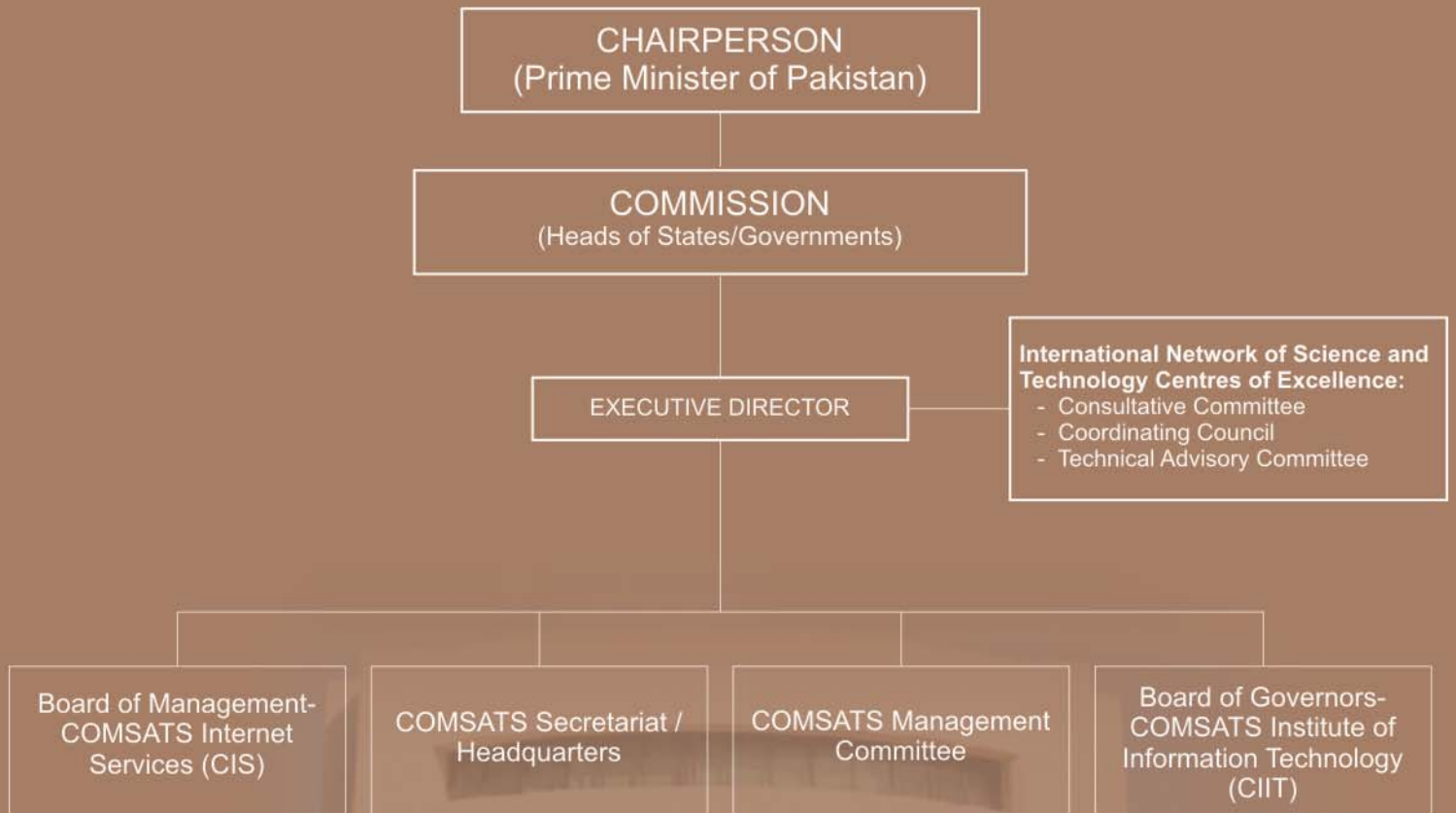


ANNUAL REPORT 2010



Commission on Science and Technology for
Sustainable Development in the South

Organigram



April 2011

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2010



Commission on Science and Technology for
Sustainable Development in the South

PROFILE

The Commission on Science and Technology for Sustainable Development in the South (COMSATS) was created in October 1994 as an international/inter-governmental organization to act as a global forum for sustainable socio-economic uplift of the developing countries through applications of science and technology. The current membership includes 21 countries, located in the continents of Africa, Asia and Latin America, representing a population of around 34.5% of the world's total. These countries have diverse social, cultural, economic, political, educational and religious backgrounds and also differ greatly in their scientific and technological potentials. The Secretariat of COMSATS is permanently located in Islamabad and is supported by the generous grants from the Government of Pakistan. The membership of COMSATS is open to all developing countries.

MISSION

COMSATS is endeavouring to help create a world where all nations are at peace with each other and capable of providing a good quality of life to their populations in a sustainable way, using scientific and technological resources.

OBJECTIVES AND FUNCTIONS

The major objectives and functions of COMSATS, as envisioned in the Foundation Agreement, are:

- To sensitize the countries of the South to the centrality of science and technology in the development process, to the adequate resource allocation for research and development and to the integration of science and technology in the national and regional development plans;
- To support the establishment of a Network of International Science and Technology Centres for Sustainable Development in the South;
- To support other major initiatives designed to promote indigenous capacity in science and technology for science-led sustainable development and to help mobilize long-term financial support from international donor agencies and from governments/institutions of the North and the South to supplement the financing of international scientific projects in the South;
- To provide leadership and support for major North-South and South-South cooperative schemes in education, training and research; and
- To support the relevant programmes and initiatives of major scientific organizations working for the development and promotion of science and technology in the South.



MEMBER COUNTRIES



People's Republic of Bangladesh



People's Republic of China



Republic of Colombia



Arab Republic of Egypt



Republic of Ghana



Islamic Republic of Iran



Jamaica



Hashemite Kingdom of Jordan



Republic of Kazakhstan



Democratic People's Republic of Korea



Federal Republic of Nigeria



Islamic Republic of Pakistan



Republic of the Philippines



Republic of Senegal



Democratic Socialist Republic of Sri Lanka



Republic of the Sudan



Syrian Arab Republic



The United Republic of Tanzania



Republic of Tunisia



Republic of Uganda



Republic of Zimbabwe



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FOREWORD

By far the most poignant question that confronts the overwhelming majority of mankind is to know when the benefits of human development would be accessible all over the globe, in a reasonably equitable manner. Unfortunately, much of the South continues to remain devoid of decent living conditions available to its vast populations. There are strong indications that Millennium Development Goals would not be achieved uniformly throughout the world. Amid this bleak landscape, there are islands of prosperity, within and across nations that have continued to flourish over the last hundred years. There, the extravagant life-styles are deeply ingrained,



unmindful of the deprivation faced by humanity at large. The status quo obviously suits some countries, which also happen to be the ones that control the world power structure in the form of international institutions, monetary systems, trading bodies, energy resources and powerful military establishments. It is an open secret that the rise of rich and strong nations in the modern world can be attributed to their steadfast devotion to the development of Science and Technology. This recipe can be seen to give the same results wherever adopted with seriousness, such as in Japan, S. Korea and China.

It is, therefore, most logical to seek S&T development across the countries of the South as a means of achieving the ultimate goal of socio-economic development. There is no easy route for this to happen. The success would depend upon how far an individual country can overcome internal and external impediments. That is why the fundamental question of when the world would be, more or less, uniformly developed is not easy to answer. As seen in the past, the progress would be non-uniform and time-scales would be widely different, depending on how strong the commitment is and how much resources are made available by a country's leadership, to create the technology savvy society. No progress can be expected if there is lack of political will and unwillingness to embark upon a long and strenuous journey. The circumstances that can further hamper any progress are well-known, such as the adverse effects of climate change, diminishing fossil-fuel resources, increasing world population, inadequate food and water supplies and continued specter of military adventurism by states and terrorism by non-state actors.

Fortunately, there are enough reasons to be optimistic about the world's future. The human ingenuity, if directed in the right direction, can bring about unprecedented positive changes. The tools of Science and Technology can be effectively employed to mitigate environmental degradation; harness new and



renewable energy sources; and reduce diseases and enhance food-security through advances in biotechnology; while the civil society can agitate against the military spending. The international fora that are striving to bring about such a change are, therefore, crucial for the dignified survival of mankind. A number of UN agencies, several inter-governmental organizations (IGOs) and numerous non-governmental organizations (NGOs) are dedicated to this task. The contributions of COMSATS in this grand effort may be modest, but its very structure and mode of operations makes it a very potent platform for achieving stronger impact. To start with, it is hugely significant that this forum was created independently and voluntarily by the countries of the South, without the patronage of either UN system or regional and political power blocks. The criterion of membership is simply to be a developing country that is ready to engage in South-South cooperation in Science and Technology. The affiliation of a Network of sixteen Centres of Excellence provides the organization an excellent mechanism to achieve its objective of S&T capacity-building.

The present Annual Report is indicative of the seriousness with which COMSATS is engaged in realizing its mission through its multifarious programmes and projects. It also points at some new initiatives, such as the launching of Thematic Research Group activity, whereby interested participants from different COMSATS' Member States would undertake coordinated research programmes under the guidance of the designated Lead Centres. COMSATS Secretariat is committed to pursuing the core objectives of this organization, namely advocacy of the central role of S&T in development plans, facilitation of South-South cooperation and support to Member States in their efforts of S&T capacity-building.

It is sincerely hoped that other international agencies and organizations, engaged in similar programmes, would like to become our partners in achieving these common goals. The financial and intellectual support from COMSATS' Member States and its affiliated Centres of Excellence continues to be our forté, for which the Secretariat is indebted to the National Focal Points and Members of Coordinating Council of COMSATS. Of special mention is the generous financial contribution and strong administrative help provided by the host country, Pakistan, through its Ministries of Science and Technology, and Foreign Affairs.

I would like to acknowledge, with profound thanks, the valuable contributions received from the Centres of Excellence for the contents of this report. The hard work done by the editorial team in bringing out a well-organized and informative document is highly appreciated.

Dr. Imtinan Elahi Qureshi
Executive Director COMSATS

LETTER FROM THE CHAIRPERSON COORDINATING COUNCIL

Science and technology are fundamental tools to promote development and a cornerstone for economic and social growth in developing countries. The International Centre of Physics (CIF) in Bogotá, Colombia, was formally founded in 1985 with Professor Abdus Salam's support and guiding vision. He encouraged the creation of a Centre that could carry out training activities, develop human resources, and promote research and experimental development in the Caribbean and Central American Region. The ultimate goal was to foster innovation, generate a connection between academia and industry, and provide a linkage among universities, regional and international organizations. Therefore, CIF and COMSATS have similar origins, conception and essence, from Abdus Salam's point of view. It is necessary to reinforce and strengthen bonds between research centres, universities and industry, for the creation of value-added products, and to promote and establish technology-based spin-offs that will contribute towards the economic and social development of the countries of the South. Science and technology are essential means to achieving poverty-reduction.



In this respect, I would like to acknowledge the efforts of and express my gratitude to Dr. Mohamed H.A. Hassan. His work during the past years had an enormous impact both as the Chairperson of COMSATS Coordinating Council and Executive Director of the Academy of Sciences for the Developing World (TWAS). Although he would be retiring from TWAS, yet I hope that in the future he will continue his relationship and cooperation with the Network.

It is an honour for me, to have been elected as the Chairperson of the COMSATS Coordinating Council last May (2010). In this new position, I will encourage COMSATS' community to build upon the efforts made by individual members and create alliances between the different member centres for the success of research and development programmes. I also wish to congratulate COMSATS' members for their numerous research activities that bore fruition during the last one year. These could be the basis for the creation of spin-offs and a call to industry for the modernization of the production sectors. Finally, I hope that my work as the Chairperson will promote the participation of Latin American organizations in COMSATS' programmes, and will increase the interest of its Network of Centres of Excellence for this region, considering its importance and potentialities. This we hope to discuss during the 14th Meeting of the Council in Bogotá (2011).

Dr. Eduardo Posada Flórez
Chairperson COMSATS Coordinating Council &
Director International Centre of Physics (CIF), Colombia





LETTER FROM THE CHAIRPERSON CONSULTATIVE COMMITTEE

The establishment of COMSATS in 1994 was a significant step from the perspective of developing countries, eagerly looking for opportunities of capacity-building in science & technology. The core mission of COMSATS conceived by the visionary Pakistani Nobel Laureate, Prof. Abdus Salam, is to pave the way for sustainable progress in the South through judicious deployment of scientific and technological resources. Prof. Salam was convinced that imbalance in S&T capacities is the only difference between the prosperous North and the impoverished South. Further, he believed that technology-transfer alone is not the solution; the developing countries must build their human capital and institutional infrastructure through self-help and indigenous efforts.



An effective way to achieve this goal is to promote South-South cooperation in scientific R&D projects. The founding Member States of COMSATS were committed to help one another in scientific R&D aimed at addressing their socio-economic challenges. COMSATS is geared towards achieving this objective. A network of 16 research organizations, affiliated with COMSATS as its Centres of Excellence, provide an excellent mechanism for technology-sharing among its 21 Member States.

As the Chairperson of the Consultative Committee of COMSATS, I invite all the national Focal Points to identify their national priorities in the field of S&T for getting effective support from the platform of COMSATS. I take this opportunity to emphasize that members of the Consultative Committee can play a strong role in strengthening the institutional base of COMSATS by allocating more resources. It is my privilege to reassure the Member States of the Government of Pakistan's steadfast support for this international organization. COMSATS Secretariat has a team of dedicated workers, who are ever-ready to assist in the execution of scientific programmes in COMSATS' Member States by pooling the available resources. In this respect, the annual report of COMSATS for 2010 is a good indication of the efforts being made by COMSATS Secretariat.

Mr. Irfan Nadeem

Chairperson COMSATS Consultative Committee &
Federal Secretary
Ministry of Science and Technology
Government of Pakistan



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ACTIVITIES OF COMSATS' ORGANIZATIONAL BODIES

- 13th Meeting of COMSATS Coordinating Council Organized in Trieste - Italy 02
- Administrative and Financial Matters Taken up by COMSATS Management Committee at its 29th Meeting 09

The Coordinating Council of COMSATS comprises the heads of its International S&T Centres of Excellence. The Council meets once annually to take decisions on matters relating to the membership of the Network in consultation with the Consultative Committee. The Council also approves the programmes and budget of the Network, as well as makes rules for governing its own procedures.

13TH MEETING OF COMSATS COORDINATING COUNCIL ORGANIZED IN TRIESTE - ITALY

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. The meeting was hosted by the Academy of Sciences for the Developing World (TWAS) and was chaired by its then Executive Director, Prof. Dr. M. H. A. Hassan. The Executive Director COMSATS, Dr. Imtinan Elahi Qureshi, who is also the Secretary to the Council, co-chaired the meeting.



Eleven Centres of Excellence of COMSATS participated in the 13th meeting and highlighted the achievements of their organizations working in different fields of science & technology, especially agriculture, biotechnology, industrial products, information and communications technology (ICTs), environmental studies, materials science and space technology. This meeting was exceptional in the sense that it was the first occasion when the Council met in a country that is not a member of COMSATS.

Excerpts from the Introductory Remarks of the Executive Director COMSATS at the Council Meeting

“...hold(ing) this meeting this year at the Headquarters of TWAS... is an acknowledgement of the fact that TWAS is intimately connected with our Network and, in fact, it can be regarded as the Network’s mother organization...”

“...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... this mechanism, even at the minimum level of sharing information and learning from one another’s best practices, is a process of South-South scientific cooperation of enormous value...”

The meeting was inaugurated on 12th May 2010, at the Abdus Salam International Centre for Theoretical Physics (AS-ICTP), Trieste, Italy.



Participating Members of the 13th Meeting of the Council

- Prof. Mohamed Hag Ali Hassan, Executive Director, TWAS [Chairperson].
- Dr. Imtihan Elahi Qureshi, Executive Director, COMSATS [Secretary].
- Dr. Eduardo Campello, Director General, Embrapa Agrobiologia, Brazil.
- Prof. Zhaohui Lin, Director, ICCES, China.
- Prof. Eduardo Posada Flórez, Director, CIF, Colombia.
- Prof. Ashraf Shaalan, President, NRC, Egypt.
- Dr. Eugene Atiemo, Director, BRRI (CSIR), Ghana.
- Prof. Abbas Taeb, President, IROST, Iran.
- Dr. Syed Muhammad Junaid Zaidi, Rector, CIIT, Pakistan.
- Dr. Ahmed 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.

During the inaugural/introductory session, Prof. Dr. M. H. A. Hassan delivered the Welcome Address and the Executive Director COMSATS gave the Introductory Remarks.

The Chairperson Coordinating Council, Dr. Hassan, 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 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 around the world, by establishing collaboration between their academies of science and the Focal Points and encouraging women scientists

to collaborate with COMSATS. Considering the important role of the emerging economies in Latin America, he expressed his pleasure on the participation of Centres from Brazil and Colombia in the 13th meeting of the Council.

Dr. Hassan was appreciative of COMSATS Secretariat's comprehensive preparations for the meeting, particularly with respect to the production of "COMSATS Annual Report" and "COMSATS' Strategy Document". He said that such occasions as the meetings of the Coordinating Council 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.

A twelve-point agenda was covered in five technical sessions, spread over two working

Other Participants of the 13th Meeting of COMSATS Coordinating Council

- 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, 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.



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 efforts made for convening of the 2nd Commission Meeting. As per practice COMSATS' Annual Activity Report was also presented to the participating members of the Council.



The major component of the meeting was the presentation of reports of Centres of Excellence. 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 revised version of Strategy Document (2010-14), which had been previously considered in the 12th Coordinating Council, was presented to the Council for its approval. The Advisor (International Affairs) of COMSATS Secretariat, Dr. Hasibullah, gave a presentation on the background and progress made for the finalization of the document, along with its salient features.

The members of the Council appreciated efforts of the Secretariat to make Strategy Document comprehensive in terms of the objectives to be achieved in the next five years, along with a detailed plan of implementation. However, different points of view emerged during the discussion in relation to implementation strategy. Especially, the financial commitment and obligations of the Centres of Excellence received mixed responses. Finally, it was decided that the central focus of the strategic shift represented in the form of objectives and principles may be approved in the first instance, while the practical measures could be deliberated upon subsequently. The Secretariat was advised to prepare Part-1 of the Strategy Document dealing only with the objectives for adoption in the next meeting of the Council.

The reconstitution of COMSATS' Technical

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

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 Secretariat, 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. Moctar 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.



Advisory Committee (TAC), comprising 10 members, had 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 was reconstituted for a tenure of 3 years, starting from 13th May 2010.

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, the 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 in Islamabad, Pakistan. The public version of 'COMSATS Annual Report', printed for the first time for the year 2009, was also presented to the Council.

Following are some of the major decisions of the Meeting:

- Embrapa Agrobiologia (Brazil) agreed to accept research (Ph.D. and Post-doctoral) students from various COMSATS' member countries to be accommodated 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 said workshop and submit it to TWAS and COMSATS.
- ICCES (China) agreed to organize capacity-building programmes as the Lead Centre to the Thematic Research Group on 'Climate Change and Environmental Protection'.
- IROST was made a new member of the Thematic Research Groups on 'Climate Change and Environmental Protection', and 'Natural Products Sciences' led by ICCES and ICCBS (Pakistan), respectively.
- Embrapa Agrobiologia was declared a member of the Thematic Research Group on 'Agriculture Biotechnology' with NRC (Egypt) as the Lead Centre.
- NMC (Nigeria) also joined the Thematic Research Group on 'Agriculture Biotechnology'.





- A new Thematic Research Group was created on 'Space Technology and its Applications' 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. Assistance of Dr. Albert Koers of Inter-Academies Panel (IAP) will be sought to separate the two strategy parts.
- The Coordinating Council unanimously approved the Administrative and Financial Reports presented by COMSATS Secretariat, which were earlier endorsed by COMSATS Management Committee.
- The members of the Council agreed to make more efforts to improve the Annual Membership Contributions of their countries towards COMSATS.
- The Coordinating Council approved the proposed list of the members of Technical Advisory Committee comprising 10 scientists/scholars.
- COMSATS and TWAS would jointly work for the publication of 'Profiles' of selected Centres of Excellence 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

13th Coordinating Council Meeting of COMSATS (12-13 May 2010 – Trieste, Italy)

RESOLUTION

The Members of the Coordinating Council of the Commission on Science and Technology for Sustainable Development in the South (COMSATS) are honoured to pay their tributes to Dr. Mohamed H.A. Hassan, Executive Director TWAS/ Co-chair, InterAcademy Panel on International Issues (IAP), for his outstanding services rendered to the Commission in his capacity as the Chairman of the COMSATS Coordinating Council since 1995. The Council had the privilege of benefiting from his extensive experience as the head of several international organizations and derived strength from his international stature as an eminent scientist and scientific administrator. Building on his solid scholastic achievements in the fields of Plasma Physics, Environmental Science, Geo-, Astro-, and Space Physics, Dr. Hassan emerged as a champion of Third World Sciences by playing a key role in the establishment of TWAS, TWNSO (COSTIS), TWOWS, IAP, African Academy of Sciences and COMSATS.

He shared the passion of Prof. Abdus Salam to turn the wheel of history and bring the benefits of science to the down-trodden masses of the developing countries in Asia, Africa and Latin America. As a close associate of Prof. Salam he has helped shape the course of events on the world-scene that has led to a movement of progress by putting science and technology at the center of development agendas. COMSATS is particularly grateful for his wise counsel and sincere support in making this organization a prominent international entity with a mission to foster South-South cooperation in S&T capacity-building.

The association of Prof. Hassan with COMSATS Coordinating Council over the period 1995-2010 will be a memorable and proud chapter in the history of COMSATS. We express our most sincere thanks for his profound contributions towards the strengthening of COMSATS' programmes and wish him success in his future academic endeavours.

In view of his fundamental role in the establishment of the Network of Centres of Excellence and his strong commitment to strengthen this Network through the Coordinating Council over a period of 15 years, it is resolved to offer Dr. Hassan, the life-time honorary membership of the Council.





