

## PREFACE

It is a hard reality that the countries of the Third World lag far behind the developed world, primarily due to the absence of well-equipped scientific institutions, universities and facilities. The level of training and research in physics varies remarkably across the world, with the most advanced nations producing far more PhDs in Physics than the developing countries. Realizing this deficiency, it is imperative for the developing countries to have a good-quality system for science-education in place, if they want to grow economically. It is also true that, in the past, individuals made significant discoveries, but now teamwork is essential to achieve that. Presently, useful contributions come mostly from groups of highly educated and skilled individuals who are working on big machines and in centers with huge infrastructure and sophisticated equipment. Today, no single developing country in isolation can accumulate enough experience or infrastructure to cater for its scientific, technological and consequent economic needs. South-South cooperation and, where needed, South-North cooperation are imperative in this regard.

In order to (a) highlight the importance of Physics in development, (b) bring forward the experiences of developed and developing countries in which physicists have contributed towards the growth of the economy, and (c) devise strategic recommendations for promoting Physics and related disciplines for sustainable development, COMSATS organized an International Seminar on Physics in Developing Countries: Past, Present and Future, on July 27-28, 2005, at Islamabad. This seminar was organized in collaboration with the Islamic Educational, Scientific and Cultural Organization (ISESCO). Other objectives of holding this Seminar included enhancing awareness of the potentials of Physics for improving the lives of the people, particularly those of the developing world, and emphasizing the role of international co-operation in Physics and requisite modalities of instituting and promoting South-South and South-North cooperation.

It was a welcome coincidence that the world's physics community was celebrating the International Year of Physics-2005 when this seminar was organized in Islamabad. The objectives of the seminar were closely related to those prescribed by the IYP-2005. As a matter of fact, the present seminar constituted a part of the IYP-2005 celebrations from Pakistan's scientists and turned out to be a useful component of the celebrations of the International Year. A comprehensive compilation in this context has been included in the present proceedings, which describes the genesis of the IYP-2005, the UN support it received, some salient contributions from the physicists of Pakistan,

conclusions, and recommendations. In a way, this analytical review of the IYP-2005 supports and complements several other papers presented in the International Seminar on “Physics in Developing Countries: Past, Present and Future”. It is recommended that the reader may like to synchronize the output of this review with those emerging from several other papers included in the current proceedings.

There were a total of 20 speakers in the Seminar who made presentations in 6 Technical Sessions, of which 7 were foreign experts representing the countries of Egypt, Sudan, Sri Lanka, and Tajikistan. Other participants included eminent physicists, heads of S&T institutions, scholars and students from various academic and research institutions. The proceedings of the Seminar include the contents of the presentations made by the speakers and the recommendations that emerged during the various sessions of the seminar.

I would like to express my deep sense of appreciation for Dr. Ishfaq Ahmad, N.I., H.I., S.I., Special Advisor to the Prime Minister of Pakistan, for his guidance, advice and support for this seminar. My gratitude is also due to Dr. Faiq Billal, Director, Islamic, Educational, Scientific and cultural organization (ISESCO), for his ardent cooperation and help in organizing this conference. My earnest praise also for Dr. M.M. Qurashi, Mr. Irfan Hayee, Ms. Zainab Hussain Siddiqui, Ms. Noshin Masud and Mr. Imran Chaudhry from COMSATS whose devotion made publication of the proceedings of this seminar possible.

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