COUNTRIES

- 15-20 August 2010** Macro- and Supramolecular Architectures and Materials (MAM-10): New Science and Technologies for the Improvement of Human Living Standards, Montego Bay, Jamaica.
(www.mona.uwi.edu/mam-10)
- 16-18 August 2010** International Conference on Environmentally Sustainable Development 2010 (ES-Dev 2010), COMSATS Institute of Information Technology (CIIT), Abbotabad, Pakistan.
(www.ciit.edu.pk)
- 11-14 Sept. 2010** International Iran Conference on Quantum Information (IICQI), Kish Island, Iran.
(www.iicqi-10.sharif.ir)
- 27-29 Sept. 2010** First International Conference of Biological Sciences, Cairo, Egypt.
(www.eajbs.eg.net)

International Conference on 'Diffusion of ICTs in Academia: Learning in the Digital Age in Islamic Countries' Khartoum, Sudan, October 4-5, 2010

The Commission on Science and Technology for Sustainable Development in the South (COMSATS), in collaboration with the Inter-Islamic Network on Information Technology (INIT), the Islamic Educational, Scientific and Cultural Organization (ISESCO), the Industrial Research and Consultancy Centre (IRCC) and University of Science and Technology of Sudan (SUST), is organizing an International Conference on 'Diffusion of ICTs in Academia: Learning in the Digital Age in Islamic Countries', in Khartoum, Sudan, on October 4-5, 2010. The two-day event aims to address the growing digital divide and inadequacy of relevant qualified and skilled workforce in the field of ICTs in Islamic countries.

Academicians, practitioners, and researchers active in ICT based research-applications are invited to submit papers in any of the identified and relevant areas. Abstracts may be submitted by Aug. 01, 2010. Partial or full financial support will be made available for a limited number of selected participants. For further details, please visit our website www.comsats.org.

National Workshop on Repair and Maintenance of Scientific Equipment in Teaching, Research Institutions and Small Scale Industries" Dakar, Senegal, October 18-21, 2010

The Commission on Science and Technology for Sustainable Development in the South (COMSATS), in collaboration with the Islamic Educational, Scientific and Cultural Organizations (ISESCO) and the Senegalese National Commission for UNESCO, is organizing a national workshop on "Repair and Maintenance of Scientific Equipment in Teaching, Research Institutions and Small Scale Industries" in Dakar, Senegal, from October 18-21, 2010.

This workshop is being organized to cater to the growing needs of Senegalese technicians, scientists, service engineers and researchers for building indigenous capacities in repair and maintenance of scientific instruments installed at academic and research institutions as well as small-scale industries. The broader aim is to ensure human resource development and uninterrupted research and economic activity, thus contributing towards the overall socio-economic development of the country. For further details on the event please visit our website: www.comsats.org.

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 16 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.

LIST OF COMSATS NETWORK OF INTERNATIONAL S&T CENTRES OF EXCELLENCE

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