- 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 having no S&T centre affiliated with COMSATS' Network will be visited for identification of appropriate organizations to be included in the Network.

During its deliberations, the Council 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 endorsed the plan of creating scientific Thematic Research Groups for R&D activities to be conducted by clusters of relevant institutions of the developing world. The Communiqué called upon the Member States to spend 2-3% of their GDP on R&D.

The Council lauded the services of Prof. Dr. M. H. A. Hassan, who had been the Chairman of the Coordinating Council since 1995, and unanimously accorded him the life-time honorary membership of the Council through a resolution. 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 in Bogotá, Colombia, in May 2011.

PROFILE OF THE CHAIRPERSON 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 Administrative Department of Science, Technology and Innovation – 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 low temperatures, 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 had 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 Centre 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 AS-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 MEETING OF COMSATS COORDINATING COUNCIL

- 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' S&T 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 materials 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, materials 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 and international collaboration and a willingness on the part of the scientific community to conduct research in society's interest.

The COMSATS Management Committee assists the Secretariat in the implementation of policy-decisions taken by the Coordinating Council and other organs of COMSATS; recommends programmes and budget of COMSATS; monitors financial activities of COMSATS, considers and examines audited reports of COMSATS Secretariat and other projects; evaluates rules and regulations of COMSATS Secretariat; and deliberates upon any other managerial issue proposed by the Executive Director.

ADMINISTRATIVE AND FINANCIAL MATTERS TAKEN UP BY COMSATS MANAGEMENT COMMITTEE AT ITS 29TH MEETING

The 29th regular meeting of COMSATS Management Committee was held on April 28, 2010, at COMSATS Secretariat, Islamabad. The meeting was chaired by the Executive Director COMSATS, and attended by Dr. S. M. Junaid Zaidi, Rector CIIT; Mr. Parvez Ahmad Butt, Director General CIS; Mr. Zhang Qi, the then First Secretary (Science & Technology), Embassy of People's Republic of China; Dr. Tariq-ur-Rahman, Former Chairman, PCST; as well as other senior officials of COMSATS Secretariat.



The Committee deliberated on a six-point agenda that included: the status of implementation of decisions taken during its 28th meeting held on 28th September 2009; the Executive Director's visits to COMSATS' Member States and Centres of Excellence; update on the preparations made for the 13th Meeting of COMSATS Coordinating Council; and administrative and financial matters.

After the approval of the provisional agenda of the meeting, a presentation was made by Mr. Tajammul Hussain on the status of implementation of decisions taken during the 28th meeting of the Committee. The presentation covered two sub agenda-items, one on the 'Administrative and Financial Matters' and the other on 'Technical Matters'. A consensus prevailed among the Committee members regarding the two sub agenda-items and a unanimous approval was granted.



The Committee was informed by the Executive Director that the visits to COMSATS' Member States/Centres of Excellence were undertaken on the recommendation of the Coordinating Council made during its 12th meeting, held in Abuja - Nigeria, whereby the Executive Director was mandated to gather first-hand knowledge on the scientific strengths of the affiliated institutions of COMSATS' Network. The Committee was briefed by the Executive Director about his visits that he undertook during January-March 2010 to Syria, Egypt, Iran, Jordan and China. Apart

from the visits to the Centres of Excellence of COMSATS in these member countries, he informed, other scientific institutions were also visited to explore means for an expansive scientific cooperation.

Deliberating on the agenda-item regarding the 'Update on the preparations for the 13th meeting of the Coordinating Council', the Executive Director informed that the following three matters would make an important part of the deliberations: Executive Director's visits to the afore-mentioned Members States; reconstitution of the Technical Advisory Committee; and the presentation of COMSATS' Strategy Document (2010-2014). The Committee was informed that befitting arrangements had been made for the Council's meeting.

Administrative and Financial matters of COMSATS deliberated upon during the meeting included: formal approval of Deans for the Faculties of Business Administration and Engineering of CIIT, approval of the new standing orders; status of the contribution of the Government of Pakistan towards COMSATS Secretariat (2009-10). Moreover, the budget and the audit of accounts of COMSATS were also discussed and were endorsed to be presented at the 13th meeting of the Coordinating Council.

The Committee, inter alia, agreed that honorary life-time membership of the Coordinating Council may be offered to Prof. M. H. A. Hassan, as his ex-officio membership to the Council was to expire on his retirement from TWAS as the Executive Director, in 2010. It was decided that a resolution to this effect would be tabled during the 13th meeting of the Council.



2

SCIENCE AND TECHNOLOGY EVENTS ORGANIZED WITH COMSATS' SUPPORT

- National Training Workshop on “Repair and Maintenance of Scientific Equipments in Teaching, Research Institutions and Small-Scale Industries”, Dakar-Senegal 12
- International Conference on “Diffusion of ICTs in Academia: Learning in the Digital Age in Islamic Countries”, Khartoum-Sudan 14
- International Seminar on “Nano-materials in Energy and Environment” (NMEE 2010), Damascus-Syria 16
- Travel Grants and Sponsorships Provided by COMSATS 18
- COMSATS Secretariat's Contribution towards the Activities of eHAP, Pakistan 22
- Contribution towards Review of Science and Technology Policy of Pakistan 23

COMSATS from time to time organizes and sponsors national and international events of scientific importance pertinent to the needs of its member countries.

SCIENCE AND TECHNOLOGY EVENTS ORGANIZED WITH COMSATS' SUPPORT

National Training Workshop on “Repair and Maintenance of Scientific Equipments in Teaching, Research Institutions and Small-Scale Industries”, Dakar-Senegal (October 18-21, 2010)

National Training Workshop on “Repair and Maintenance of Scientific Equipments in Teaching, Research Institutions and Small-Scale Industries” was organized by COMSATS and Islamic Educational, Scientific and Cultural Organization (ISESCO), in collaboration with the Senegal National Commission for UNESCO (Commission nationale du Sénégal pour l'UNESCO), from 18th to 21st October 2010, at Dakar-Senegal. Two scientists from PCSIR Laboratories Complex Karachi, Mr. Arif Karim and Mr. Faisal Ghazanfar, were nominated to impart training in repair & maintenance of scientific instruments. Ms. El Alami Wafaa, Head of ISESCO Center for Promotion of Scientific Research (ICPSR) - Morocco, participated in the workshop to organize it, and to coordinate with the participants and the experts.

A total of 20 participants, including academicians, scientists, researchers and engineers from various Senegalese scientific institutions, participated in the training workshop. The participants were given hands-on training on Scanning-Electron Microscope (SEM), Transmission-Electron Microscope (TEM), Gas Chromatograph, High-Performance Liquid Chromatograph



(HPLC), Spectrophotometer, and Polymerase Chain Reaction (PCR) devices. The participants were given orientation on the following: heating, ventilating and air conditioning (HVAC) System; Chromatographic System; Spectroscopy; Microscopy; and Molecular Pathology.



At the opening ceremony of the training workshop on 18th October 2010, Mr. Mamadou Dia, the Coordinator of the training workshop and Head of Scientific Division, Senegal National Commission for UNESCO, and Dr. Ismaila Diallo, representative of Minister of Higher Education and Scientific Research, Senegal, briefed about the objectives of the training workshop.

Following were the objectives of the training workshop:

- To provide hands-on training to the participants for improving their skills for independently maintaining and repairing the scientific instruments;
- To update the trainees' knowledge on changing technologies in scientific equipments;
- To acquaint the participants with the functioning of scientific instruments through need-based training, as well as documentation in the repair and maintenance of scientific equipments;
- To facilitate information-exchange among scientists, researchers, technicians, service engineers and industrialists of enhancing the existing scientific capacity.

The closing ceremony was attended by M. Aliou Ly, Head of the Education Division, Senegal National Commission for UNESCO, and Mr. Serigne Amadou Ndiaye, Dean Faculty of Science, University Chiekh Anta Diop, Dakar, Senegal.

Recognizing the necessity to develop/enhance indigenous capacity and technical workforce, a proposal was discussed to establish an independent centre for repair and maintenance of sophisticated scientific instruments in Senegal; and ISESCO and COMSATS agreed to undertake a follow-up project in this regard.



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

In order to address the emerging issues of diffusion of ICTs in academia and provide a level-sharing platform for a smooth exchange of knowledge and ideas among various stakeholders; and to deal with modern challenges of development and contribute towards boosting academic performance, COMSATS, in collaboration with ISESCO; Inter-Islamic Network on Information Technology (INIT); Industrial Research and Consultancy Centre (IRCC), Sudan; and University of Science and Technology (UST), Sudan, organized an International Conference titled “Diffusion of ICTs in Academia: Learning in the Digital Age in Islamic Countries” from 4th to 5th October 2010, in Khartoum, Sudan. The proceedings of the Conference took place at two different venues: Conference Hall of IRCC and UST.

Eighteen subject-experts belonging to eleven different Islamic countries, including Egypt, Nigeria, Iran, Pakistan, Morocco, Malaysia, Bangladesh, Uganda, Brunei

Darussalam and Tunisia, as well as Korea, participated in the Conference. The focus of their talks was to promote the diffusion of ICTs in the field of education by sharing their knowledge and experience. The event programme comprised 14 technical presentations, a keynote address, formal opening and closing sessions, as well as Q&A sessions. A total of 200 participants attended this two-day event. The honourable Minister of Industry, Republic of Sudan, inaugurated the Conference, which was attended by various governmental and non-governmental agencies,

Universities and Information Technology (IT) training institutions. The Conference began with a keynote address from Prof. Izz Eldean Mohammad Osman, Chairman of the Commission of Computer Studies, UST. Two Ministers of Sudan, H.E. the State Minister for Communication & Technology, and H.E. the State Minister for Higher Education and Scientific Research graced the occasion with their presence.

The key topics discussed at the Conference included: Educational Policy and Planning for Integration and Diffusion of ICTs in Academia; Current Projects and Best Practices from Developed and Developing World; Institutional Capacity Building for Integration/Diffusion of ICTs; Language, Content and Curriculum Development; Delivery Mechanism and Options in an ICT-based Academic Environment; Infrastructure and Access; and Effectiveness and Impact of ICTs on Learning and Achievements.

At the end of this international Conference, resolutions were passed and



recommendations made. Some of these are:

- ISESCO, COMSATS and INIT will use all means available to them to impress upon the policy planners, decision makers, opinion-makers, administrators, etc. to conceive, adopt and take steps for promoting diffusion of ICTs in academia.
- ISESCO, COMSATS and INIT resolved to promote concepts relating to diffusion of ICTs through writing journalistic papers and articles in the media and inviting interested individuals and entities to contribute in these efforts through suitable incentive programmes.
- ISESCO, COMSATS and INIT will organize a conference every year to discuss and deliberate on the issues relating to diffusion of ICTs in academia intending to extend the frontiers of knowledge in this discipline and document and disseminate the successful case studies, as well as best practices.



International Seminar on “Nano-materials in Energy and Environment” (NMEE 2010), Damascus-Syria (September 21-23, 2010)

The International Seminar on “Nano-materials in Energy and Environment” was held from 21st to 23rd September 2010 at Damascus University, Damascus-Syria. The Seminar was organized by COMSATS, in collaboration with Islamic Educational, Scientific and Cultural Organization (ISESCO); COMSATS Institute of Information Technology (CIIT), Pakistan; Damascus University, Syria; and Higher Institute for Applied Sciences and Technology (HIAST), Syria. At the inaugural ceremony, the President of the Damascus University, Prof. Wael Mualla, delivered the opening remarks, followed by welcome addresses by Prof. Baida Achkar (Damascus University), Dr. Muhammad Saaid Dayer (ISESCO), Mr. Tajammul Hussain (COMSATS) and Prof. Arshad Saleem Bhatti (CIIT).

The objectives of the Seminar were to:

- a) Provide a platform to scientists, researchers, technologists and faculty members to orient them with the recent developments in the field of nanoscience and nanotechnology;
- b) Facilitate networking of scientists working in various disciplines in order for them to be able to address common problems, and share their research experiences in the application of nano-materials in energy and environment;
- c) Create an awareness of the potential of nano-materials in key areas;
- d) Prepare a curriculum for the undergraduate and graduate courses in nanoscience and nanotechnology; and
- e) Provide an opportunity to promote joint research and collaboration among scientific institutions working in the field of nanoscience.

The scientific programme of the event generated a great deal of interest in the scientific community of Syria. It was attended by 100 registered participants from different institutions of Syria, including the Ministry of Higher Education, Ministry of Environment, Ministry of Electricity, Ministry of Health, Higher Commission for Scientific Research, the Syrian Atomic Energy Commission and a number of universities and institutions of higher learning. The resource persons of the Seminar came from 7 different countries, including Malaysia, United Arab Emirates, Iran, Iraq, Jordan, Egypt and United States of America. A total of forty three technical papers were presented at the Seminar. NMEE 2010 comprised 9 technical sessions focused on basic issues related to nanosciences and nanotechnology, such as



Fundamentals of Nano-sciences & Nano-technology; Synthesis and Characterization of Nano-materials; Environmental Issues; Solar Cells; Catalysis; Fuel cells; and Sensors. A special session was conducted on nano-biotechnology, where the potential of nano-structures for cancer treatment, drug delivery and bio-fuel production was discussed.

The Seminar provided a platform for scientists, engineers, researchers, young faculty members, and students, working in the field of Physics, Chemistry, Materials Science or allied areas of nanoscience & nanotechnology, to share their knowledge, research, latest achievements and best practices in the field of nanosciences and nanotechnology. On the sidelines of the Seminar, a panel discussion was organized that focused on developing the nanotechnology-related curriculum for under-graduate and graduate level students, as well as enhancing the cooperation among OIC member countries and expanding the sphere of knowledge related to nanosciences. The panel comprised four experts: Prof. Dr. Ismat Shah, University of Delaware (USA); Dr. Muhammad Saaid Dayer, Expert Science Directorate ISESCO; Dr. Baida Achkar, Head Department of Physics, Damascus University; and Prof. Dato Muhammad Yahya, Universiti Kebangsaan Malaysia.



Travel Grants and Sponsorships Provided by COMSATS

COMSATS encourages scientists and scholars to take part in the academic activities and capacity-building events. In this regard, COMSATS granted a number of individual and institutions grants and sponsorships during 2010. The details are as follows:

Paid to		Activity Title	Amount
Name	Country		
GC University, Lahore & National Center for Physics, Islamabad	Pakistan	12 th National Symposium on Frontiers in Physics, Lahore, Pakistan (January 27-29, 2010)	\$588
University of Sindh, Jamshoro, Sindh	Pakistan	2 nd National Symposium on Microbiology under the theme: "New Trends of Advancement in Microbiology", Pakistan (February 04-06, 2010)	\$588
Mr. Jan Muhammad Khan, Director, Pakistan Meteorological Department, Islamabad	Pakistan	International training course on "Multi-Hazard Early Warning" held in Nanjing, China (May 10-28, 2010)	\$1,135
Dr. Fatima Bibi, Chief Scientific Officer, PCSIR	Pakistan	6th Nanoscience and Nanotechnology Conference, Izmir, Turkey (June 5-18, 2010)	\$696
Dr, Shaung Yang	China	35th International Nathiagali Summer College on Physics & Contemporary Needs, Nathiagali, Pakistan (June 28-July 10, 2010)	\$1,629
Dr. A.K.M.AKhter Hossain and Dr. Muhammad Nazrul Islam	Bangladesh	35 th International Nathiagali Summer College on Physics & Contemporary Needs, Nathiagali, Pakistan (June 28-July10, 2010)	\$2,013
COMSATS Institute of Information Technology	Pakistan	2 nd International Conference (SAICON 2010), Bhurban, Murree (July 21-23, 2010)	\$588
Prof. Dr. Wei Lu	China	2 nd International Conference (SAICON 2010), Bhurban, Pakistan (July 21-23, 2010)	\$1,939
Ehsan Rasolinezhad	Iran	2 nd International Conference (SAICON 2010), Bhurban, Pakistan (July 21-23, 2010)	\$826
Dinusha Senani Jayawardena	Sri Lanka	2 nd International Conference (SAICON 2010), Bhurban, Pakistan (July 21-23, 2010)	\$610
Mr. Shabbir Ahmad Khan, PhD Student, Department of Physics, CIIT, Islamabad	Pakistan	2 nd Graduate Summer Institute "Complex Plasmas", Greifswald, Germany (August 04-13, 2010)	\$1082
Mr. Mujeeb-ur-Rehman (ICCBS, Karachi)	Pakistan	4-months training programme in the College of Pharmaceutical Sciences, Shandong University, Jinan, People's Republic of China	\$1,900

Paid to		Activity Title	Amount
Name	Country		
Dr. Shahzad Mahmood, Principal Scientist, Physics Division, PINSTECH	Pakistan	International Congress on Plasma Physics and Workshop, Santiago, Chile (August 1-13, 2010)	\$3108
Mr. Akhlaq Jamil, Meteorologist, PMD, Karachi	Pakistan	International Training Course on "Numerical Weather Prediction", Nanjing, China (September 13-24, 2010)	\$1,159
Prof. Laila Abu-Hassan, and Mr. Ayoub Ghair	Jordan	Seminar on "Nano-Materials in Energy and Environment", Damascus, Syria (September 21-23, 2010)	\$280
Prof. Azam Iraj Zad	Iran	Seminar on "Nano-Materials in Energy and Environment", Damascus, Syria (September 21-23, 2010)	\$330
Dr. Fawzy Abdel-Hamid Mahmoud and Mohamed Etman	Egypt	Seminar on "Nano-Materials in Energy and Environment", Damascus, Syria (September 21-23, 2010)	\$1,086
Dr. Amir Haider Malik, Department of Meteorology, CIIT, Islamabad	Pakistan	Handshake across the Jordan: Water and Understanding, Pella, Jordan (September 26-28, 2010)	\$641
Dr. Chew Kok Wai	Malaysia	International Conference on "Diffusion of ICTs in Academia: Learning in the Digital Age in Islamic Countries", Khartoum, Sudan (October 4-5, 2010)	\$1,533
Bashir Rajab Kagere	Uganda	International Conference on "Diffusion of ICTs in Academia: Learning in the Digital Age in Islamic Countries", Khartoum, Sudan (October 4-5, 2010)	\$1,305
Rizwana Irfan	Pakistan	International Conference on "Diffusion of ICTs in Academia: Learning in the Digital Age in Islamic Countries", Khartoum, Sudan (October 4-5, 2010)	\$1,122
Arab Society for Medical Research (ASMR)	Egypt	3 rd International Conference for Medical Researches in Arab World: Modes of Collaborations and Development, Tripoli, Libya (October 12-14, 2010)	\$3,200
Mr. Arif Karim and Mr. Faisal Ghazanfar from PCSIR	Pakistan	National Training Workshop "Repair and Maintenance of Scientific Equipments in Teaching, Research Institutions and Small Scale Industries", Dakar, Senegal (October 18-21, 2010)	\$3,902
Dr. Ijaz Ahmed	Pakistan	Training at ALICE, CERN, Geneva, Switzerland.	\$4687



Paid to		Activity Title	Amount
Name	Country		
Two scientists from Damascus University	Syria	Third International Nanotechnology Festival (Iran Nano 2010), Tehran, Iran (October 25-29, 2010)	\$2,064
Prof. Dr. Muhammad Mahbubul Alam, Dept. of Mechanical Engg., BUET Dhaka, Bangladesh	Bangladesh	International Symposium on Vacuum Science & Technology (ISVST-2010), Islamabad, Pakistan (November 02-06, 2010)	\$790
International Centre for Climate and Environment Science (ICCES), Beijing	China	A Meeting of COMSATS' Thematic Group on "Climate Change and Environmental Protection" Beijing, China (November 20, 2010)	\$2,000
Mr. Muhammad Munir Sheikh, Global Change Impact Studies Centre (GCISC), Islamabad	Pakistan	A meeting of COMSATS' Thematic Group on "Climate Change and Environmental Protection", Beijing, China (November 20, 2010)	\$809
Mr. Amjad Muhammad Global Change Impact Studies Centre (GCISC), Islamabad	Pakistan	A Meeting of COMSATS' Thematic Group on "Climate Change and Environmental Protection", Beijing, China (November 20, 2010)	\$809
Dr. Muhammad Hanif Pakistan Meteorological Department, Islamabad	Pakistan	A Meeting of COMSATS' Thematic Group on "Climate Change and Environmental Protection", Beijing, China (November 20, 2010)	\$809
Dr. Abdalla Khyar Abdalla-Elshobali, Sudan Meteorological Authority	Sudan	A Meeting of COMSATS' Thematic Group on "Climate Change and Environmental Protection", Beijing, China (November 20, 2010)	\$929
Mr. Ling Leong Kwok Malaysian Meteorological Department	Malaysia	A Meeting of COMSATS' Thematic Group on "Climate Change and Environmental Protection", Beijing, China (November 20, 2010)	\$691
Dr. Amos Makarau, Meteorological Services Department	Zimbabwe	A Meeting of COMSATS' Thematic Group on "Climate Change and Environmental Protection", Beijing, China (November 20, 2010)	\$1,162
Mr. Sunil Haputhantirige Kariyawasam, Department of Meteorology	Sri Lanka	A Meeting of COMSATS' Thematic Group on "Climate Change and Environmental Protection", Beijing, China (November 20, 2010)	\$728

Paid to		Activity Title	Amount
Name	Country		
Dr. Mahmoud Ibrahim Aly Mostafa, NRC, Cairo	Egypt	A Foundation Meeting of the COMSATS' Thematic Group on "Natural Products Sciences", ICCBS, Karachi, Pakistan (November 26, 2010)	\$785
Dr. Elmubarak Elsiddiq Elamin, IRCC, Khartoum	Sudan	A Foundation Meeting of the COMSATS' Thematic Group on "Natural Products Sciences", ICCBS, Karachi, Pakistan (November 26, 2010)	\$770
Iranian Research Organization for Science and Technology (IROST)	Iran	21 st Khwarizmi International Award, IROST, Iran	\$1,500
Iranian Research Organization for Science and Technology (IROST)	Iran	22 nd Khwarizmi International Award, IROST, Iran	\$1,500
Iranian Research Organization for Science and Technology (IROST)	Iran	23 rd Khwarizmi International Award, IROST, Iran	\$1,500

COMSATS Secretariat's Contribution towards the Activities of eHAP, Pakistan

The eHealth Association of Pakistan (eHAP) held its 3rd Board meeting of 2010 at COMSATS Secretariat, on 28th September 2010. The eHAP is a non-profit organization, which aims to share and enhance knowledge, and advocate policy-support for a broader implementation of eHealth programmes across Pakistan. The Senior Medical Officer of COMSATS Secretariat has been a permanent Board member of the Association since its inception in 2008. COMSATS Secretariat provided video-conferencing facility during the meeting for interacting with the eHAP Headquarters in Karachi, Pakistan.

The Board appraised the progress of eHAP and its flood-relief activities in Pakistan. The preparations for the 2nd International eHealth Conference (SIC-2011) were reviewed and discussions were made regarding theme of the Conference and participation of renowned experts in the field of telehealth from Europe, USA and other countries/continents.

Subsequently, a two-day workshop on 'eHealth Knowledge Sharing' was held on September 29-30, 2010. It was organized by eHAP in collaboration with LIRNEasia, a think tank based in Sri Lanka that contributes to the regional ICT-related policy-making and regulations. Director General (International Affairs) of COMSATS Secretariat, Mr. Tajammul Hussain; Senior Medical Officer, COMSATS Secretariat, Dr. Azeema Fareed; and Chief Operating Officer, COMSATS Internet Services, Mr. Asim Shahryar Husain, among others, attended the two-day workshop. Also, a presentation was made by Dr. Azeema on 'COMSATS' eHealth Initiative and its Impact on Accessibility'.



Contribution towards Review of Science and Technology Policy of Pakistan

COMSATS has the honour of contributing to the S&T policy-making of Pakistan by virtue of its Executive Director being a member of the Review Committee and Convener of the Sub-Committee of the draft National Science and Technology Policy of Pakistan (2009). The Federal Minister for S&T and the Special Advisor to the Prime Minister on Social Sector are the Chair and Co-chair of the Review Committee, respectively. The Committee was constituted in pursuance of the directives of the Prime Minister of Pakistan issued on February 23, 2009.

The Review Committee commenced its deliberations in its meeting held on February 16, 2010, under the Chairmanship of the Minister for Science and Technology. Acknowledging the importance of the task and the extensive efforts required for it, the Federal Minister further constituted a Sub-committee for reviewing and improving the draft National Science and Technology Policy (2009) with the Executive Director COMSATS as its Convener and Mr. Shahryar Khan, Acting Chairman Pakistan Council for Science and Technology (PCST) as its member. In order to ensure the participation of all three concerned sectors i.e. public, private and academia, in the process of reviewing the National S&T Policy, scientists/experts from 9 governmental and non-governmental scientific organizations of Pakistan were co-opted in the Sub-committee as members. Thereafter, the Executive Director COMSATS convened three meetings of the Sub-committee at COMSATS Headquarters to discuss and improve the draft policy document of the Government of Pakistan.

In the first meeting of the Sub-committee that was held on April 27, 2010, different sections of the draft S&T policy were discussed to update their contents. With regard to overall improvement of the policy document, the Sub-committee deemed it necessary to: align the draft S&T policy of Pakistan with other national/sectoral policies; perform a critical analysis of the previous S&T policies of Pakistan and their implementation status; assimilate the international state-of-the-art S&T developments and useful elements of the S&T policies of other countries; and safeguard the interests of all stakeholders. A decision was made to propose an effective mechanism for policy-formulation and implementation, clearly enlisting the objectives, policy elements and required actions of the draft S&T policy. During the meeting, all members of the Sub-committee agreed to review different sections of the policy that were most relevant to their fields and backgrounds and suggest improvements.

The second meeting of the Sub-committee was held on June 01, 2010, during which the members of the Sub-committee presented their proposals and suggestions, in the form of comprehensive write-ups for improving and updating various sections of the S&T policy. The major proposals made during the meeting related to the diffusion of knowledge from strategic organization to the organizations responsible for socio-economic development; establishment of Knowledge Dissemination Offices (KDOs) at universities and strategic organizations; strengthening linkages among R&D institutions, academia and industry; increasing incentives for research accomplishments; supporting S&T popularization; aligning the human resource development efforts with the national needs; and enhancing R&D/S&T collaboration with developed countries. Moreover, a comparison was drawn between the draft S&T policy of Pakistan with the S&T policies of other countries at different stages of



development.

On June 29, 2010, the sub-committee met for the third time to discuss specific sections of the draft policy as well as to deliberate upon new proposals of the members. The major new proposals that were agreed upon, during the meeting, were to establish the Pakistan Council for Science and Technology (PCST) as an executive body under the Act of Parliament and strengthening the Council through establishing an S&T Policy Studies Department; appointment of the Special Advisor to the Prime Minister on Science, Technology and Innovation; and constitution of a Cabinet Committee on Science, Technology and Innovation. The Subcommittee concluded the meeting after outlining its future course of action on preparing the revised draft of the S&T Policy to be submitted to the Review Committee.

With these meetings, Phase-1 of the deliberations of the Sub-committee was completed. Subsequently, a revised draft of the Policy, called draft National Science, Technology and Innovation Policy-2010, was prepared by COMSATS Headquarters after incorporating the suggestions of the members of the Sub-committee. It was submitted to the Ministry of Science and Technology, Government of Pakistan for perusal in August 2010. During November 2010, the Ministry of Science and Technology circulated the revised draft of the policy among the members of the Review Committee for their comments and suggestions.

3

ACTIVITIES OF COMSATS' THEMATIC RESEARCH GROUPS

- Foundation Meeting of the Thematic Research Group on 'Climate Change and Environmental Protection', Beijing - China 28
- Foundation Meeting of the Thematic Research Group on 'Natural Products Sciences', Karachi - Pakistan 30
- Preparatory Meeting of the Thematic Research Group on 'Information and Communication Technologies (ICTs)', Islamabad - Pakistan 32

COMSATS' Thematic Research Groups are clusters of scientific institutions aiming at collaborative research in a particular field of science and technology to address specific developmental issues of the Member States. The designated 'Lead Centres' of these groups are Centres of Excellence of COMSATS selected due to their expertise in the respective fields. The member institutions of a group are expected to complement each other's scientific capacities for a coherent R&D activity, under the guidance of the designated Lead Centre.

ACTIVITIES OF COMSATS' THEMATIC RESEARCH GROUPS

The idea of the establishment of the Thematic Research Groups of COMSATS was first discussed and agreed in its 10th meeting of Coordinating Council, held in Cairo, Egypt (2007). Thereafter, eight Thematic Research Groups were created with the objective to achieve South-South cooperation in different fields of science and technology by undertaking well-defined joint research projects with the participation of research scientists belonging to various institutions from COMSATS' member countries. The membership of these Thematic Research Groups is open to all the willing relevant institutions of the developing countries.



The members of these Groups are expected to cooperate for:

- Joint research projects;
- Expert-exchange;
- Short-term trainings;
- Sharing of facilities/lab resources.

As mandated by the Coordinating Council in its 13th meeting, the Lead Centres of the Thematic Research Groups on 'Climate Change and Environmental Protection' and 'Natural Products Sciences' held their respective Groups' foundation meetings during the later part of 2010. During these meetings, the groups deliberated on: the title and broad outlines of the joint research projects; distribution of the assignments among the Groups' members for project formulation and execution; follow-up meetings of researchers; and requirements of trainings, etc. A preparatory meeting of the Group

Thematic Research Group (TRG)	Designated Lead Centre	Member Institutions
Information and Communication Technologies	COMSATS Institute of Information Technology (CIIT), Pakistan	COMSATS CoEs <ul style="list-style-type: none"> - Tanzania Industrial Research and Development Organization (TIRDO), Tanzania - Royal Scientific Society (RSS), Jordan - Industrial Research AND Consultancy Centre (IRCC), Sudan - National Mathematical Centre (NMC), Nigeria
Agriculture Biotechnology	National Research Centre (NRC), Egypt	COMSATS CoEs <ul style="list-style-type: none"> - Industrial Research and Consultancy Centre (IRCC), Sudan - Tanzania Industrial Research and Development Organization (TIRDO), Tanzania - Royal Scientific Society (RSS), Jordan - International Center for Chemical and Biological Sciences (ICCBS), Pakistan - Embrapa Agrobiologia, Brazil
Natural Products Sciences	International Center for Chemical and Biological Sciences (ICCBS), Pakistan	COMSATS CoEs <ul style="list-style-type: none"> - National Research Centre (NRC), Egypt - Industrial Research and Consultancy Centre (IRCC), Sudan - Tanzania Industrial Research and Development Organization (TIRDO), Tanzania - Royal Scientific Society (RSS), Jordan - Iranian Research Organization for Science & Technology (IROST), Iran Institutions added in the Foundation Meeting of the TRG: <ul style="list-style-type: none"> - Department of Science Laboratory Technology of the Federal Polytechnic, Nigeria - Institute of Fundamental Studies, Sri Lanka - Department of Biochemistry and Molecular Biology, University of Dhaka, Bangladesh - Department of Biology, Ege University, Turkey - Lorestan University of Medical Sciences, Iran
Climate Change and Environmental Protection	International Centre for Climate and Environment Sciences (ICCES), China	COMSATS CoEs <ul style="list-style-type: none"> - International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica - Iranian Research Organization for Science & Technology (IROST), Iran Institutions added in the Foundation Meeting of the TRG: <ul style="list-style-type: none"> - Pakistan Meteorological Department (PMD), Pakistan - Global Change Impact Studies Centre (GCISC), Pakistan - COMSATS Institute of Information Technology (CIIT), Pakistan - Sudan Meteorological Authority (SMA), Sudan - Zimbabwe Meteorological Services Department, Zimbabwe - Pakistan Space and Upper Atmosphere Research Commission (SUPARCO), Pakistan - Himalayan Cryosphere, Climate and Disaster Research Center (HiCCDR), Nepal
Materials Sciences	Royal Scientific Society (RSS), Jordan	COMSATS CoEs <ul style="list-style-type: none"> - National Research Centre (NRC), Egypt - National Mathematical Centre (NMC), Nigeria - Industrial Research and Consultancy Centre (IRCC), Sudan - Tanzania Industrial Research and Development Organization (TIRDO), Tanzania - COMSATS Institute of Information Technology (CIIT), Pakistan
Mathematical Modeling	National Mathematical Centre (NMC), Nigeria	COMSATS CoEs <ul style="list-style-type: none"> - International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica - International Centre for Climate and Environment Sciences (ICCES), China - Tanzania Industrial Research and Development Organization (TIRDO), Tanzania
Construction Materials	International Centre for Material Science & Technology (ICMST), Ghana	COMSATS CoEs <ul style="list-style-type: none"> - National Research Centre (NRC), Egypt - Industrial Research and Consultancy Centre (IRCC), Sudan - Tanzania Industrial Research and Development Organization (TIRDO), Tanzania - Council for Works and Housing Research (CWHR), Pakistan
Space Technology and its Applications	Iranian Research Organization for Science & Technology (IROST), Iran	COMSATS CoEs <ul style="list-style-type: none"> - Centro Internacional de Fisica (CIF), Colombia - Embrapa Agrobiologia, Brazil



on 'Information and Communication Technologies' was also held. Short accounts of these meetings are as follows:

Foundation Meeting of the Thematic Research Group on 'Climate Change and Environmental Protection', Beijing-China

The foundation meeting of COMSATS' Thematic Research Group on 'Climate Change and Environmental Protection' was jointly held by COMSATS and its Centre of Excellence in China, the International Centre for Climate and Environment Sciences (ICCES), on November 20, 2010, in Beijing, China. The meeting was chaired by Prof. Dr. Lin Zhaohui, Director ICCES, whereas COMSATS Headquarters was represented by Engr. Farhan Ansari, Assistant Director (Programmes) COMSATS. The meeting was held at the Foreign Experts Building in Beijing, in conjunction with the 9th International Workshop on Climate and Environmental Change: Challenges for Developing Countries (November 17-19, 2010).



A brief opening ceremony was held at the beginning of the meeting. Prof. Jiang Zhu, Deputy Director of the Institute of Atmospheric Physics (IAP), China, and Mr. Syed Ali Tallae, Counsellor Technical Affairs of Embassy of Pakistan in China, were amongst the distinguished guests who attended the opening ceremony of the meeting. Prof. Jiang Zhu is also a member of COMSATS' Technical Advisory Committee (TAC).

In order to initiate the joint research activities under this Thematic Research Group and to expand its membership, representatives of the

organizations working in the area of climate sciences in the Member States of COMSATS and other developing countries were invited to participate in the meeting. Representatives from 13 scientific institutions from 9 developing countries, China, India, Iran, Malaysia, Nepal, Pakistan, Sri Lanka, Sudan, and Zimbabwe, attended the meeting. Besides ICCES, which is the designated Lead Centre of the Group, two other Centres of Excellence of COMSATS were represented in the meeting. These were the Iranian Research Organization for Science & Technology (IROST), Iran, and COMSATS Institute of Information Technology (CIIT), Pakistan. COMSATS Headquarters sponsored 7 scientists/experts from 6 scientific organizations belonging to 5 developing countries for their international travel



to/from Beijing-China.

The opening ceremony of the meeting featured Opening Remarks by the Chairperson, Prof. Dr. Lin Zhaohui, while Welcome Remarks were delivered by Prof. Jiang Zhu, and Mr. Ali Tallae. On behalf of the Executive Director COMSATS, the Welcome Remarks were read out by Mr. Farhan Ansari. The message of the Executive Director focused on the purpose of the establishment of the Thematic Research Groups; significance of addressing the adverse effects of climate change and global warming; need for giving due consideration to climate change and its impact in policy-making and development-projects of the developing countries; and the importance of initiating joint research projects with the participation of similar organizations from the developing countries.

The deliberations of the meeting started with a presentation made by Mr. Ansari introducing COMSATS and its Thematic Research Groups. Then Dr. Lin Zhaohui explicated the objectives of the meeting and described the specific goals (3-year plan) of the Group, as well as role that the Lead Centre and other members are expected to play. While explaining the role of ICCES as the Lead Centre, he pledged that ICCES would provide the necessary leadership for initiating and executing joint research projects. Dr. Lin further stated that ICCES is willing to serve as a node for the creation of a sub-network of relevant organizations from various developing countries under COMSATS' Network of International S&T Centres of Excellence. He offered to share ICCES' experience of research in climate and environment sciences with the member institutions of the Group by means of short-term trainings.

Dr. Lin's presentation was followed by brief multimedia presentations made by the participating scientists. These presentations covered their organizations' objectives, research areas, and areas of potential collaboration, which led to identifying areas of mutual interest to the participating organizations. Following are some of the key decisions and outcomes of the meeting:

- A consensus was built as to the title of a joint research project: 'Multi-scale



Climate Variations and its Relation with Atmospheric Circulations'. A broad outline of the project was also prepared after thorough deliberations.

- It was agreed to acquire funding for the joint research project from the international donor/development agencies, as well as the Governments of the respective countries of the collaborating institutions. In this regard, the relevant international donor/development agencies were identified that could be collectively approached by COMSATS Headquarters and ICCES.
- Moreover, it was decided that the researchers involved in the execution of the joint research project would be provided trainings in the areas relevant to the theme of the project. The purpose of these trainings would be to complement the joint research activity, as well as capacity-building of the collaborating institutions.
- COMSATS Institute of Information Technology (CIIT) volunteered to host the 2nd meeting of the Group. The meeting was tentatively scheduled to be organized by CIIT in conjunction with the 4th International Conference on Environmentally Sustainable Development (ESDev-2011) to be held in Abbottabad, Pakistan (July 24 to 26, 2011).
- Representatives of 8 participating organizations signed a Memorandum of Understanding (MoU) officiating the establishment and membership of the Thematic Research Group on 'Climate Change and Environmental Protection'. The organizations that became the members of the Group by virtue of this MoU include: ICCES-China (Lead Centre); Zimbabwe Meteorological Services Department - Zimbabwe; Sudan Meteorological Authority - Sudan; Pakistan Meteorological Department - Pakistan; Global Change Impact Studies Center (GCISC) - Pakistan; COMSATS Institute of Information Technology (CIIT) - Pakistan; Pakistan Space & Upper Atmosphere Research Commission (SUPARCO) - Pakistan; and Himalayan Cryosphere, Climate and Disaster Research Center (HiCCDRC) of Kathmandu University - Nepal.
- The representatives of the Iranian Research Organization for Science & Technology (IROST) - Iran; Malaysian Meteorological Department - Malaysia; and Department of Meteorology - Sri Lanka agreed in principle to become the members of the Group but committed to sign the MoU after obtaining consent from the Heads of their respective organizations.

Foundation Meeting of the Thematic Research Group on 'Natural Products Sciences', Karachi-Pakistan

The foundation meeting of the Thematic Research Group on 'Natural Products Sciences' was jointly held by COMSATS and one of its Centres of Excellence in Pakistan, the International Center for Chemical and Biological Sciences (ICCBS) - Karachi, on November 26, 2010. The meeting was hosted by ICCBS in conjunction with its 12th International Symposium on Natural Product Chemistry, held on November 22-25, 2010. The representatives of various scientific/academic organizations met under the chairmanship of Prof. Dr. M. Iqbal Choudhary, Director ICCBS. COMSATS Headquarters was represented by Mr. Tajammul Hussain,



Director General
(International Affairs)
COMSATS.

On invitation from the organizing institutions, the meeting was attended by 18 scientists/experts representing 9 scientific organizations, belonging to 8 developing countries. Three Centres of Excellence of COMSATS namely, ICCBS; National Research Centre (NRC)

- Egypt; and Industrial Research and Consultancy Centre (IRCC) - Sudan, were represented in the meeting. Other participating institutions included: Department of Science Laboratory Technology of the Federal Polytechnic - Nigeria; Institute of Fundamental Studies - Sri Lanka; Department of Biochemistry and Molecular Biology, University of Dhaka - Bangladesh; Department of Biology, Ege University - Turkey; and Lorestan University of Medical Sciences - Iran. COMSATS Headquarters sponsored travel for two of the participants, one each from IRCC - Sudan and NRC - Egypt. During the meeting, thorough deliberations were made by participating organizations on areas of their mutual interest.

Following are some of the key decisions and outcomes of the meeting:

- An agreement was reached as to the title of the joint research project to be undertaken by the Group-members: "Phytochemical and Pharmacological Studies on Medicinal Plants and Standardization of Herbal Plants of Indus and Nile Valleys".
- ICCBS will organize two workshops complementing the theme of the joint research project on the topics of 'Combinatorial Synthesis of Natural Product based Libraries' and 'Structural Biology', during March and July 2011, respectively. In this regard, assistance may be sought from COMSATS.
- A website for the Thematic Research Group will be developed based on the feedback received from its members.
- The 2nd meeting of this Group will be hosted by Ege University, during September 2012, in Denizli-Turkey.
- ICCBS offered five scholarships at ICCBS for COMSATS' member States; three for post-doctoral research and two for technical training.
- The establishment of this Thematic Research Group and its membership was endorsed by means of an MoU. Apart from the existing members, the other



participating institutions of the meeting become a part of the Group having signed the MoU.

At the conclusion of the meeting, a questionnaire was distributed among the members of the Group, in order to gather proposals for joint research projects and to identify short-term trainings required for the execution of the joint research project. Response from a few members of the Group has been received and is being given due consideration by the Lead Centre, as well as COMSATS Headquarters.

Preparatory Meeting of the Thematic Research Group on 'Information and Communication Technologies (ICTs)', Islamabad-Pakistan

A preparatory meeting of the COMSATS' Thematic Research Group on 'Information and Communication Technologies' was held on the sidelines of the International Workshop on Frontiers of Information Technology (FIT-2010), organized by COMSATS Institute of Information Technology (CIIT) in Islamabad (December 21-23, 2010). The meeting, chaired by the Rector CIIT, Dr. S. M. Junaid Zaidi, was attended by Pakistani experts from local universities as well as those working abroad. The purpose of the preparatory meeting was to outline the preliminary matters relating to holding of foundation meeting of the Group to deliberate on development of a research project, identification of project leader and participating organizations. The date, venue, and tentative agenda of the foundation meeting were also discussed.

CIIT is to convene the foundation meeting of this Thematic Research Group during 2011 to deliberate on matters relating to the launching of a joint research project in the field of ICTs. The members of this group are: TIRDO-Tanzania; RSS-Jordan; IRCC-Sudan; and NMC-Nigeria.



4

COLLABORATION WITH NATIONAL AND INTERNATIONAL ORGANIZATIONS

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COMSATS has been endeavouring to expand the network of its national and international working partners in order to have collaboration in science and technology for sustainable socio-economic development of the Members States and to enter into new programmes with its own Centres of Excellence.

COLLABORATION WITH NATIONAL AND INTERNATIONAL ORGANIZATIONS

COMSATS Formalized Agreements with National and International Organizations

During 2010, COMSATS formalized four different agreements with national and international organizations in order to complement its initiatives in the fields of renewable energy, environment, healthcare and promotion of science and technology. These agreements, in the form of MoUs, are aimed at broadening the list of working partners and strengthening the relations between COMSATS and other interested stakeholders.

Universiti Kebangsaan Malaysia (UKM), Malaysia

A Memorandum of Understanding (MoU) was signed between COMSATS and the Universiti Kebangsaan Malaysia (UKM) for cooperation in the field of renewable energy, on the 19th of October 2010. The MoU signing ceremony took place in conjunction with the inauguration of UKM's 'Ultra Low Energy House' by H.E. Y.B. Datuk Dr. Maximus Johnity Ongkili, the Minister for Science, Technology and Innovation, Government of Malaysia. The Minister witnessed the signing of the MoU, which was intended to promote research and development in the field of





renewable energy and accelerate overall socio-economic progress in the developing countries.

Prof. Tan Sri Dato' Dr. Sharifah Hapsah Syed Hasan Shahabudin, the Vice-Chancellor UKM, and Dr. Imtinan Elahi Qureshi, the

Executive Director COMSATS, signed the agreement on behalf of their organizations. Under the agreement, COMSATS and UKM agreed to undertake joint work for developing various renewable energy options, strategic planning and policy-making for optimizing the use of fossil-fuels, as well as energy conservation; and environmental protection. These objectives would be achieved through joint research projects between UKM and relevant affiliated international institutions of COMSATS; exchange of scientific, technical and other relevant information through mutually agreed channels; exchange of scientists, engineers, technicians and experts; organization of joint events; and transfer of technology.

During the MoU signing ceremony, Dr. Sharifah formally welcomed Dr. Qureshi and other members of COMSATS' delegation to UKM and expressed her gratitude to the Minister for gracing the occasion with his presence. She noted with pleasure that

Solar Energy Research Institute (SERI) has developed over 30 green products to promote clean energy. Highlighting the achievements and activities of SERI, she informed a large gathering of students, researchers, representatives of industrial and private sector of Malaysia that SERI has already made available grants to researchers for pre-commercialization of these products.



She was pleased to state that collaboration with universities, and academic and R&D institutions is connecting UKM to the global networks. SERI of UKM is the only institute in Malaysia offering MSc and PhD programmes in renewable energy.

In his speech at the occasion, Dr. Qureshi noted with pleasure the excellent research facilities of UKM available at its various institutes, and the development that Malaysia has made over the years in terms of science and technology. He expressed confidence that this COMSATS-UKM MoU would help strengthen the relationship between the two organizations. Dr. Qureshi expressed the desire of COMSATS to have steadfast

MEMORANDUM OF UNDERSTANDING

between



UNIVERSITI KEBANGSAAN MALAYSIA

and



COMMISSION ON SCIENCE
AND TECHNOLOGY FOR SUSTAINABLE
DEVELOPMENT IN THE SOUTH, PAKISTAN

ON
SCIENTIFIC COLLABORATION
IN THE FIELD OF RENEWABLE ENERGY

S&T cooperation with Malaysia and invited the Government of Malaysia to become a member state of COMSATS. In this regard, Dr. Maximus Johnity Ongkili was presented the documents pertinent to COMSATS' Membership.



Speaking on the occasion, Minister Ongkili acknowledged COMSATS' offer to the Government of Malaysia and assured due consideration on the part of his government.

After the signing ceremony of the MoU, a short meeting was held with the Director of Fuel Cell Institute, Prof. Ir. Dr. Wan Ramli Wan Daud and Professor of Renewable Energy at SERI, Professor Dr. Kamaruzzaman Sopian. Matters of mutual interest were discussed and a stronger cooperation in the field of renewable energy was pledged.

International Centre for Climate and Environment Sciences (ICCES), China

COMSATS signed an MoU with its Centre of Excellence in China, the International



Centre for Climate and Environment Sciences (ICCES), Beijing, on 23rd March 2010. The said agreement was signed by the Executive Director COMSATS and the Director ICCES, Prof. Lin Zhaohui. The agreement came into effect with a realization that sustainable economic development in the South cannot be achieved without building and sustaining indigenous capacities in Science and Technology; and South-South and North-South cooperation is essential in building science and technology capacity in the South.

According to the MoU, ICCES and COMSATS agreed on the following points:

- To cooperate in building scientific capacity in areas of Meteorology, Climate and Environment Sciences in COMSATS' member countries, with ICCES playing a proactive role as the Lead Centre of COMSATS' Thematic Research Group on "Climate Change and Environmental Protection";
- To jointly organize international workshops and conferences for training scientists belonging to COMSATS' member countries;
- To encourage exchange of scientists among institutions based in COMSATS' member countries and ICCES, with the support of COMSATS, TWAS and WMO, as well as other international agencies;

- To initiate joint research projects in order to facilitate knowledge generation and sharing it with the COMSATS' member countries, in general, and Department of Meteorology of COMSATS Institute of Information Technology (CIIT), in particular; and
- To annually develop joint action plans with mutual consent that will define the responsibilities, time-line and financial arrangements of the agreed activities.
- To offer five post-graduate/post-doctoral scholarships at ICCES for students from COMSATS' member countries. ICCES agreed to waive off tuition fee and provide free accommodation to students who qualify the Chinese admission-criteria, while COMSATS would cover their travel expenses (economy class).



Jabir Bin Hayyan Trust (JBHT), Pakistan

COMSATS signed an MoU with Jabir Bin Hayyan Trust (JBHT), in Islamabad, on 28th May 2010, to provide tele-health services in Skardu. The Executive Director COMSATS and the Managing Trustee JBHT, Sheikh Muhsin Ali Najafi, signed the memorandum to formalize the cooperative arrangements.

By virtue of this agreement, JBHT, which had taken over the operational management of Abdullah Hospital in Skardu, is to facilitate COMSATS in continuing the tele-health services for the marginalized communities of Skardu district and the surrounding areas by providing medical facilities and paramedic staff.

The parties also agreed to jointly 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.

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 consultation was provided in the fields of dermatology, gastroenterology, cardiology and general medicine using Internet-based live-consultations, as well as store-and-



forward method. So far, over 4,000 patients have benefited from these tele-consultations.

The Academy of Sciences for the Developing World (TWAS)

A programme for preparing the profiles of COMSATS' Centres of Excellence has been initiated jointly by COMSATS and the Academy of Sciences for the Developing World (TWAS). This programme is being undertaken in the light of the success of the initiative of TWAS to prepare profiles of prominent R&D institutions of the developing countries, with a view to publicize their accomplishments and assess the prospects of their future developments. COMSATS showed interest to prepare profiles of its worldwide Network of S&T Centres of Excellence with the assistance of TWAS. The proposal was accepted by TWAS and endorsed during the 13th Coordinating Council Meeting.

The decision was formalized through an agreement signed by the Executive Directors of the collaborating organizations. Separate booklets containing the individual profiles of selected Centres of Excellence will be prepared and widely distributed among research centres, universities, government departments and donor agencies.

As per the agreement, COMSATS is to help identify the most suitable R&D institutions within its Network of Centres of Excellence, whereas TWAS is responsible for preparing the profiles with the concurrence of these institutions. The printing of the finalized document would be taken up by COMSATS Secretariat as per the agreed standards for quality printing.

The aim of this collaboration is to identify the strengths and weaknesses of these institutions in order to put their scientific capacity to a better use in pursuit of COMSATS' mission of promoting South-South and North-South cooperation for sustainable development through applications of science and technology.

Cooperation with ISESCO

Established in 2004, COMSATS-ISESCO Bilateral Cooperation Programme focuses on promoting and strengthening the international scientific and technological cooperation with and amongst the common member states. The Cooperation Programme for the year 2010 was formalized through a Letter of Intent (LoI) signed by the two organizations in March 2010, agreeing on extending the on-going collaboration in the field of Environmental Sciences; Renewable Energy; ICTs; Biotechnology; Nanotechnology; and Materials Sciences. During





2010, activities implemented under this Cooperation Programme are given below:

- (a) International Seminar on “Nano-materials in Energy and Environment”, organized by COMSATS and ISESCO, in collaboration with CIIT, Damascus University and HIAST, from 21st-23rd September 2010, in Damascus, Syria;
- (b) International Conference on “Diffusion of ICTs in Academia: Learning in the Digital Age in Islamic Countries”, organized by COMSATS and ISESCO, in cooperation with Inter-Islamic Network on Information Technology (INIT), Industrial Research and Consultancy Centre (IRCC), Sudan, and University of Science and Technology (UST), Sudan, from 4th-5th October 2010, in Khartoum, Sudan;
- (c) National Training Workshop on “Repair and Maintenance of Scientific Equipments in Teaching, Research Institutions and Small-scale Industries”, jointly organized by COMSATS and ISESCO in collaboration with Senegal National Commission for UNESCO, from 18th-21st October 2010, in Dakar, Senegal; and
- (d) Maintenance of the Islamic World Science Net (IWSN) Portal (A report on page 88).

Programmes with UNESCO

COMSATS’ proposed project titled: ‘COMSATS-UNESCO South-South Regional (Asia-Pacific) Technical Cooperation Programme (2010-11)’, which was submitted through the Pakistan National Commission for UNESCO (PNCU) on January 29, 2009, was approved by the United Nations Educational, Scientific and Cultural Organization (UNESCO) on October 25, 2010.

The programme is focused at building scientific and technical capacity of the common Member States of COMSATS and UNESCO in the Asia-Pacific region, using the expertise and skills available within COMSATS’ Network of International S&T Centres of Excellence, as well as other collaborating institutions, and providing an opportunity to the scientists/engineers/researchers in the region to interact with their peers for sharing knowledge and expertise.

Under the programme, COMSATS and UNESCO will jointly hold 5 training workshops/seminars/conferences in 4 common member countries, China, Pakistan, Bangladesh and Sri Lanka, in 2011. Three of the COMSATS’ Centres of Excellence, COMSATS Institute of Information Technology (CIIT), International Centre for Climate and Environment Sciences (ICCES), and International Center for Chemical and Biological Sciences (ICCBS) will host the events in Islamabad-Pakistan, Beijing-China and Karachi-Pakistan, respectively.



UNESCO's grant of US\$ 35,000/- will be spent on providing travel grants, as well as covering boarding and lodging expenses of the international participants/resource persons for the five scientific events. The administrative and logistic expenditure related to these events will be borne by the host/collaborating institutions. With the spirit of sharing and collaboration, COMSATS will also bear any expenditure upto US\$ 10,000/-, incurred over and above UNESCO's grant.

Executive Director COMSATS' Visit to GCISC- Pakistan

The Executive Director COMSATS visited the Global Change Impact Studies Centre (GCISC), Islamabad, on October 7, 2010, and held a meeting with its Executive Director, Dr. Arshad Muhammad Khan. He was accompanied by Dr. Hasibullah, Advisor (I. A) COMSATS, Dr. Amir H. Malik, HEC Foreign Professor at CIIT, and Engr. Farhan Ansari, Assistant Director (Programmes) COMSATS. In the meeting, GCISC was also represented by Dr. M. Mohsin Iqbal, Head of Agriculture Section, and Mr. Ghazanfar Ali, Head of Water Section & Glaciology Group.

The purpose of the meeting was to establish strong collaborative relations between COMSATS and GCISC, exchange information regarding the past and present activities of the two organizations, and discuss the possibility of launching a collaborative effort focused on improving the water-resource management in Pakistan, in collaboration with the International Institute for Applied Systems Analysis (IIASA), based in Austria, and two of the Centres of Excellence of COMSATS, namely COMSATS Institute of Information Technology (CIIT), Islamabad, and the International Centre for Climate and Environment Sciences (ICCES), China.



During the meeting, Dr. Qureshi was informed that the climate and geographical modeling being performed at GCISC is of high accuracy and is, on request, being provided to the Newcastle University, UK, the Massachusetts Institute of Technology (MIT), USA, as well as the World Bank. In exchange, the Newcastle University and MIT have been providing support to GCISC in its capacity building. Dr. Khan also informed that GCISC has been providing technical training in the field of mathematical modeling to the young scientists/engineers from Sri Lanka, Bangladesh, India and Nepal. While discussing the facilities available at the research centre, Dr. Qureshi offered the assistance of COMSATS Internet Services (CIS) for resolving the data-storage problems being faced by GCISC.

Dr. Hasibullah opined that the research organizations working in the area of water-resource management in Pakistan have valuable statistics available with them, which

need to be streamlined in order to avoid the duplication of research and collaborate with the international research organizations, such as IIASA. Discussions were also held on the possibility of having a Pakistan-focused project initiated at IIASA.

Dr. Amir H. Malik emphasized the significance of studying the climate variations for accurately predicting the hydrological changes and managing the country's water resources efficiently. He opined that extreme events are likely to appear in the future with greater frequency and intensity, and necessary measures should be taken to cope with such contingencies.

One of the key decisions of the meeting was that Dr. Amir H. Malik (CIIT) and Mr. Ghazanfar Ali (GCISC) will collaborate to propose a suitable project for solving the issues related to the management of water resources in Pakistan.

Later, a presentation was made to acquaint the visitors with the activities of the centre, including the studies being carried out on the variability of monsoon, melting of glaciers, predictability of floods and droughts, variations in the temperature, and precipitation in different parts of the country, as well as their likely impact on the country's agricultural yield. The presentation also included the description of the modeling techniques employed by GCISC to accurately forecast the future trends in climate and hydrology.

Executive Director COMSATS' Visit to PCRWR-Pakistan

On September 21, 2010, the Executive Director COMSATS, Dr. I. E. Qureshi, accompanied by Dr. Amir H. Malik, HEC Foreign Professor at CIIT, Dr. Hasibullah, Advisor (I.A) COMSATS, and Engr. Farhan Ansari, Assistant Director (Programmes) COMSATS, visited the Pakistan Council of Research in Water Resources (PCRWR) and held a meeting with Dr. M. Aslam Tahir, Chairman PCRWR, and visited the ISO-certified National Water Quality Laboratory (NWQL) at PCRWR. The agenda of the meeting was to assess the scientific capacity and potential of PCRWR, explore the opportunities of COMSATS' scientific collaboration with the Council, recommend the testing of water purifiers being provided to the affectees of floods in Pakistan by

NGOs, and discuss the possibility of locally manufacturing the low-cost water-treatment technologies for fulfilling the present and future drinking-water needs of the country.

During the meeting, Dr. Qureshi was informed about various activities of PCRWR, including its assistance to NGOs in installing water-treatment plants in the flood affected areas, capacity-building programmes for managers and technicians/sub-engineers, and manufacturing of low-cost water testing and treatment technologies. It was also highlighted that out of 10,000 water-resources professionals working in Pakistan,



6,000 have been trained by PCRWR through a one-week intensive course for technicians and a three-day course for managers. Low-cost water testing and treatment technologies being manufactured at PCRWR include; low-cost arsenic-testing kits; low-cost bacteria-testing kits; bacteria, turbidity, arsenic removal kits; low-cost water and salinity monitoring instruments; and chlorinators for water purification.

Dr. Qureshi laid emphasis on creating synergies among water-related organizations, academia and private sector of the country and the need to collectively transfer the benefits of

technology to the masses. With the same perspective, he invited Dr. Tahir, who is also the National Coordinator for United Nations University (UNU), to visit Islamabad and Abbottabad campuses of CIIT. Discussions were held on the water-filtration devices being distributed by NGOs to the flood victims and the need of testing these devices to ensure that none of them fails to provide safe drinking water to the people.

Other matters discussed during the meeting related to the availability of water labs in the country; need of water standardization; need of delivering applied knowledge at universities; national and international collaboration of PCRWR; and efficacy of various locally manufactured as well as imported water purifiers.

Later, the officials of COMSATS and PCRWR visited different sections of the National Water Quality Laboratory (NWQL), namely chemical lab, microbiology lab, waste-water lab, and the organic lab. The visit to NWQL gave the delegation a first hand information of the facilities available at the laboratory. Executive Director COMSATS was pleased to note that NWQL is ISO 17025 certified and has recognition in America and Europe. During the visit, Dr. Tahir explained the procedure of testing water for different parameters. Also, the delegation visited Remote Sensing and Graphic Information System (RS/GIS) & Hydrology Modeling Centre of PCRWR.



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INTERNATIONAL VISITS

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- Visit of Executive Director COMSATS to Five Member States (Syria, Egypt, Iran, Jordan and China) 50
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The Executive Director COMSATS and other officials of COMSATS Secretariat undertake international visits with an objective to strengthen and expand the membership of COMSATS and its Network of S&T Centres of Excellence, as well as to participate in international meetings/workshops for developing partnerships and cooperation mechanisms.

INTERNATIONAL VISITS

Visit to Malaysia: COMSATS' Participation in the 5th ICMHESR

A delegation of COMSATS headed by the Executive Director COMSATS, Dr. Imtihan



Elahi Qureshi, visited Malaysia during the later half of October 2010 to attend the 5th Islamic Conference of Ministers of Higher Education and Scientific Research (ICMHESR); sign a Memorandum of Understanding with the National University of Malaysia (UKM); explore cooperation mechanisms and possibilities of future collaboration with the Government and scientific institutions of Malaysia, including the International Science, Technology and Innovation Centre for South-South Cooperation (ISTIC).

Besides COMSATS' participation in the 5th ICMHESR, the occasion was used to interact with dignitaries from OIC countries on bilateral level. Some highlights of the visit were:

- COMSATS' Membership offers extended to Algeria, Azerbaijan, Brunei Darussalam, Iraq, Morocco and UAE. Official letters in this connection were presented to the Heads of country delegations;
- The representatives of the Governments of Tunisia and Bangladesh requested to nominate S&T/R&D institutions to join COMSATS' Network of

- Centres of Excellence;
- At the request of the Syrian Minister for Higher Education, H.E. Ghias Abdel Wahab Barakat, COMSATS agreed to hold a training workshop on 'Internet Security' in 2011 with the participation of senior IT- administrators of Syria;
- Signing of MoU between COMSATS Institute of Information Technology- Universiti Teknologi Petronas;
- A meeting between the Executive Director COMSATS and Chairman Department of Physics, University of Malaya.

Participation in the 5th ICMHESR

The Islamic Educational, Scientific, and Cultural Organization (ISESCO) and the Organization of Islamic Conference (OIC) have been organizing ICMHESR since 2000, in collaboration with relevant institutions in the host countries, Kingdom of Saudi Arabia (2000), Libya (2003), Kuwait (2006), Azerbaijan (2008) and Malaysia (2010). The 5th ICMHESR was hosted by the Malaysian Ministries of Science, Technology and Innovation and Higher Education. Forty eight OIC member countries and twenty three international organizations were represented on this high-profile international event. Twenty Ministers and five Deputy Ministers heading their country delegations participated in the Conference. The three-member delegation of COMSATS attended the Conference under the category of international organizations/institutions.



The two-day ICMHESR was inaugurated on October 19, 2010, by Hon. Tan Sri Dato' Muhyiddin Yassin, Deputy Prime Minister of Malaysia, who also holds the office of the Malaysian Ministry of Education. On the occasion, welcome remarks were given by H.E. Dato' Seri Mohamed Khaled Bin Nordin, Malaysian Minister of Higher Education; Ambassador Abdul Moiz Bokhari, Assistant Secretary General of the OIC; Dr. Abdulaziz Othman Altwaijri, Director General of ISESCO; and Dr. Peter Adwok Nyaba, Vice-President of the 4th ICMHESR. An august gathering comprising delegates from OIC member countries, international organizations, UN specialized agencies, states and territories having observer-status, as well as members of the Malaysian scientific community attended the opening ceremony at the Kuala Lumpur Convention Centre.

The 5th ICMHESR bore the theme 'Enculturation of Quality in Academia, Research and Innovation towards Prosperity of Ummah' and aimed to provide an opportunity for ISESCO member states and relevant organizations to reflect on matters relating to higher education and scientific research concerning the Islamic World. During the two-day proceedings, the Conference particularly held discussions on various reports and documents, namely: 'Creation of the Islamic Network of Women Scientists'; 'Recent Trends in Emerging Technologies and Current Commitments of Islamic Countries'; 'Ranking of Universities of the Islamic World'; 'Strategy for Promotion of



Nanotechnology in Islamic countries'; and the project of 'Atlas of Science and Innovation in the Islamic World'.

A regular highlight of this meeting is the presentation of "ISESCO Science Prize". The following scientists won the Prize for the year 2010: Dr. M. Qasim Jan of Pakistan (Geology); Prof. Dr. Ulmas Mirsaidov of Tajikistan (Chemistry); Prof. Dr. Zaid Odibat of Jordan (Mathematics); Prof. Dr. M. Shabat of Palestine (Physics);

Prof. Dr. Embi Mohamed Amin of Malaysia (Technology); and Prof. Dr. Mirsaidov Ulmas of Republic of Tajikistan (Chemistry).

On the second day of the event under the agenda-item: "Statements of the Representatives of the International Organizations on Cooperation for Promotion of Science and Technology in Islamic Countries", Dr. Qureshi presented the statement on the objectives, programmes and future aspirations of COMSATS. He stated that COMSATS enjoys a close cooperation with TWAS, ISESCO, COMSTECH and Pakistan National Commission of UNESCO, apart from a number of international NGOs. During the last 2 years, 8 meetings/symposia have been arranged by COMSATS in partnership with COMSTECH and ISESCO.



Availing his presence in Kuala Lumpur, Dr. Qureshi held meetings and discussions on the sidelines of the ICMHESR with dignitaries from COMSATS and OIC member States. These included officials of the Government of Malaysia, including the Minister for Science, Technology and Innovation, H.E. Y.B. Datuk Dr. Maximus Johnity Ongkili, delegates from common member countries of COMSATS and OIC, Bangladesh, Senegal, Syria, Egypt, Jordan, Tunisia, Uganda and Iran; as well as those from Algeria, Azerbaijan, Brunei Darussalam, Union of Comoros, Iraq, Gambia, UAE, and Morocco.



Avenues of Cooperation Explored between COMSATS and ISTIC, Malaysia

During the visit to Malaysia the COMSATS delegation also visited the International Science, Technology and Innovation Centre for South-South Cooperation (ISTIC) located at the premises of the Academy of Sciences Malaysia. The visit took place on 22nd October 2010 and a meeting was held with senior ISTIC officials, the Chairman of its Governing Board, Dato' Ir. Lee Yee Cheong, and Director, Dato' Dr. Samsudin Tugiman. Other senior officials of COMSATS and ISTIC were also present on the occasion.



Highlighting the similitude between objectives and missions and the organizational structures of the two organizations, Dr. Qureshi introduced COMSATS to the officials of ISTIC and expressed a desire to have a cooperative mechanism for S&T-based development programmes. Mr. Cheong elucidated various organizational and procedural aspects of ISTIC, especially about its membership that comprises senior scientists nominated by UNESCO and informed that ISTIC works in cooperation with the national commissions and academies of sciences of various developing countries. He strongly advocated having cooperation for specific programmes with common objectives for the development of the South. The meeting concluded with an exchange of souvenirs and publications.

The meeting with the officials of ISTIC was followed by a meeting between Dr. Qureshi and the President of Academy of Sciences Malaysia, Tansri Datuk Dr. Yusof Barison.

The interactions of COMSATS' delegation during this visit to Malaysia provided the organization with an opportunity to expand its international cooperation programmes in pursuit of its mission of socio-economic progress of the developing world.



Visit of Executive Director COMSATS to Turkey

In the 13th meeting of the Coordinating Council held in May 2010, the Executive Director COMSATS, Dr. Imtihan Elahi Qureshi, was specifically mandated to visit COMSATS' Centres of Excellence in Brazil and Turkey to assess their scientific potential for South-South collaboration. COMSATS has one Centre of Excellence each in these countries however, their governments have not signed the International Agreement to join the Commission. Earlier in the year, Dr. Qureshi, undertook visits to five Member States of COMSATS, Syria, Egypt, Iran, Jordan and China, that are covered in the later parts of this section

The visit to Turkey was made from 19th to 24th December 2010, with the purpose to: get first-hand information about the research work being undertaken in the seven institutes of TÜBİTAK Marmara Research Centre (MRC); discuss avenues of greater participation of MRC in COMSATS' programmes; and meet higher officials of TÜBİTAK – the Scientific and Technological Research Council of Turkey – in order to extend offer of COMSATS' Membership to Turkey. A brief report of the visit is as follows:

Visit to TÜBİTAK Marmara Research Centre (MRC)

The Executive Director COMSATS was invited to visit Marmara Research Centre (MRC) in Istanbul (Turkey), which is one of the major R&D centres of Turkey operated by TÜBİTAK. The TÜBİTAK MRC has been affiliated with COMSATS as its Centre of Excellence since 1994.

Dr. Qureshi's visit to laboratories of MRC was preceded by presentations about research and development work being conducted in its seven institutes: Energy Institute; Chemistry Institute; Materials Institute; Environment Institute; Food Institute; Genetic Engineering & Biotechnology Institute; and Earth & Marine Sciences Institute. Dr. Qureshi was shown around a few selected institutes. He asserted the need for greater participation of MRC in scientific activities of COMSATS.



Visit to TÜBİTAK Headquarters

In order to explore the possibility of Turkey joining COMSATS as a Member State, the Executive Director visited the Headquarters of TÜBİTAK in Ankara, where he met the



Vice President of TÜBİTAK, H.E. Prof. Dr. Ömer Anlağan, and the senior officials of the Council relevant to international cooperation and bilateral/multilateral relations. A presentation was made about the organizational structure and role of TÜBİTAK for S&T development in Turkey by Prof. Anlağan.

In his multimedia presentation in front of senior officials of TÜBİTAK, the Executive Director highlighted the role being played by COMSATS to foster South-South scientific cooperation since its inception in 1994. It was noted that Turkey is already making intellectual contributions towards COMSATS' programmes through its Marmara Research Centre, however it would be helpful if Turkey joins the organization as a Member State. It was pointed out that Turkey can play a leadership role for scientific development of the South. The use of COMSATS' platform for enhancing Turkey's involvement in S&T projects in the region would be in the best interest of Turkey's industrial and scientific institutions. During the meeting, the scope of COMSATS' activities was thoroughly discussed and an offer of COMSATS' Membership was extended to Prof. Anlağan for approval by the relevant government bodies.

Visit to Istanbul University

In his capacity as the Chairman Board of Governors of the COMSATS Institute of Information Technology (CIIT), Dr. Qureshi also visited Istanbul University, where he met its Vice Rector, Prof. Dr. Çiğdem Kaycan, and Chairman of the International Relations Committee, Dr. Mehmet Şükrü Tekbaş. The present campus of Istanbul University, founded in 1865-1866, accommodates over 70,000 students and 15,000 administrative and academic staff. Possibilities of academic cooperation between CIIT and Istanbul University were discussed during the meeting.



Visit of Executive Director COMSATS to Five Member States (Syria, Egypt, Iran, Jordan and China)

Background

One of the recommendations made during the 12th meeting of COMSATS Coordinating Council, held in Abuja, Nigeria (April 28-29, 2009), mandated the Executive Director COMSATS, Dr. Imtihan Elahi Qureshi, to visit members of COMSATS' Network of S&T Centres of Excellence and also to meet the focal points in the member countries. The advice was based on the expectation that by personally witnessing the existing R&D facilities and conferring with the scientists as well as the administrators, the Executive Director would be in a better position to facilitate South-South cooperation in priority areas of S&T development. A number of other issues relevant to COMSATS' future activities also necessitated individual in-depth discussions with the relevant authorities in member countries.

In this connection, the Executive Director planned his tour with the visits to the two Centres of Excellence of COMSATS based in Pakistan, the COMSATS Institute of Information Technology (CIIT) and the International Center for Chemical and Biological Sciences (ICCBS) that took place during the last quarter of the year 2009. However, the visits of Dr. Qureshi to five Network nodes outside Pakistan, in Syria, Egypt, Iran, Jordan and China were scheduled for the first quarter of 2010 on their invitation.

During the first quarter of 2010 and prior to the 13th meeting of COMSATS Coordinating Council in Trieste - Italy, Dr. Qureshi toured Syria and Egypt from 10th to 14th January followed by a tour to Iran and Jordan from 5th to 11th February and lastly visited China (March 22-26, 2010). A lot of efforts for the preparations, both in-house and in Member States, were made to have meaningful and constructive dialogues in the meetings during these visits. Prior to the visits, the Executive Director held a number of meetings with the high officials of Government of Pakistan, especially from the Ministry of Science and Technology, and the representatives of the relevant diplomatic missions based in Pakistan, for consultations and coordination of his visits and meetings abroad. In this regard, during his meeting with the former Minister for Science and Technology, Government of Pakistan, Mr. Azam Khan Swati, Dr. Qureshi highlighted the significance of his visits and the expected outcomes. As a mark of trust and understanding with the Executive Director COMSATS, the Federal Minister handed over his personal letters of goodwill addressed to the focal points of COMSATS to Dr. Qureshi that were to be presented during the meetings. In these letters, an expression of strong commitment of the Government of Pakistan to the initiatives of COMSATS for S&T led development was made.



The update on the Commission Meeting, the participation of Network members in the 13th meeting of the Coordinating Council and the Annual Membership Contribution to COMSATS formed a major portion of the agendas for the meetings apart from the major segment on assessing the potential of technology transfer available at each node. The visits of the Executive Director resulted in a first-hand assessment of the scientific and technological capacity and potential possessed by the five Network members, while reinvigorating the spirit of South-South cooperation and winning over the much needed support of the governments of the Member States.

Visit to Syria (January 10-12, 2010)

The visit to Syria was made on the invitation of the Higher Institute of Applied Sciences and Technology (HIAST) – a Centre of Excellence of COMSATS in Syria since 1994. There were three main components of the visit: (i) visit to Syrian-COMSATS-COMSTECH Information Technology Centre (SCCITC); (ii) meeting with the Minister of Higher Education of Syria; and (iii) visit to HIAST.

Visit to SCCITC

The Syrian-COMSATS-COMSTECH Information Technology Centre (SCCITC) was established in January 2001 as a result of an agreement between COMSATS, COMSTECH and the Government of Syria. A meeting of the Executive Director COMSATS was organized with Director SCCITC, Dr. Bassel Al-Khatib, and his senior colleagues at the Centre. A brief presentation on the current status and activities of the

Centre was made by Dr. Al-Khatib. It was noted that the Centre is under the administrative control of COMSATS' focal point in Syria – the Ministry of Higher Education. Since COMSATS and COMSTECH are represented in the Management Board of the Institute, it was urged by Dr. Qureshi that the two organizations should be kept informed about the institution's on-going activities and future plans in order to facilitate the programme up-gradation and expansion of the Centre. Dr. Al-Khatib expressed his keen interest in

sending the faculty members of SCCITC to Pakistan for "Tutors' Training Programme" in areas of special interest using COMSATS' platform. It was decided that a proposal will be submitted by SCCITC to COMSATS to specify the nature of training required (Lately it has been decided to organize the Workshop on 'Internet Security: Enhancing Information Exchange Safeguards' in Syria with the support of COMSATS).



Meeting with the Minister for Higher Education of Syria

Dr. Qureshi called on the Minister for Higher Education of the Arab Republic of Syria, Dr. Ghias Barakat, at his office, on January 11, 2010. A number of high ranking officials, including the Deputy Minister of Higher Education for Scientific Research and Academic Affairs, Prof. Mohamed Najib Abdul Wahed, and Director SCCITC, Prof. Dr. Bassel Al-Khatib, were also present on the occasion. With a view to have effective interaction with COMSATS, the Minister designated Dr. Al-Khatib as the liaison officer at Ministry of Higher Education of Syria.



Regarding the Annual Membership Contribution, the Minister acknowledged having received a request from COMSATS Secretariat and committed to look into the reasons for the discontinuation of Annual Membership Contributions since 2003. During the review of COMSATS' programmes in Syria, there appeared to be a consensus that SCCITC should be upgraded by introducing advanced courses and exchange of faculty between SCCITC and CIIT. Support of the Minister was sought to be extended to HIAST, being an important node of the COMSATS' Network of S&T Centres of Excellence.

Visit to HIAST

In his visit to Higher Institute of Applied Sciences and Technology (HIAST), Dr. Qureshi met Dr. Wael Khansa, who had recently assumed charge as the Director of the Institute. The meeting was also attended by other senior faculty members of HIAST. Dr. Iyad Darwish, Director of Scientific Cooperation, Information and

Publication, HIAST, made a presentation highlighting the academic programmes, activities and projects of the Institute. It had been noted that HIAST was offering specialized training and education in Informatics Systems, Communications, Electronic Systems, Mechatronics and Aeronautics. It was learnt that HIAST has strong collaborative links with international organizations, like UNDP, ESCWA, UNESCO, ALESCO and AUF, as well as European Union. Dr. Qureshi was also shown



around a few laboratories that had a very well-organized set-up, meeting the requirements of the high-quality education and training.

Dr. Khansa designated Dr. Iyad Darwish as the liaison officer in order to keep close contact with COMSATS Secretariat and arrange news items and articles for its publications. Dr. Qureshi handed over the brochures of ICCBS and CIIT to the Director HIAST and offered training opportunities at these Centres for the benefit of Syrian scientists and students. It was stressed by the Executive Director that the faculty members of HIAST should be encouraged to register in different groups of the Islamic World Science Net (IWSN), being maintained by COMSATS on behalf of IESCO.

Visit to Egypt (January 13-14, 2010)

The Ministry of Higher Education and State Ministry for Scientific Research of Egypt, responsible for the administration of National Research Centre (NRC), invited the Executive Director to visit Egypt. Apart from meeting the Minister and visit to NRC, the Executive Director visited the Mubarak City for Scientific Research and Technology Applications (MuCSAT), which is another high-tech scientific research centre under the control of the Ministry.

Meeting with the Minister for Higher Education and State Minister for Scientific Research of Egypt

The Executive Director called on the Egyptian Minister for Higher Education and State Minister for Scientific Research, Dr. Hany Helal, who is in-charge of two separate ministries, one for Higher Education and the other for Scientific Research. The Minister is assisted by the Deputy Minister, Prof. Maged Al-Sherbiny who is responsible for the State Ministry for Scientific Research.

While acknowledging the strong participation of Egypt in COMSATS Coordinating Council meetings over the years, as well as through organizing two of these meetings in Egypt, the Executive Director recounted a number of useful joint activities undertaken by COMSATS for the benefit of scientific community in Egypt. The Minister made a suggestion that some proposals on specific sectors of high-priority, such as energy, water resources or agriculture, may be chalked out by COMSATS with the support of its Member States. The Minister was pleased to appoint his Deputy Minister, Dr. Sherbiny, as the liaison officer for COMSATS.





Visit to NRC

During his visit to the Centre of Excellence of COMSATS in Egypt, the National Research Centre (NRC), Dr. Qureshi met the Vice President of the Centre, Dr. Esmat Abdel Ghaffar, and Prof. Osama Shabrawy, Scientist Emeritus at NRC. The Centre has been COMSATS' Network member since 1997. Dr. Shabrawy informed Dr. Qureshi that a new section of NRC called 'Centre of Excellence in Advanced Sciences' (CEAS) was established four years ago, (originally called Nobel Centre). The purpose of this Centre is to provide bright and relatively young (~40 years of age) scientists with attractive incentives and research facilities so as to reduce brain-drain in the country. A presentation made by Dr. Mahmood Zawarah, the Head of CEAS, shed light on the research activities and scientific achievements of CEAS. It was noted that the number of patents had considerably increased for CEAS during the year 2009. With a staff of 66, CEAS then had 106 international publications and 33 international projects to its credit. NRC itself had over 4300 research staff and consists of 14 divisions, including 106 departments that can be sub-grouped into 4 main divisions oriented towards: the industrial sector; the agriculture; health and environment; and natural and basic sciences.

Visit to Iran (February 5-8, 2010)

The invitation to visit Iran was extended by the organizing committee of Khwarizmi International Award (KIA) 2009. In consideration of COMSATS' support to the Award since 1999, the Executive Director was invited to participate in the ceremony and hand out awards personally in this important national scientific event of Iran. Availing this opportunity, Dr. Qureshi also visited the COMSATS' focal point and Centre of Excellence in Iran, the Ministry of Science, Research and Technology, and the Iranian Research Organization for Science and Technology (IROST), respectively.

Visit to IROST

The visit to IROST was arranged by the organizers of the Khwarizmi International Award for the Executive Director and other foreign delegates that attended the ceremony. During the visit, Dr. Qureshi met the Director International Cooperation of IROST, Dr. M. Molanejad.

Regarding the participation of IROST in COMSATS' programmes, Dr. Molanejad was of the opinion that COMSATS should chalk out specific research proposals and arrange international funding for member





countries to join the activity and make financial contribution with specific benefits in sight. Dr. Molanejad was informed by the Executive Director that the thematic research activity among the clusters of the members of COMSATS' Network was proposed with the same objective. However, the

activity could not take off so far, since the Centres of Excellence in the 'lead' countries have not made any resources available for consultative meeting prior to designing a project and because of unavailability of money in 'Trust Funds'.

Dr. Qureshi made the offers of educational and training facilities at CIIT and ICCBS, which were appreciated and favourably reciprocated with an offer of training facilities at IROST in the field of green technologies, especially bio-fuels using micro-algae. This technology requires large coastal lands that are otherwise unusable. Both Iran and Pakistan have such lands.

A tour of the laboratories of IROST revealed, a well-organized set-up with dedicated scientific staff, comprising men and women in almost equal strength. Some of the important facilities and equipment of IROST include: Satellite Communication Development and Control laboratories; 3rd generation haemo-dialysis machine and electronic drug disbursement system; appropriate engines for bio-fuel di-methyl ether pilot-plant; biotechnology pilot-plant, etc.

Meeting with the Deputy Minister for Science, Research and Technology of Iran

Dr. Qureshi met the Deputy Minister for Science, Research and Technology, of the Islamic Republic of Iran, Dr. Mohammad Mehdi Nouri, on February 6, 2010. Dr. Nouri was informed by Dr. Qureshi that COMSATS is a very appropriate forum for Iran to strengthen its scientific links in the region, especially with the African and Middle Eastern countries. Dr. Nouri expressed his country's intention to enhance the cooperative and strategic ties with COMSATS. Dr. M. Molanejad was appointed the liaison officer on behalf of the focal point, apart from his role as a contact person at IROST.



Participation in the 23rd Khwarizmi International Award

On February 7, 2010, Dr. Qureshi attended the ceremony of 23rd Khwarizmi

International Award, held at IROST. The first Vice President of Iran was the Chief Guest on the occasion. These awards are given to foreign as well as local scientists and technologists in various categories. COMSATS has been sponsoring the first and second prizes of US\$1,000/- and US\$500/-, respectively, in the category of young Iranian scientists.

Visit to Jordan (February 9-11, 2010)

The invitation for the visit to Jordan was extended by the Royal Scientific Society (RSS) of Jordan, which has been COMSATS' Centre of Excellence since 2007. The visit to Jordan comprised high-level meetings with the officials of the Higher Council for Science and Technology (HCST) and the Royal Scientific Society (RSS), as well as visits to



other scientific institutions/projects in Jordan, i.e., Synchrotron-light for Experimental Science and Applications in the Middle East (SESAME), Metrology Centre and iPark.

Meeting with the Officials of Jordanian Higher Council for Science and Technology

Dr. Qureshi had a meeting with the officials of the Higher Council for Science and Technology (HCST) of Jordan on 10th February 2010. HCST has the objective of building S&T capacity and using S&T for economic development. The HCST is part of El-Hassan Science City complex, which also encompasses RSS, Princess Sumaya University of Technology and Queen Rania Centre for Entrepreneurship.

During the discussions at HCST, it was found necessary to re-designate COMSATS' focal point in Jordan in order to enhance its role as a COMSATS' member country. In this regard, COMSATS was requested to send a letter inviting HCST to become its focal point. A letter in this respect was sent by the Executive Director to the Secretary General of HCST on 15th February 2010. HCST officials acknowledged the benefits of continuing Jordan's association with COMSATS and assured Dr. Qureshi of their full support for the re-designation of focal point. The said redesignation was later formalized in a meeting of HCST (September 14, 2010), whereby the General Secretariat of the HCST is considered COMSATS' Focal Point in Jordan.

Visit to RSS

On February, 2010, a meeting was held between the Vice President RSS, Dr. Khalid Kahhaleh and Dr. Qureshi in the former's office at the Royal Scientific Society (RSS). The Society has seven technical centres focusing at information technology, building research, mechanical design,



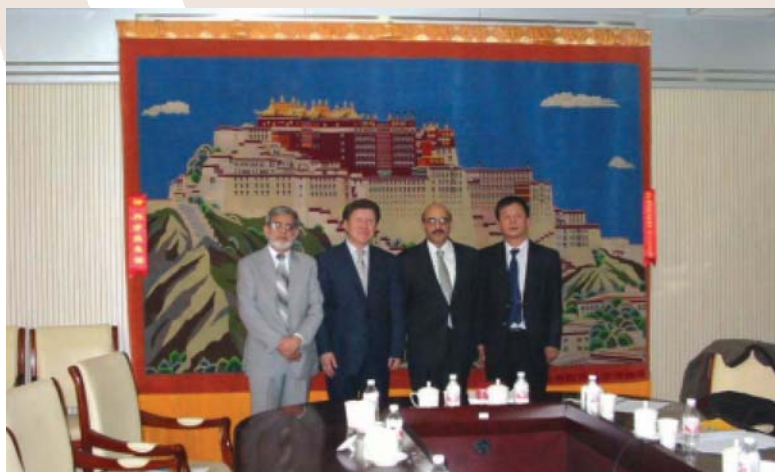
electronic services, environmental research, industrial chemistry, and quality assurance.

Dr. Kahhaleh expressed his satisfaction over the relations of RSS and COMSATS. The Executive Director appreciated the inputs provided for publication in the Newsletter through the RSS' Liaison Officer for COMSATS, Ms. Abeer Arafat. Considering that a Jordanian scientist is the Coordinator for nanotechnology group for the web-portal, IWSN, there was considerable interest shown in the operation of this portal. Dr. Kahhaleh assured the Executive Director about the strong interest of RSS in COMSATS' programmes.

The visit to Industrial Chemistry Centre (ICC) was undertaken to learn about its scientific and technical potentials.

Visit to People's Republic of China (March 22-26, 2010)

Executive Director COMSATS, Dr. Imtihan Elahi Qureshi, undertook a visit to People's Republic of China from March 22 to 26, 2010. During this visit, the Executive Director met Chinese Vice Minister for Science and Technology; Director, Department of International Cooperation; Head of International Centre for Climate and Environment Sciences (ICCES); and Deputy Director of the Bureau of International Cooperation of the Chinese Academy of Sciences (CAS). He also visited Guanghua School of Management Sciences in Peking University and Zhongguancun Software Park (Z-Park) in Beijing.



Visit to the Ministry of Science and Technology, China

On March 22, 2010, Dr. Qureshi met the Vice Minister, Ministry of Science and Technology, China, H.E. Mr. Cao Jianlin. The two officials, inter alia, extensively discussed a proposed programme for S&T cooperation between COMSATS and the



Ministry of Science and Technology, China. In the light of the unprecedented development that China has made in a relatively short span of time, the programme has been developed by COMSATS Secretariat to showcase Chinese S&T capacities and technical expertise as an impetus for member countries of COMSATS. The Vice Minister suggested that scientists from COMSATS' member countries may be encouraged to visit Chinese research centres relevant to their interests and explore possibilities of collaboration under the patronage of COMSATS. Mr. Cao pledged to continue the financial and technical support to COMSATS and agreed to enhance China's role in COMSATS' activities through active participation in the meetings of its statutory bodies.

Visit to the International Centre for Climate and Environment Sciences (ICCES)

Dr. Qureshi visited ICCES on March 23, 2010, where he met its Director, Prof. Dr. Lin Zhaohui. The matters brought under discussion included: reinvigoration of the role of ICCES as member of COMSATS' Network of Centres of Excellence; research activity of COMSATS' thematic research group on "Climate Change and Environmental Protection"; technology sharing and joint research projects between ICCES and other members of COMSATS.

A Memorandum of Understanding (MoU) was signed on this occasion to undertake joint academic activities under a yearly action plan. The MoU provides for the training of upto three scientists from COMSATS' member countries at ICCES. As indicated by its officials, the Chinese Academy of Sciences would also render financial support

for training programmes. The Executive Director toured the research laboratories, weather stations and super computer facilities of ICCES to gather first-hand knowledge of its scientific capacity.

Visit to Guanghua School of Management Sciences (GSM), Peking University

The Executive Director, being the Chairman of the Board of Governors of COMSATS Institute of Information Technology (CIIT), visited Peking University. He had a meeting with the Director of the Office of International Cooperation of Guanghua School of Management to explore avenues of collaboration for the faculty- and student-exchange between the two institutes.



Visit to Chinese Academy of Sciences (CAS)

On 25th of March, the Executive Director visited the Chinese Academy of Sciences (CAS), where he met the Deputy Director Bureau of International Cooperation of CAS, Dr. Cao Jinghua and discussed matters related to the proposed cooperation between COMSATS and CAS. Dr. Qureshi sought the Academy's support in terms of funding for Ph.D students inducted at ICCES from COMSATS' member countries. In response, Dr. Cao promised to take up the matter with the Director of the Bureau and, moreover, assured Dr. Qureshi that COMSATS' Member States would be invited to participate in the Chinese Ecosystem Research Network (CERN) on request.

Visit to Zhongguancun Software Park (Z-Park)

On his visit to Zhongguancun Software Park (Z-Park), the Chairperson Z-Park, Ms. Zhou Fang, assured the Executive Director that Z-Park would provide COMSATS the necessary advisory consultations for establishing similar software parks in COMSATS' member countries on request. It was learnt that the Z-Park has high-quality office space in an environment-friendly setting, providing excellent utility services, broad-band internet connectivity, training centres, and conference halls, etc.



COMSATS' Participation in the International Training Workshop in China

Mr. Nisar Ahmad, Sr. Assistant Director (Systems) of COMSATS Secretariat attended the 'International Training Workshop on 'Information Technology and its Application', in Shanghai, China, from 10th to 30th June 2010. The Workshop was organized by the Ministry of Science and Technology of China as a part of its international cooperation with developing countries. Fifteen participants from seven countries, including Indonesia, Pakistan, Philippines, Singapore, Thailand and Vietnam attended the Workshop. Country reports were presented by the participants, one for each country.



Pakistan's country-report was jointly presented by Mr. Ahmad and Mr. Attiqu-ur-Rehman of COMSATS Institute of Information Technology (CIIT). It included an overview of the status of Information Technology (IT) in Pakistan with a brief introduction of COMSATS.

The training workshop comprised various lectures and training sessions conducted by subject experts, followed by question and answer sessions. The topics of lectures delivered included: 'City Informatization Development and Future';

'An introduction of Information Security System'; 'Introduction to Optical Fiber and Optical Fiber Cables'; 'Basis of Strategic IS Planning'; 'ERP in China'; and 'Easypano Software & City8 Street View System'.

In addition to these lectures and orientation sessions, visits to organizations/institutions, working for developing IT-related solutions were arranged. These included visits to Shanghai Super-Computer Centre (SSC), HANGTONG Group, as well as Shanghai Animation Valley.

The Workshop provided a good opportunity to share new ideas and technologies being developed and tested. These included: SMART Grid, GIS for water conservation, smart chair, anti-temper software, hardware-security, internal IT audit, E-court, mobile court, remote computers, UNITAR, Shanghai Open Student Lab (OSL), and Shanda Literature web-portal.



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A group of sixteen R&D institutions from various developing countries, predominantly COMSATS' Member States, is affiliated with COMSATS as its Network of International S&T Centres of Excellence. The Network Members serve as COMSATS' technical resource for South-South cooperation, while following their own agendas of scientific research and development.

ACTIVITIES OF CENTRES OF EXCELLENCE

COMSATS International Centres of Excellence are vibrant R&D organizations engaged in a wide spectrum of scientific activities according to their national priorities. While it would be difficult to encompass all programmes of all Centres in a short report, the following sections give glimpses of some major on-going activities. Section 'A' is based on the activity-reports received on request, from six Centres of Excellence, ICCBS- Pakistan, CIIT-Pakistan, CIF Colombia, RSS-Jordan, ICENS-Jamaica, and MRC-Turkey. Section 'B', on the other hand, is a compilation of news-entries either received for COMSATS Newsletter or extracted from the respective websites of these centres over the year 2010. These centres are Embrapa Agrobiologia-Brazil, NRC-Egypt, IRCC-Sudan, HIAST-Syria, and NMC-Nigeria.

A. REPORTS FROM CENTRES OF EXCELLENCE

International Center for Chemical and Biological Sciences (ICCBS), Pakistan

Research Activities

The faculty of ICCBS (H.E.J. Research Institute of Chemistry, and Dr. Panjwani Center for Molecular Medicine and Drug Research) has published 214 scientific papers in leading international journals during 2010. The cumulative Impact Factor of these publications is over 310.



Research on Production of Fuels by Co-Processing Municipal-Waste Plastics:

In this study, funded by the Higher Education Commission of Pakistan, researchers at HEJ Research Institute of Chemistry (HEJRIC) of ICCBS investigated thermal and catalytic co-processing of plastics, petroleum residues and coal (alone and blended together), using six different catalysts.

Research on the Use of Micro Algae for Producing Biodiesel:

Owing to its biodegradability, non-toxicity, low-emission profile and economic viability, Dr. Musharraf and his research group at ICCBS conducted research on the biodiesel production from microalga for two years. Seven micro algal species were purified from various fresh and marine water

resources. Among all the microalgal species that were investigated, *Scenedesmus quadricauda* is found to be the most oil-producing species so far and suitable for the production of biodiesel on large scale.



Capacity-Building and Skill-Development Activities

Forty-three (43) foreign scientists and students from Bangladesh, Cameroon, Egypt, Iran, Jordan, Malaysia, Myanmar, Nepal, Nigeria, Philippines, Sudan, Tanzania, UK and USA, have completed their trainings or are undergoing training at various institutes of ICCBS.

One hundred and ninety-seven (197) Pakistani scientists and students from different cities of Pakistan, Bahawalpur, Bannu, Faisalabad, Jamshoro, Karachi, Lahore, Multan and Peshawar, have completed their trainings at different institutes of ICCBS.

The following faculty members and/or students of the ICCBS have obtained trainings or are undergoing trainings abroad in the following fields:

Beneficiary	Duration and Type of Training	Host Country
Dr. Farzana Shaheen	1-year training in Organic Chemistry	USA
Dr. Muhammad Kamran Azeem	1-month training in Protein Crystallography	UK
Dr. Zaheer-ul-Haq Qasmi	1-month training in Computational Chemistry	UK
Engr. Sohail Ahmed	8-day Training in LC-SPE NMR and LC-NMR in Maintenance	Germany
Ms. Humera Waheed	9-month Training in Structural Biology	France
Mr. Faraz Moin	1-year Training in Proteomics	Austria
Mr. Tariq Moin	2-year Training in Computational Chemistry	Austria
Mr. Nizam-ud-Din	1-year Training in Phytochemistry	Austria

Despite the financial constraints and lack of development funding, the faculty development programme for the PCMD continued during 2010. A number of young scholars have completed their research trainings in various fields of molecular medicine and drug research, and joined the Center.

The Marketing Wing of ICCBS has initiated a major programme for skill-development of youth. The three-month training programmes are designed to cover the following structured courses: Pharmaceutical Quality Control, Clinical Diagnostic Skills, Food Analysis, Environmental Analysis, and Plant Tissue Culture.

ICCBS held Summer Internship Programme for Youth (June-July 2010) to support S&T capacity-building of young scholars of Pakistan. One hundred and fifty scholars joined various sections of the ICCBS and worked under the supervision of veteran scientists and experts in various fields.

Individual and Institutional Scientific Achievements

- University of Bradford, U.K. awarded Honorary Doctorate Degree to Prof. Dr. Atta-ur-Rahman FRS, Patron-in-Chief ICCBS
- Asian Institute of Technology (AIT), Thailand, awarded Honorary Doctorate Degree to Prof. Dr. Atta-ur-Rahman
- First Engro Excellence Award in Science given to Prof. Dr. Atta-ur-Rahman
- Jaber Bin Hyan Award conferred on Prof. Dr. M. Iqbal Choudhary, Director ICCBS
- COMSTECH Award in Chemistry given to Prof. Dr. M. Iqbal Choudhary
- The Islamic Development Bank (IDB) Prize for Science & Technology 2010 awarded to the H.E.J. Research Institute of Chemistry, ICCBS
- Tamgha-e-Imtiaz by the President of Pakistan conferred upon Prof. Dr. M. Shaiq Ali, Professor at ICCBS
- Pakistan Academy of Sciences Gold Medal given to Prof. Dr. Khalid M. Khan, Senior Scientist at ICCBS



Collaboration with the National and International Universities/Organizations

During the year, Memoranda of Understanding were signed with the following:

- University of Hamburg, Germany;
- Azerbaijan National Academy of Sciences, Institute of Botany, Azerbaijan;
- Commission on Science and Technology for Sustainable Development in the South (COMSATS), Pakistan;
- Herbion, Pakistan;
- Shahid Beheshti University of Medical Sciences, Phytochemistry Research Center, Tehran, Iran; and
- The Sultan Qaboos University, Oman.

International Conferences, Seminars, and Workshops

Different institutes of ICCBS have organized various national and international events during the reporting period. Over 130 foreign and 600 Pakistani researchers have participated in these events. These events not only contributed in developing

productive research linkages with the foreign institutions, but also brought recognition to the scientific work conducted at ICCBS and other Pakistani research institutions. These events were:

- 12th International Symposium on Natural Product Chemistry;
- 3rd International Symposium-cum-Training Course on Molecular Medicine and Drug Research;
- International Symposium on Nanomedicine: Past, Present, and Future;
- Workshop on Techniques in Nanomedicine Research;
- Workshop on Application of Modern Mass Spectrometry for Natural Product;
- International Brain Research School; and
- 1st Women World Neuroscience Conference.



Other Activities at ICCBS

Visits of Eminent Foreign Scholars: A number of eminent foreign scholars were invited to deliver series of lectures, supervise research of students, discuss and guide institutional development and to arrange training of young scholars abroad in key disciplines. Some of the scholars that visited ICCBS during 2010 are:

Visiting Scholar	From	Beneficiary Institution
Prof. Dr. David L. Smith	USA	HEJRIC-ICCBS
Prof. Dr. Louise N. Johnson	UK	PCMD-ICCBS
Prof. Dr. Daniel Hoessli	Switzerland	PCMD-ICCBS
Prof. Dr. Charles William Jefford	Switzerland	HEJRIC-ICCBS
Prof. Dr. Manfred Bose	Germany	HEJRIC-ICCBS
Prof. Dr. Mosihuzzaman	Bangladesh	HEJRIC-ICCBS
Prof. Seik Weng	Malaysia	HEJRIC-ICCBS
Dr. Sumaira Amir	USA	PCMD-ICCBS
Dr. Ather Osama	UK	HEJRIC-ICCBS
Prof. Dr. Sung Soo Kim	Korea	HEJRIC-ICCBS.

Activities of the ICCBS Academic Coordination Office: During 2010, the Academic Coordination Office of ICCBS continuously pursued and managed various academic activities, including M.S./Ph.D. courses, on-line courses/research-based lectures, GRE-type examinations, and events to improve teaching methodologies at ICCBS. The teaching methodology at the H.E.J. Research Institute of Chemistry is going through a major transformation to make it enquiry-based learning, as per the instructions of the Executive Board of ICCBS.

Support to Industry and Government Agencies: The Industrial Analytical Center (IAC) of H.E.J. Research Institute of Chemistry is now serving a number of Industries, R&D Institutions, Government Agencies and Environmental NGOs. During the reporting period (2010), over 350 industries and other clients were served. IAC also received laboratory-accreditation certification, ISO-17025, during 2010.

The Center is also actively participating in the ICCBS Skill Development Programme for youth. IAC is a self-supporting unit, which is not only contributing in generating a tremendous goodwill for ICCBS by serving the nation, but also regularly contributes to the endowment fund of H.E.J. Research Institute of Chemistry.

ICCBS' Project on Agro-Biotechnology in OIC Member Countries: OIC's Standing Committee on Scientific and Technological Cooperation (COMSTECH) approved the project of ICCBS, named "Promotion of Applications of Agriculture Biotechnology in OIC Member Countries by the Establishment of Biotechnology Information Centers". Under this project, five new Biotechnology Information Centers (BICs) will be established with some logistic support of the OIC member countries, including Iran, Turkey, Kazakhstan, Qatar and Uganda. The activity of training of staff will also be carried out under this project.

COMSATS Institute of Information Technology (CIIT), Pakistan



CIIT, at present, comprises 5 Faculties, 16 Departments and 5 Research Centres. Presently, 18,700 students are enrolled in 26 under-graduate and 27 graduate degree-programmes being offered by CIIT. CIIT has 1,745 highly qualified faculty members, of which 288 hold Ph.D. qualification and 426 are pursuing advanced education in some of the best universities around the world. Since its inception, CIIT has produced 12,248 graduates. In the year 2010, the 'Department of Humanities' was established under the faculty of Management Sciences at CIIT. The Higher Education Commission (HEC) of Pakistan ranked CIIT at 6th position in the year 2010, in terms of research output, among 128 institutions of higher learning in Pakistan.

CIIT's activities pertaining to its academic programmes, R&D projects, international/regional collaborations, and individual and institutional scientific achievements for the reporting period, are given below:

Dual-Degree Programme Lancaster University

Lancaster University of UK and COMSATS Institute of Information Technology (CIIT) of Pakistan reached an agreement for a dual-degree programme during a signing ceremony held in London, on February 18, 2010. The programme was meant to enable Pakistani students to earn a highly regarded international degree in addition to a degree from CIIT at a fraction of the cost of study in UK.



Publications

The following publications were brought out during the reporting period by the academicians/researchers belonging to different departments of CIIT:

- Book titled “Protein Structure Prediction and Molecular Dynamics Simulation: Structure Prediction of Wild-Type Human MTHFR, Comparison with Mutants and MD Simulation of the Final Model”, by Dr. Asifa Ahmed (Department of Biosciences);
- Book titled “Neutron Irradiation on Silicon: Irradiation Effect on Semiconductor”, by Dr. Tahir Nazir (Department of Physics);
- Book titled “Sustained Release Formulation Development by Microencapsulation”, by Dr. Ghulam Murtaza (Department of Pharmacy);
- Book titled “Time Series Econometrics: A Practical Approach to E View Screen Shots”, by Mr. Khalid Zaman (Department of Management Sciences);
- Book titled “Novel and Inexpensive Polymer Electrolyte Membranes for Fuel Cell”, by Dr. Syed Tauqir A. Sherazi (Department of Chemistry); and
- Monograph titled “Anoxic Sulfide Bio-oxidation using Nitrite as Electron Acceptor”, by Dr. Qaiser Mahmood (Department of Environmental Sciences).

MoUs Signed During 2010

In its continuing endeavour to attain and uphold its goals, such as expansion of research activities, collaboration with the industrial sector, and enhancement in the provision of internships, CIIT signed 5 Memoranda of Understanding with the following organizations:

- National Centre for Physics (NCP), Pakistan (June 4, 2010);
- Islamabad Chamber of Commerce and Industry (ICCI), Pakistan (June 26, 2010);
- Pakistan Telecommunication Authority (PTA), Pakistan (September 24, 2010);
- Universiti Teknologi PETRONAS (UTP), Malaysia (October 18, 2010); and
- Karlsruhe Institute of Technology (KIT), Germany (October 30, 2010).

Achievements

- Prof. Dr. Khalida Noor (Department of Mathematics) received President’s Award for



- Pride of Performance, in 2010.
- Prof. Dr. Raheel Qamar. (Department of Biosciences) was inducted as a Fellow of the Pakistan Academy of Sciences (PAS), in 2010.

Scholarships for COMSATS' Member Countries

During the 13th Meeting of COMSATS Coordinating Council, held on 12-13 May 2010, at Trieste, Italy, CIIT offered 100 graduate/postgraduate scholarships for students from COMSATS' member countries.

National/International Events Organized by CIIT

Launching of the Centennial Chapter of MobileMonday in Pakistan: On April 19, 2010, the centennial chapter of MobileMonday (MoMo) Global was launched and housed at the Centre for Advanced Studies and Telecommunication (CAST) of CIIT. The chapter aims to bring together the leading companies and personalities related to the Pakistani telecommunication business, enabling them to: join the global family of MoMo; exchange ideas; find resources; and, most importantly, to participate in the development of the mobile industry and mobile eco-system in Pakistan.



First Ceremony of 'COMSATS Institute Medals for Innovation' (CIMI): 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. Out of 44 nominations received, eight individual innovations qualified for the award. The winners were awarded Certificates of Merit along with gold medallions and cash prizes of upto Rs. 100,000.

Second South Asian International Conference: CIIT organized the 2nd South Asian International Conference – SAICON 2010 – under the auspices of South Asian Chapter of the Academy for Global Business Advancement, on July 21-23, 2010, in Bhurban, Pakistan. The theme of this international event was 'Nurturing Innovation, Entrepreneurship, Investments and Public-private Partnership in Global Environment'.

Second International Symposium on Biomedical Materials: In July 2010, CIIT in association with the Department of Orthopaedic Surgery and Traumatology of Mayo Hospital, King Edward Medical University (KEMU), Lahore, organized the 2nd International Symposium on "Biomedical Materials". The papers presented on this occasion consisted of a wide variety of subjects, such as nanotechnology – advanced materials interface; bi-metal clad wave guided bio-sensors; novel classes of anti-viral and anti-cancer agents; biosensors based on microbes; stem-cell technology; porous bio-ceramics; novel biomaterials; and glass ionomer dental nano-composites.

Eighth Conference on Frontiers of Information Technology: CIIT-Abbottabad organized the 8th Conference on Frontiers of Information Technology (FIT-2010) in Islamabad, on December 21-23, 2010. The event was organized in collaboration with IEEE's Technical Committee on Scalable Computing (TCSC), Association for Computer Machinery (ACM), the Higher Education Commission (HEC) of Pakistan, Inter-Islamic Network on Information Technology (INIT) and National Testing Service (NTS).

Funds Received for R&D Activities

CIIT won funds for its R&D activities under the following programmes:

- HEC Travel Grants to University Teachers & PhD Students (Donor Agency: HEC, Funds received worth Rs.13.502 million);
- National Research Programme for Universities (Donor Agency: HEC, Funds received worth: Rs.32.431 million);
- University Industry Technology Support Programme (Donor Agency: HEC, Funds received worth: Rs. 2.535 million);
- International Foundation for Sciences (Donor Agency: IFS, Funds received worth Rs. 0.977 million);
- Pak-US Joint Academic & Research Programme (Donor Agency: HEC, Funds received worth Rs. 6.546);
- Norwegian Research Council (Donor Agency: NRC, Funds received worth Rs. 75 million);
- Grants for Organizing Seminars, Conferences, Symposia, Workshops, etc. (Donor Agency: HEC, Funds received worth: Rs. 5.299 million);
- Visiting Scholar Programme (Donor Agency: HEC, Funds received worth Rs. 1.485 million);
- Interim Placement of Ph.D Scholars returning from Abroad (Donor Agency: HEC, Funds received worth Rs. 4.320 million (Salary) & Rs. 0.990 million (against 02 startup Research Grants));
- Provision of Grants to Public Sector Universities and Degree Awarding Institutions for Maintenance of Scientific Equipment (Donor Agency: HEC, Funds received worth Rs. 1.659 million);
- Foreign Faculty Hiring Programme (Donor Agency: HEC, Funds received worth Rs.2.300 million);
- Pakistan Programme for Collaborative Research (Donor Agency: HEC, Funds received worth Rs. 1.423 million);
- Post Doctorial Fellowship Programme (Donor Agency: HEC, Funds received worth Rs.3.152 million);
- Sabbatical Duty Leave Fellowship Programme (Donor Agency: HEC, Funds received worth Rs.0.377 million);
- Short Term Foreign Faculty Hiring Programme (Donor Agency: HEC, Funds received worth Rs.1.840 million);
- In-country Short-Term Teacher Exchange Programme (Donor Agency: HEC,



- Funds received worth Rs.0.136 million);
International Strategic Partnership in Research & Education under British Council (Donor Agency: “INSPIRE” British Council, Funds received worth Rs.4.959 million).

International Centre of Physics (CIF), Colombia



CIF celebrated its 25th foundation anniversary on December 4, 2010. The Director CIF, Dr. Eduardo Posada Flórez, and researchers and scientists of CIF expressed pleasure in 25 years full of experiences and achievements, contributing to advancement of science in Colombia. The Department-wise activities of CIF for the 2010 are reported as follows:

Biophysics and Biology of Membranes Research Group

- During 2010, the Biophysics and Biology of Membranes Research Group published two research articles in the Journals ‘Acta Biológica Colombiana’ and ‘Experimental Parasitology’. The articles were about interactions of intracellular parasites (Leishmania-macrophage) with their host cells and the changes in the cells’ membrane-properties.
- The Group participated in the ASCB 50th Annual Meeting poster notification - Control ID: 935102, XXIX Chemical Latin-American Congress; XVI Colombian Chemical Congress; and VI Colombian Chromatography Congress.
- The group produced one Ph.D. and supervised two Magister theses supporting the Chemical Department Programmes of the National University of Colombia.
- The Group also supervised five Bachelor theses in Biology of the National University of Colombia and the Quindío University.
- Colciencias (Colombian Administrative Department of Science, Technology and Innovation) granted funding for two new projects submitted by the Group, while the National University of Colombia funded another project of the Group.
- In collaboration with the Colombian Microscopy Association (ASCM) and the Microscopy Unit of the University of Cauca, Colombia, the Group organized a Workshop on Microscopy Fundamentals and Applications, in Bogotá (Colombia), from August 11 to 14, 2010. The focus of the workshop was at the versatility of microscopy as a tool for basic research and having applications in a number of industries.

Biophysics and Cellular Physiology Group

The Biophysics and Cellular Physiology Group supervised three Biology theses and a Physiology Magister thesis related to melanopsin mediated photoreception and signal mechanisms, studied in chicken (Gallus gallus) embryo retina.

Biotechnology Group

- During 2010, the Biotechnology Group concluded two applied research projects:

- 'Agro-Ecological Productive Reforestation Model' (APRM) was concluded and presented at the ISTIC-TWAS Workshop on 'Innovations in Science and Technology in Developing Countries' held in September at the Universiti Sains Malaysia, Penang, Malaysia.
- 'H₂S Biofilter Model' was developed for Bogotá Energy Company (EMGESA) with high gas-removal efficiencies and promising results.



- The Group, independently, and in cooperation with Applied Physics and Technological Development Group, wrote many project proposals that were submitted to governmental and private companies for funding. Both the groups publicized, promoted and commercialized their goods, services, programmes and projects on 'International Environmental Fair' in Bogotá, Colombia, held in June 2010.

Applied Physics and Technological Development Group

- The Applied Physics and Technological Development Group provided internships to students for computer-based Mathematical modeling of hybrid, mechanical, electrical systems.
- The Group continued the development of the device 'field-programmable gate array' (FPGA) PowerScan version 4 for measuring the quality of power.
- The Group also worked on the 'automatic meter reading' (AMR). This technology was developed to obtain consumer information from the electronic meters (electricity, water, gas, etc), and to transfer the information to a database being maintained at a distant location.
- As mentioned previously, the group made joint efforts with the Biotechnology Group to prepare many applied research proposals.

Agreements

The CIF has established means for collaboration by establishing five cooperative agreements with the following national and international organizations/institutions:

- Caparrapí Mayoralty;
- Colombian Air Force;
- Antonio Nariño University;
- Pamplona University; and
- Nueva Granada Military University.

Royal Scientific Society (RSS), Jordan



The year 2010 marked the 40th anniversary of the establishment of the Royal Scientific Society. HRH Prince Hassan, Chairman of the Board of Trustees of the Royal Scientific Society (RSS), expressed his confidence that young Jordanians are aware of their responsibilities towards the community and the country.



A national campaign to raise public awareness on local, regional and global issues that affect the Kingdom's future, was launched on May 10, 2010, under the patronage of His Majesty King Abdullah II. The campaign was held in conjunction with the 15th Jordan Science Week.

Following are some of the important undertakings of RSS during 2010:

'The Gathering of Nations through Culture and Science': Barcelona-based Real Academia de Ciencias

Económicas y Financieras (RACEF) and RSS co-hosted a meeting titled 'The Gathering of Nations through Culture and Science'. Held under the patronage of their Majesties, King Abdullah-II ibn Al Hussein and King D. Juan Carlos-I, the event was organized in Amman, on November 8, 2010.

Workshop on 'Science and Technology Journalism': RSS, in collaboration with the U.S. Embassy's Regional Environmental and Press Offices, organized a two-day training workshop on 'Science and Technology Journalism' at El-Hassan Science City, Amman. The goal of the workshop was to promote better journalistic coverage of science and technology.

NGMAST 2010: RSS, in collaboration with the Integrated Communications Research Centre of the University of Glamorgan, UK, organized the Fourth International Conference on Next Generation Mobile Applications, Services and Technologies (NGMAST 2010) on July 26-29, 2010. The event was hosted by the Princess Sumaya University for Technology (PSUT).

Conference on 'Talent Development in Science and Mathematics within the BMENA Region': A three-day conference on 'Talent Development in Science and Mathematics within the BMENA Region' was hosted by



RSS, from September 27 - 29, 2010.

ESCWA'S New Regional Technology Centre to be Located at RSS: The new regional Technology Centre of the United Nations' Economic and Social Commission for Western Asia (ESCWA) would be based at the Royal Scientific Society (RSS), Jordan. An agreement to this effect was signed on 26th December 2010.

Clean Technology Initiatives: Funding of three major clean technology initiatives by USAID Jordan was announced in 2010 during a ceremony at RSS in Amman. Under the announced plan, USAID will provide El Hassan Science City & RSS with full funding for the projects that will form the basis for an international research and development centre, an Incubator, and a Capital Network. This new cluster will provide researchers, investors and entrepreneurs with a forum to help bring clean technology innovations to market.

Research Activities

A couple of research activities of RSS undertaken during 2010 are as follows:

Using the Electrochemical Reaction Engineering, Biotechnology and Solar Cells Technology to Produce Hydrogen and Desalinate Sea Water: This multiphase and multidisciplinary project is based on utilizing the electrochemical techniques by adding D.C. current produced from solar cells to the electrolyzer, in order to electrolyze sea-water to produce hydrogen gas as the first path of production. The second path of production is based on using biotechnology, which involves the use of green algae to generate Hydrogen gas from sunlight and sea-water. An electrolyzer connected to a flow system and solar panels, in addition to the biological system, were fabricated to fulfill the research requirements. Three genera of green algae have been identified in the samples obtained from Gulf of Aqaba. The predominant observed genera belong to: Chaetomorpha, Oscillatoria and Anabaena. The three types of identified genera are known for their capability to produce hydrogen. The research group is now working on the second phase of the project (Purification of hydrogen gas using metallic membranes and utilization of hydrogen gas using PEM fuel cells to produce energy and water).

Designing and Manufacturing of a Technological Product-line for Washing, Drying and Separating Silica Sand: The research project was implemented with the support of the Higher Council for Science and Technology (HCST)-Jordan. It aims to reduce energy-consumption of mineral processing technologies and improve productivity and quality by defining an innovative engineering design procedure of a



material drying plant, which include: the size (length, width, height) of the operating member; amplitude and its vibration frequency; efficient parameters of material and air movement; necessary drying time; and quantity and condition of material subjected for drying. The first patent "Vibrating Drying Machine", Patent N. (406/2009), has also been registered as a result of this activity.

International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica



Activities at ICENS during 2010 have been focused on: food analysis; small ruminant mineral nutrition; mercury in fish; and human tissues.

Food Analysis: The work of ICENS focuses on the elemental composition and transfers into the soil as a result of human food-chain. Work on the geochemistry of soils at ICENS is being refined by the use of higher sampling densities to reflect the variety of elements found on the island. A key part of this is the analysis of soil/food samples to understand elemental uptakes of the same by agricultural crops and to seek potential hyper accumulators for soil remediation or phytomining.

In addition to its fundamental value, the food analysis at ICENS serves two purposes: (i) the preparation of food composition tables to support nutrition and diet examinations and regulations for elemental contents; and (ii) to better understand the effects of elemental interactions on public health.

Elemental analyses of numerous food samples, especially callaloo, sweet potato, coco and ackee, are being conducted at the Centre. The elements being measured presently in these food-items are: calcium, potassium, magnesium, sodium, phosphorus, aluminium, boron, cadmium, cobalt, chromium, copper, iron, manganese, molybdenum, nickel, lead, strontium, and zinc. The data produced as a result of these is expected to contribute to the Food Composition Table that ICENS is developing to provide information for dieticians and nutritionists, to help them deal with risk analysis of heavy-metal ingestion, the effects of interactions between elements and for quality assurance.

Small Ruminant Mineral Nutrition: The Jamaican goat and sheep industry provides a big investment opportunity for farmers, as very little of the market demand is met through local production. Goat and sheep production in Jamaica depends largely on pasture grasses, legume forages and organic by-products, such as citrus pulp, brewer's grain, poultry manure and molasses as the major sources of feed. There is a surprising variability of the animals' growth response and fecundity, which may have been caused by mineral deficiencies.

During the later half of the year 2010, the trace-element content of pasture soils and forage grasses were examined using instrumental neutron-activation analysis and total reflection X-ray fluorescence (TXRF) spectrometry. Blood samples from small ruminants are expected in the near future. The analytical technique being developed for this is TXRF spectrometry.

Mercury in Fish: Mercury toxicity is presently of great global interest and is well-known in the bauxite industry. As revealed by the ICENS' soil maps, significant quantities of mercury occur in soils in some areas of Jamaica. The levels in food of this

element have therefore become one of the ICENS' research areas. Although human exposure to mercury may occur via a number of pathways, the most significant is by ingestion—usually of seafood. The potential for methyl mercury to accumulate in tuna and marlin is well-known. A preliminary survey conducted in early 2010 by ICENS has established that the mercury levels in the local saltwater fish have risen in various species and sizes of fish. This demanded extensive market survey of saltwater fish, which is currently being undertaken by ICENS.

Human Tissues: The high concentration of cadmium in some soils and in many food-items seems to be at odds with the world view of cadmium as one of the worst environmental toxins. This, and the acquisition of an extremely sensitive X-ray fluorescence spectrometer, inspired the development of a programme to eventually compare the levels of a variety of trace-elements in human tissues, both for fundamental background information and to allow comparisons between sick and healthy persons. A pilot-study done on 100 blood samples confirms the potential value of the programme and suitability of the chosen analytical method, and also indicates possible zinc-deficiency in the population.

Publications

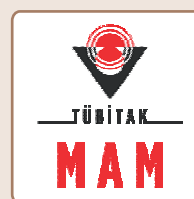
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- Paul R.D. Wright, Robin Rattray, Gerald Lalor and Richard Hanson (2010). Minimal health impact from exposure to diet-sourced cadmium on a population in central Jamaica. Environmental Geochemistry and Health Vol. 32, 567-581.
- Grant C., Lalor G., Fletcher H., Potter T., Vutchkov M. and Reid M. (2010). Elements in Human Placentae in Jamaica. West Indian Medical Journal (in press).

TÜBİTAK Marmara Research Centre (MRC), Turkey

Genetic Engineering and Biotechnology Institute

The activities of the Institute remained focused on the following:

- Development of Diagnostic Kits for Hepatitis B Infection by Using Serological and Molecular Techniques;
- Identification of Molecular Markers Linked with Yellow Rust Resistance Genes in Winter Bread Wheat (*Triticum aestivum* L.);
- In vitro Conservation and Preliminary Molecular Identification of Some Turkish Native Domestic Animal Genetic Resources-1 (TURKHAYGEN-1);
- Production of Industrial Enzymes for Feed Industry (YEM-EN).



Chemistry Institute

The group-wise activity of this Institute is as follows:

Electrochemistry Technologies Project Group: Production of Metallic Sodium: A project is being undertaken to develop a metallic sodium production process and



gather the required information for building a pilot plant for its industrial production.

Application of Production of Sodium Hydroxide and Boric Acid by Electrolysis: In this project, laboratory studies were carried out for production of sodium hydroxide and low sulphate boric acid from borax pentahydrate by membrane electrolysis method and feasibility of the process was revised.

Polymer Technologies Project Group: Proton Exchange Membranes for Low-Temperature Fuel Cell (PEMFC) Applications: These studies being undertaken are on the development of polymer electrolyte membranes for PEM fuel cells using national resources. The membranes developed are tested for their appropriateness to be used as a commercial choice.

Food Institute

During 2010, the Food Institute of TÜBİTAK MRC organised UNISWORK IX - International Study Tour and Visit Programme on Food Safety, under the UNIDO International Study Tour and Workshop programmes (UNISWORK programmes). The programmes started in 2002 at TÜBİTAK MRC Food Institute in Gebze and have been conducted nine times so far. The programmes aim to combine the provision of information on the latest developments in selected areas of food technology, food safety and quality, and the exchange of various experiences from different regions. This enhances cooperation among various countries in the field of food technology and food safety necessary for the development and upgrading of agro-food processing in participating countries. Beneficiary countries belong to Africa, Asia, Middle East and Balkan Peninsula.

Other Activities of TÜBİTAK MRC

EU-MEDA Project – ZER0-M: TÜBİTAK MRC implemented its EU-MEDA project, Zer0-M. The project was aimed at employing the concepts and technologies to achieve optimized close-loop usage of all water-flows in small municipalities or settlements (e.g. tourism facilities) that are not connected to central wastewater treatment. Zer0-M includes: sanitation systems with low water-consumption; separation of grey, black and yellow water; biological treatment of segregated wastewater; and reuse for non drinking purposes (e.g. irrigation, toilet flush).



TÜBİTAK MRC to Address National Biodiversity Concerns: Under the National Biological Diversity Strategy and Action Plan of the Turkish Government, all the large mammal species of Turkey are being genotyped by three different DNA markers for the first time. In addition, DNA- and cell-banks will be established for these species. MRC has been entrusted to play an important part in the execution of this plan. The field studies for photo-trapping and collar-fitting will be conducted by the Ministry of Environment and Forestry, General Directorate of Nature Protection and Natural Parks, while the laboratory analyses will be conducted by Genetic Engineering and Biotechnology Institute of the TÜBİTAK MRC and Selçuk University.

B. ACTIVITIES OF CENTRES OF EXCELLENCE (FROM COMSATS NEWSLETTER)

Embrapa Agrobiologia, Brazil



Embrapa Agrobiologia Marked its 27th Anniversary:

Planting of ten royal palm trees marked the celebrations of 27 years of Embrapa Agrobiologia, 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 ceremony took place on May 11, 2010.

Research on Sustainable Organic Farming Systems: A research network was constituted to work for technological development of sustainable organic systems of farming. This network was established to implement the project "Scientific and Technological Basis for Development of Brazilian Organic Agriculture". The network, led by Embrapa Agrobiologia, comprises 26 other Embrapa centres with 360 researchers, as well as 25 partner institutions, including various NGOs, universities and extension service providers. The project aims to obtain products and processes for organic agriculture, such as suitable genotypes of animals and plants and techniques for soil-conservation and ecological management of pests.



Research on Mycorrhizal Fungi and Nitrogen-Fixing Bacteria: A study was undertaken by a researcher of Embrapa Agrobiologia, Katia Teixeira, for assessing the role of bio-diversity of bacterial communities and mycorrhizal fungi as promoters of growth in plants, such as strawberries. In order to reduce the use of agrochemicals in the cultivation of strawberries, the Embrapa Agrobiologia team, with support of the Foundation for Research Support of Rio de Janeiro (FAPERJ), conducted an initial survey of microorganisms that live attached to strawberry crops in the highlands of Rio de Janeiro that includes analysis of samples of nitrogen-fixing bacteria and mycorrhizal fungi found in the strawberry fields of two private estates in Nova Friburgo.

National Research Centre (NRC), Egypt

Natural Insecticide from Citrus Peel: A research team at NRC headed by Dr. Sameh Abd El Kader, a professor of Pesticide Science and Environmental Toxins at NRC, succeeded in producing organic materials resistant to household insects from citrus peel.



Research on the Impact of Diabetes on Human Fetus: A research study conducted at NRC, 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 Grelin hormone, which is linked to a child's vital growth.

Research on Organic Agriculture: Dr. Omaila El Sawan from the Agriculture and Biology Research Division of NRC confirmed that organic agriculture can contribute to reducing the production of carbon dioxide and water consumption by 20 percent. The experts in the field of agriculture at NRC recommend that organic farming using organic fertilizers generated from agricultural residues should be expanded.

Research on Autism: A study was carried out at NRC, which indicates a high percentage of cases in Egypt that exhibits the first symptoms of Autism within the two years after birth. Dr. Nagwa Abd El Megeed, Professor of Human Genetics and Dr. Gloria Sidhom, Professor of Clinical Pathology, showed that the lack of vitamin D leads to abnormal brain growth in addition to weakness of learning and memory, as well as hormone secretion.

Industrial Research and Consultancy Centre (IRCC), Sudan



The Regional Focal Point of SS-GATE of UNDP: IRCC of Sudan signed an MoU with the South-South Global Assets & Technology Exchange (SS-GATE) to be its national workstation and the sole focal point in Sudan. A delegation of SS-GATE visited Sudan from January 11-15, 2010, for the finalization of the work arrangements.

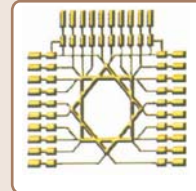
National Industry Conference: On February 17, 2010, the Sudanese Chamber of Industries Association and IRCC organized the 'National Industry Conference', under the auspices of President of Sudan, H.E. Omar Hassan Al-Bashir. The Conference aimed at reaching certain policy recommendations and measures necessary for the development of local industry and to encourage investment in Sudan. The Conference was attended by a number of stakeholders, industrialists, executives, scientists and other individuals from the private sector.

Workshop on 'Optimum Industrial Utilization of Sorghum in Sudan': IRCC and Sayga Food Industries organized a regional workshop on 'Optimum Industrial Utilization of Sorghum in Sudan', on April 18 and 19, 2010. The event covered various topics, such as sorghum breeding, biotechnology application on sorghum products, sorghum milling techniques, sorghum composite flour products, starch and glucose industry, food and non-food uses, and economy related measures for sorghum and sorghum products.



Participation in the Arab Conference on ‘Developmental and Economic Impact of Nanotechnology’: Director General of IRCC, Dr. Ahmed Obeid Hassan, participated in the Arab Conference on ‘Developmental and Economic Impact of Nanotechnology’, held at King Fahd University of Petroleum & Minerals in Dhahran-Saudi Arabia, from March 27-29, 2010. The purpose of the conference was to study the possible actions to be taken by Arab Countries to join the international nanotechnology revolution.

Higher Institute for Applied Science and Technology (HIAST), Syria



Workshop on ‘Enhancement of Digital Arab Content’: HIAST, in collaboration with the Syrian Ministry of Higher Education, the Arab League Educational Cultural and Scientific Organization (ALECSO), and King Abdulaziz City for Science and Technology (KACST), organized a workshop on "Enhancement of Digital Arab Content" (October 16-19, 2010). Held under the patronage of the Vice President of the Syrian Arab Republic, Dr. Najah Alattar, who had been represented by the Minister of Higher Education, Dr. Ghias Barakat, the workshop was organized at HIAST. The Syrian Minister of Communication and Technology, Dr. Imad Sabouni, was also present on the occasion.

National Mathematical Centre (NMC), Nigeria



Workshop on ‘Capacity Building for the Lecturers of Mathematical Sciences in Tertiary Institutions’: NMC organized a workshop on ‘Capacity Building for the Lecturers of Mathematical Sciences in Tertiary Institutions’, from 21st to 26th June 2010. 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.



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REPORTS OF SPECIAL ASSIGNMENTS

- COMSATS Internet Services 82
- COMSATS Tele-health Programme 86
- Update on Islamic World Science Net (IWSN) 88

For the benefit of its member countries, COMSATS undertakes special assignments from time-to-time, such as conducting scientific studies, undertaking pilot projects or implementing educational programmes. Two of the projects of COMSATS have been successfully transformed into full-fledged institutions, i.e., COMSATS Institute of Information Technology and COMSATS Internet Services.

REPORTS OF SPECIAL ASSIGNMENTS

COMSATS Internet Services

COMSATS Internet Services (CIS) is the pioneer ISP (Internet Services Provider) of Pakistan, which was established by COMSATS in 1996. As a result of 15 years of dedication, hard work, and service to its clientele in Pakistan, predominantly corporate customers, CIS is respected and recognized as a quality ISP in the country. At present, CIS is operating in Islamabad, Rawalpindi, Peshawar, Lahore, Karachi, Faisalabad, and Sialkot.



As of June 2010, CIS employed a staff of 159 people countrywide. This team consists of system-administrators; network and communication engineers; software experts; web developers; accountants; and marketing, sales and customer support executives. Its clients include both public and private organizations ranging from governmental departments and private companies to foreign missions and educational institutions. CIS also has a large base of individual customers availing its dialup and DSL connections, and domain and hosting services.

Services

- In terms of bandwidth capacity, CIS bandwidth grew from 150 mbps in 2008-2009 to 190 mbps at the end of 2009-10, a growth of 25%. CIS is one of the few organizations in Pakistan to have a profit-sharing scheme for its employees. 7.5% of profit and 0.25% of loss is shared with the employees.
- CIS also focused on launching new services, including wireless point-to-point

links and web development. As of June 2010, CIS provided more than hundred wireless links and had developed thirty websites/web-portals for its customers.

- CIS also launched computer maintenance services. It serves its customers for system configurations, virus removal and other software related issues at its customer support centres.
- In 2010, CIS switched to PTCL as its main bandwidth provider. At the end of 2010, CIS had availed bandwidth of more than 200 Mbps collectively for its operations in different cities of Pakistan. Islamabad node alone consumes almost half of this bandwidth for serving its customers.
- CIS provides many services to its clients including Wi-Fi DSL, wireless point-to-point links, on-demand broadband, domain and hosting, video conferencing, web-based development, and technical training, making it one of the most diversified ISPs in the country.
- CIS has developed six brands to be launched in January 2011, carrying the theme – The Colors of CIS. These brands are: Freedom, Tornado, Hawaii, Hurricane, Comtrain, and Viacon.

i. Freedom is a Wi-Fi DSL service that was launched in 2010 and is presently being offered in Islamabad, Peshawar, Lahore, Sialkot, and Faisalabad.



ii. Hawaii is a high-quality, affordable, and reliable domain registration and web hosting service, offering shared hosting, collocation, as well as dedicated hosting. Hosting packages being offered range from 50 MB to 20 GB in order to offer flexibility to its customers.



iii. Hurricane is the first on-demand broadband service in Pakistan that entails flexibility to pay on a per-event basis, and is ideal for seminars, conferences, exhibitions, trainings, weddings, and other short events. Hurricane is available in all cities where CIS has operations.



iv. Tornado is a long-range wireless broadband service, which provides coverage as far as 50 Kms away and offers throughput as high as 100 Mbps. Tornado offers point-to-point and point-to-multi point wireless links using reliable wireless equipment from UBNT, USA. Tornado is an ideal service for corporate and Governmental organizations, and is available in Islamabad, Rawalpindi, Peshawar, Lahore, Karachi, Faisalabad, and Sialkot.



v. Viacon is a video-conferencing service of CIS, which is being provided at its Headquarters in Islamabad. This



facility is making use of a video-conferencing studio and employs Polycom VSX7000 equipment. At present, video-conferencing service is available in Islamabad only, while efforts are underway to replicate the same in other cities of Pakistan.

- vi. **Comtrain (Training Centre for IT Professionals):** CIS has trained more than 2,000 networking professionals since its inception in 1996. CIS was a training partner of CISCO in late 90s wherein it conducted many training courses for students and professionals at its Headquarters in Islamabad. These courses included CCNA, CCNP, Linux, Java, and MCSE. Keeping in view the need and demand of students and professionals, CIS will be re-launching these training courses in 2011, to be delivered at its Headquarters in Islamabad. These training courses will be of short term (weekly or bi-weekly), with flexible timings, and will be provided by competent professionals having adequate hands-on experience.



Government of Pakistan's Assistance to CIS

First Meeting of the Inter-ministerial Committee on CIS: On 15th February 2010, the then Federal Minister for Science and Technology, Government of Pakistan, Mr. M. Azam Khan Swati, chaired the meeting of the Inter-ministerial Committee on COMSATS Internet Services (CIS) at COMSATS Secretariat. The Committee met for the first time to review the services and performance of CIS; deliberate on its future plans and activities; as well as to discuss the ways and means to overcome the strategic and operational difficulties faced by it. Besides some senior government officials from the Ministries of Science & Technology and Information Technology & Telecom, the meeting was attended by the Advisor to the Prime Minister on Information Technology; Federal Secretary, MoST; Federal Secretary, MoIT&T; Executive Director COMSATS; and Director General CIS.



Funding for CIS' Wi-fi based Broadband Services: CIS received partial funding from the Government of Pakistan for expansion of its Wi-fi based broadband services. CIS has now established about fifty wireless links, while more are being provided every month.

Funding for COMSATS' Tele-health Project: CIS had submitted a proposal to the Government of Pakistan for funding of its project of establishing tele-health clinics in the remote areas of the country. The project has been approved by the Government of Pakistan but the release of funds is still awaited.

Funding for CIS' Building: CIS has received partial funding from the Government of

Pakistan for the construction of a new building of CIS.

Hiring of Chief Operating Officer

Mr. Asim Shahryar Husain joined CIS as its Chief Operating Officer (COO) in May 2010 and was later promoted to the position of Chief Executive Officer and took charge of CIS on the retirement of Mr. Parvez Ahmad Butt as the Director General CIS. Mr. Husain holds Bachelors in Engineering from Stanford University, California-USA and MBA degree in Marketing from Duke University, North Carolina-USA. He has 17 years of technical and marketing experience with firms such as Siemens, Oracle, IBM, Transworld, and Wi-tribe.



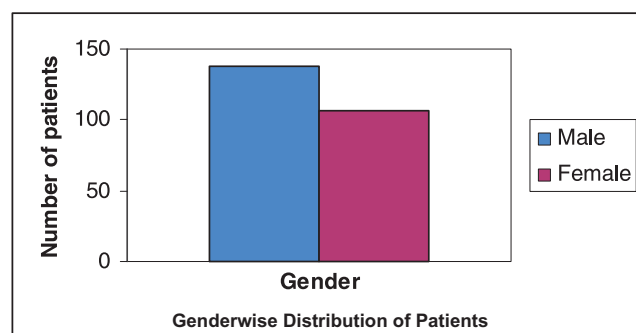
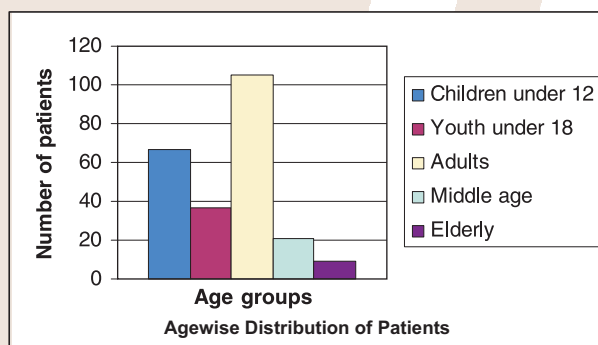
COMSATS Tele-health Programme

Besides providing specialist tele-health consultations for patients in Skardu, COMSATS held a number of other activities during 2010 under the umbrella of its Tele-Health Programme.

Tele-health Consultations

The live tele-health consultation service for the marginalized communities of Skardu was resumed in March 2010, after a temporary halt due to inevitable technical issues. Around 250 tele-health consultations were carried out during the year in the field of Dermatology, bringing the total number of people benefited from this activity to around 4,000.

With an aim to ensure the regular and high quality tele-health services, COMSATS also signed a Memorandum of Understanding (MoU) with the Jabir Bin Hyan Trust, the patron organization of Abdullah Hospital, located in Skardu City, where the Tele-health Centre of COMSATS is established.



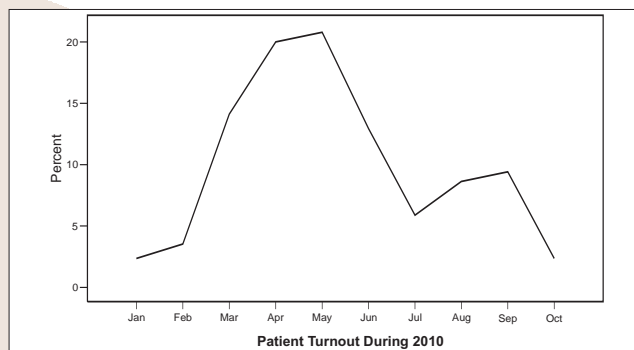
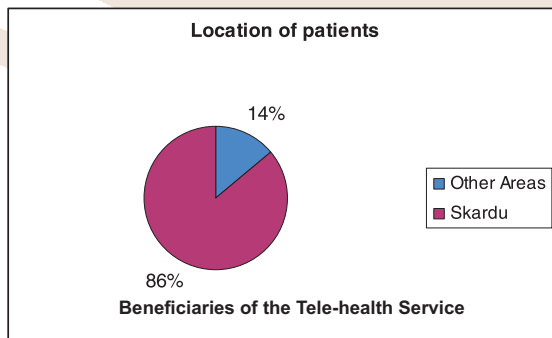
The patient-data collected during the year 2010 indicates that a large number of women and children had consultations with medical specialists through COMSATS' Tele-health services. A number of patients from the adjoining areas of Skardu like Shigar, Khaplu and Kharmang valley, also availed this service.

Collaborations and other Activities

During 2010, COMSATS continued to play an active role in the activities of eHealth Association of Pakistan (eHAP). COMSATS Secretariat hosted two regular Board Meetings of the Association, of which an official of COMSATS Secretariat, Dr. Azeema Fareed, Sr. Medical Officer, is a permanent Board Member.

COMSATS' efforts in the field of tele-health included exploration of possible collaborations with the foreign and local NGOs like Sweden-based AAPKI Foundation; Baltistan Health and Education Foundation; and Human Development Foundation. The efforts were especially focused on the expansion of tele-health services in the areas of Pakistan that were affected by the July-2010 floods.

Moreover, the technical maintenance for improvement of the web-based 'patient information management system' continued during 2010. Four modules of the



software have been planned to be developed. Out of these, two have been developed while the third module is currently in the development phase.



Update on Islamic World Science Net (IWSN)

The web-portal 'Islamic World Science Net (IWSN)' is a joint project of COMSATS and ISESCO, developed and launched by COMSATS in 2007, to enhance networking and cooperation among S&T researchers and scientific community in Islamic Countries. Since its launching, COMSATS' dedicated team is constantly updating and maintaining the web-portal to serve the need of networking of ever-increasing number of scientists from OIC member countries, in particular.

The web-portal is a useful source of information for the scientific community of the world, which contains S&T profiles of fifty seven (57) OIC member countries, as well as information of 674 R&D institutes, and profiles of 771 universities and 19 academies of sciences in these countries. The S&T profiles comprise fifty eight (58) scientific indicators under nine main categories, i.e. general, scientific, economic, educational, agricultural, industrial, environmental, telecommunication and healthcare indicators. Moreover, the web-portal is also hosting a databank of CVs of scientists, and a number of publications including research references, science journals and research papers.

At present, IWSN has one thousand and eleven (1011) registered members in its thirteen (13) 'Virtual Scientific Thematic Groups'. The break-up of the membership of the thematic groups of IWSN is as follows:

Virtual Scientific Thematic Groups	Members
New and Renewable Energy	198
Science and Research Policy	76
Bio-sciences / Biotechnology and Genetic Engineer	147
Bioethics	30
Environment	183
Mathematics	35
Water Management	47
Nano-Technology	54
Science Park Managers	25
ICTs in Science and Technology	44
Universities	71
Science Academies	63
Science Women	38

Changes were made/incorporated by COMSATS' technical team on the web-portal as per the requisitions made by ISESCO in accordance with the cooperative agreement reached by the collaborating partners on June 24, 2010.

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PUBLICATIONS AND INFORMATION DISSEMINATION

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- Bi-annual Journal, Science Vision 91
- COMSATS' Series of Publications on Science and Technology 92
- COMSATS' Website 92
- Other Information Material 93

The information dissemination and outreach is done by COMSATS through four tools: bi-monthly Newsletter, bi-annual Science Vision, COMSATS' Series of S&T Publications and COMSATS' official website, apart from other promotional material.

PUBLICATIONS AND INFORMATION DISSEMINATION

COMSATS Newsletter

Efforts on the part of COMSATS Secretariat are made to create awareness about its programmes, through the publication and circulation of its bi-monthly Newsletter. Six issues of COMSATS Newsletter were brought out during 2010.

As per the prescribed format of the Newsletter, the activities of COMSATS with regard to its Secretariat and Network of S&T Centres of Excellence were adequately reported on bi-monthly basis. Copies of the Newsletter were circulated amongst its employees, members of Network of S&T Centres of Excellence, COMSATS' partner organizations, relevant government departments as well as donor and development organizations across the globe.

One of the major objectives envisaged for the Newsletter since its launching has been to highlight the scientific and technological capacity of the Network members, with a view to promote and facilitate their scientific cooperation with various R&D institutions

for science-led development. The same was rendered through two dedicated sections: "Activities/ News of COMSATS' Centres of Excellence" and "Profile of COMSATS' International Centre of Excellence". The on-going R&D and capacity-building activities were covered in the former, while the latter was devoted to covering the technical and scientific strengths of a selected Centre of Excellence. Information was sought from the respective centres



to befittingly encompass their research undertakings and other developmental activities.

These profiles concisely reflected the various aspects of scientific activities and programmes; technical facilities and capacities; and the international collaboration of COMSATS' Network members. The six profiles of the Network members included in the 2nd Volume of the Newsletter were of: Higher Institute for Applied Sciences and Technology (HIAST), Syria; International Centre for Climate & Environment Sciences (ICCES), China; Centro Internacional de Física (CIF), Colombia; Embrapa Agrobiologia, Brazil; Tanzania Industrial Research and Development Organization (TIRDO), Tanzania; and International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica. For the first three issues of 3rd volume, profiles of National Research Centre (NRC), Egypt; National Mathematical Centre (NMC), Nigeria; and International Centre for Material Science and Technology (ICMST), Ghana would be included.

Another highlight of the 2nd volume of the Newsletter was the coverage given to a set of three major activity-reports of COMSATS in the alternate issues under the section "Special Feature". These sections featured: Visit Report of Executive Director to four member states (January-February 2010); 13th Meeting of the COMSATS Coordinating Council (May-June 2010); and Visit of COMSATS' Delegation to Malaysia (September-October 2010).

In the requests for contributions, regularly sent to the Centres of Excellence, new sections have been proposed to be included in the 3rd volume of COMSATS Newsletter. The inclusion of such sections and their extent of coverage would depend on the level of inputs received. The support of the Network members, in this regard, is of utmost importance in order to improve the scope, utility and impact of COMSATS Newsletter.

Bi-annual Journal, Science Vision

As per the suggestions made during the 12th meeting of the COMSATS Coordinating Council, COMSATS resumed the publication of its scientific journal "Science Vision" and was given a thematic character to individually address the dominant issues faced by the developing world through Science and Technology. Scientists, researchers, policy-makers and young scholars from S&T and R&D institutions and national and international academies of sciences were invited to write for the journal in line with its theme.



In keeping with the commitment to give Science Vision a thematic character, COMSATS brought out one thematic issue under the 15th Volume of Science Vision. The theme given to this issue was “Environmental Challenges for the Developing Countries”.

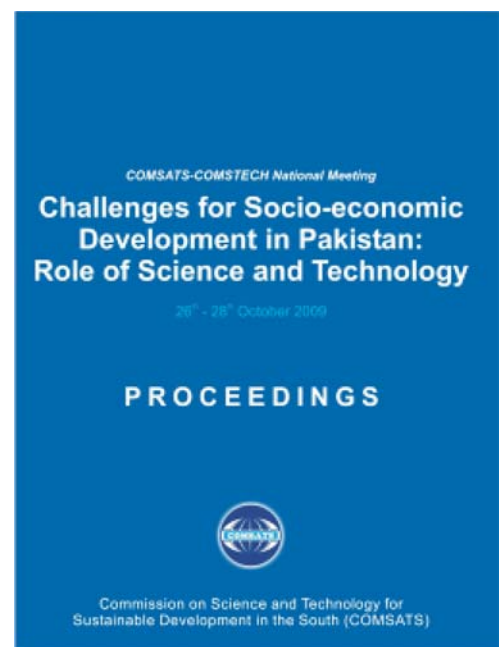
COMSATS' Series of Publications on Science and Technology

This series of publications is intended to disseminate the intellectual material of COMSATS' capacity-building events, such as conferences and seminars held in its Member States. The proceedings of two collaborative events of COMSATS, namely 'National Seminar on Policies and Strategies for Successful Implementation of Employment Generating Programmes in Renewable Energies, Biotechnology, Agriculture, Environment and ICTs' and 'National Meeting on Challenges for Socio-economic Development in Pakistan: Role of Science and Technology' held in August and October 2009, respectively, have been compiled during 2010. The latter was published as Volume 14 of the Series with a publication date of June 2010. This edition mainly comprised the following:

- Technical presentations of participants on various topics of the theme of the event;
- Field-wise identified socio-economic problems and their S&T led solutions compiled by the subject experts;
- Recommendations made during panel discussions; and
- Pictorial highlights of the event.

COMSATS' Website

COMSATS' official website (www.comsats.org) has been made to undergo considerable changes in terms of its content, lay out and presentation, in order to make it look current and dynamic, as well as to provide ease in navigation. The slight re-distribution of content, enhanced visuals and added-updates have enabled the website to provide a convenient reading and systematic outreach to the necessary information. The website was given a new and improved outlook at the turn of the year.



Electronic Versions of COMSATS' Publications and Information Dissemination Tools

Most of the publications brought out during the reporting period have promptly been made available on COMSATS' website. The six issues of COMSATS Newsletter printed during the reporting period were made electronically available before the printing and dissemination of the hard copies. The Newsletter, COMSATS Annual Report 2009, 14th Volume of the COMSATS' Series of Publications on Science and Technology and the flyers of the international collaborative events were uploaded in portable document format (PDF) on COMSATS' website; while the latest issue of Science Vision was made available on the journal's website: <http://www.sciencevision.org.pk/>.

Other Information Material

Efforts were made during 2010 to update leaflet, 'COMSATS... at a Glance' and COMSATS' Brochure. The latest editions of these publications have been printed.

Assistance was also extended to COMSATS' collaborating partners for the designing and printing of the information/promotional material for events sponsored and jointly organized by COMSATS in its Member States. These were:

- National Training Workshop on "Repair and Maintenance of Scientific Equipments in Teaching, Research Institutions and Small Scale Industries" in Dakar, Senegal (18th - 21st October 2010);
- International Seminar on "Nano-materials in Energy and Environment", in Syria (21st - 23rd September 2010); and
- International Conference on 'Diffusion of ICTs in Academia: Learning in the Digital Age in Islamic Countries' in Khartoum, Sudan (4th - 5th October 2010).



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FINANCIAL AFFAIRS OF COMSATS

- Statements of COMSATS' Account 96

Since the establishment of COMSATS, the Finance and Accounts Department of the Secretariat is managing the financial activities related to COMSATS Secretariat, including the grant by the Government of Pakistan for meeting the overhead expenditure of the Secretariat, and the Annual Membership Contributions received from the Governments of member countries of COMSATS.

FINANCIAL AFFAIRS OF COMSATS

Statements of COMSATS' Account

Annually, in the light of planned technical activities/scheduled programmes, a budget is prepared by COMSATS Secretariat under the guidance of the Executive Director COMSATS. The budget is presented at COMSATS' Management Committee meetings for detailed discussion. After thoroughly evaluating every head of expenditure, the Committee recommends the budget for approval of the COMSATS' Coordinating Council.

M/s Ernst & Young Ford Rhodes Sidat Hyder, Chartered Accountants, have been conducting the audit of Accounts of COMSATS Secretariat for the last several years. The Auditors' Report and audited financial statements of COMSATS Secretariat for the financial year ended on June 30, 2009 are given in this Section. The audit of accounts for the financial year ended on June 30, 2010 is in progress and the initialed Auditors' Report will be issued by M/s Ernst & Young Ford Rhodes Sidat Hyder by the end of March 2011.

COMSATS' member countries contributed US\$ 576,208 up to December 31, 2010, out of which an amount of US\$ 395,245.00 was spent on COMSATS' technical activities for member countries. An amount of US\$ 180,963 is available in the trust fund as of December 31, 2010.



ERNST & YOUNG

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Fax: +9251 287 0293
www.ey.com

INDEPENDENT AUDITORS' REPORT TO THE COORDINATING COUNCIL

We have audited the accompanying financial statements of the **Commission on Science and Technology for Sustainable Development in the South (COMSATS) - Secretariat** (the Secretariat), which comprise the balance sheet as at **30 June 2009**, the income and expenditure statement, cash flow statement and statement of changes in equity for the year then ended, and a summary of significant accounting policies and other explanatory notes.

Management's responsibility for the financial statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with the approved accounting standards as applicable in Pakistan. This responsibility includes designing, implementing and maintaining internal controls relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditors' responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Secretariat's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Secretariat's internal controls. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

EYFR

A member firm of Ernst & Young Global Limited



ERNST & YOUNG

Ernst & Young Ford Rhodes Sidat Hyder
Chartered Accountants

Basis of qualified opinion

The long term loan (referred to in note 7 to the accompanying financial statements) provided by the Secretariat to its related party - COMSATS Internet Services (CIS), amounting to Rs. 32.000 million, has been outstanding since 1995. The current account with CIS, including mark-up on this long term loan (referred to in note 9 to the accompanying financial statements), has aggregated to Rs. 32.647 million as at 30 June 2009. Although the loan and interest thereon (included in the current account with CIS) are outstanding since long and recovery thereof appears to be doubtful, no provision has been made by management in the accompanying financial statements.

Had this provision been made, the surplus for the year and total assets at the end of the year would each have reduced by Rs. 64.647 million.

Qualified opinion

In our opinion, except for the effects of the matter discussed in the above paragraph, the financial statements give a true and fair view of the financial position of the Secretariat as of **30 June 2009**, and of its surplus and its cash flows for the year then ended in accordance with the approved accounting standards as applicable in Pakistan.


Chartered Accountants

Audit Engagement Partner's Name: Sajjad Hussain Gill

Date: 09 June 2010

Place: Islamabad

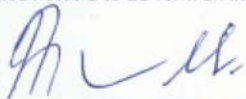
**COMMISSION ON SCIENCE AND TECHNOLOGY FOR
SUSTAINABLE DEVELOPMENT IN THE SOUTH (COMSATS) - SECRETARIAT**

**BALANCE SHEET
AS AT 30 JUNE 2009**

	Note	2009	2008
		-----Rupees-----	
ASSETS			
NON CURRENT ASSETS			
Property and equipment	4	31,375,546	33,111,518
Investment property	5	1,121,421	1,180,443
Long term investment	6	1,132,088	1,132,088
Long term loan	7	32,000,000	32,000,000
Long term security deposits		604,960	589,460
CURRENT ASSETS			
Advances and prepayments	8	2,550,773	4,229,315
Other receivables	9	35,900,681	30,475,992
Short term investments	10	10,582,000	10,874,100
Cash and bank balances	11	8,844,173	4,556,734
		57,877,627	50,136,141
TOTAL ASSETS		<u>124,111,642</u>	<u>118,149,650</u>
FUNDS AND LIABILITIES			
FUND AND RESERVES			
Technical assistance fund	12	32,000,000	32,000,000
Revenue reserve - accumulated surplus		52,564,191	51,521,077
		84,564,191	83,521,077
NON CURRENT LIABILITIES			
Deferred grants	13	28,625,954	26,532,089
Deferred liabilities	14	5,189,149	4,588,381
Unearned income	15	594,809	-
		34,409,912	31,120,470
CURRENT LIABILITIES			
Unearned income - current portion	15	2,893,668	762,143
Creditors, accrued and other liabilities	16	2,243,871	2,745,960
CONTINGENCIES AND COMMITMENTS	17	-	-
TOTAL FUND AND LIABILITIES		<u>124,111,642</u>	<u>118,149,650</u>

The annexed notes 1 to 25 form an integral part of these financial statements.

Exp/Am



DEPUTY DIRECTOR (FINANCE & ACCOUNTS)



EXECUTIVE DIRECTOR

**COMMISSION ON SCIENCE AND TECHNOLOGY FOR
SUSTAINABLE DEVELOPMENT IN THE SOUTH (COMSATS) - SECRETARIAT**

**INCOME AND EXPENDITURE STATEMENT
FOR THE YEAR ENDED 30 JUNE 2009**

	Note	2009	2008
		-----Rupees-----	
INCOME			
Grant Income	18	23,872,922	21,933,098
Other income	19	<u>12,883,190</u>	<u>15,564,339</u>
		<u>36,756,112</u>	<u>37,497,437</u>
EXPENDITURE			
Administrative and project expenses	20	<u>37,140,353</u>	<u>35,779,932</u>
Finance costs		10,690	9,359
Exchange (gain) / loss		<u>(1,438,045)</u>	<u>762,092</u>
		<u>35,712,998</u>	<u>36,551,383</u>
SURPLUS FOR THE YEAR		<u><u>1,043,114</u></u>	<u><u>946,054</u></u>

The annexed notes 1 to 25 form an integral part of these financial statements.

EMM



DEPUTY DIRECTOR (FINANCE & ACCOUNTS)



EXECUTIVE DIRECTOR

EDITOR IN CHIEF

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Executive Director COMSATS

EDITORS

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Ms. Farhana Saleem

DESIGNED BY

Mr. Imran Chaudhry

PRINTED BY

A.R. Printers





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

- COMSATS Institute of Information Technology (CIIT), Pakistan
- Higher Institute for Applied Science and Technology (HIAST), Syria
- Industrial Research and Consultancy Centre (IRCC), Sudan
- International Center for Chemical and Biological Sciences (ICCBS), Pakistan
- International Centre for Climate & Environment Sciences (ICCES), China
- International Centre for Environmental and Nuclear Sciences (ICENS), Jamaica
- International Centre for Material Science and Technology (ICMST), Ghana
- International Centre of Physics (CIF), Colombia
- 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
- Embrapa Agrobiologia, Brazil
- The Biosphere Reserve – Beni Biology Station (BBS), Bolivia
- TÜBİTAK Marmara Research Centre (MRC), Turkey

ANNUAL REPORT 2010



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