Chairman of Higher Education Commission (HEC) Prof. Dr. Mukhtar Ahmed Inaugurates Advance Photovoltaics Research (APR) Laboratories at the GIK Institute of Engineering Sciences and Technology

Chairman of Higher Education Commission (HEC) of Pakistan Prof. Dr. Mukhtar Ahmed on Saturday August 22, 2015 at the GIK Institute of Engineering Sciences and Technology inaugurated the four state of the art Advance Photovoltaics Research Laboratories including:

- DYE-SENSITIZED SOLAR CELL FABRICATION LABORATORY
- SOLAR CELL IV & CV CHARACTERIZATION LABORATORY
- SOLAR CELL TRANSIENT PHOTOVOLTAGE AND PHOTOCURRENT CHARACTERIZATION LABORATORY
- LABORATORY FOR THE DESIGN AND SIMULATION OF MOLECULAR SYSTEMS FOR EFFICIENT SOLAR ENERGY HARVESTING

The ceremony was attended by Engr. Shams ul Mulk (President, SOPREST), Mr. Shakil Durrani (Executive Director, SOPREST), Engr. Jehangir Bashar (Rector, GIK Institute), Pro-Rectors, Faculty Deans, Dean Graduate Students, Faculty members and graduate students.
Inauguration of Advance Photovoltaics Research Laboratories at the Faculty of Engineering Sciences, Ghulam Ishaq Khan Institute of Engineering Sciences and Technology - Ribbon Cutting Ceremony
The labs have been established for the development of next generation solar cell technology and computational design of molecular systems for efficient harvesting of solar energy as part of the collaborative research project entitled “New Approaches for Lower Cost, Longer Stability, and Higher Efficiency of Dye-Sensitized Solar Cells (DSSCs)” between the Faculty of Engineering Sciences, Ghulam Ishaq Khan Institute (GIKI) of Engineering Sciences and Technology and Department of Electrical Engineering, Center for Advanced Photovoltaics, South Dakota State University (SDSU), Brookings, USA under the Pakistan-U.S. Science and Technology Cooperation Program Phase 5.

Prof. Dr. Muhammad Hassan Sayyad* who is leading this project as Pakistani Principal Investigator, has appreciated the great role of the Higher Education Commission for financial assistance and the support of USAID. He also acknowledged the great cooperation and technical support provided by his US partner Dr. Qiquan Qiao and administration of South Dakota State University which has greatly helped him in establishing these state of the art Advance Photovoltaics Research Laboratories at the GIK Institute of Engineering Sciences and Technology.

Prof. Hassan Sayyad said he is highly grateful of Engr. Shams ul Mulk (President, SOPREST), Mr. Shakil Durrani (Executive Director, SOPREST) for gracing this inauguration with their charmed personalities. He thanked the great support and encouragement provided by the Engr. Jehangir Bashar (Rector, GIK Institute) and support/cooperation of Prof. Dr. Javed Ahmed Chattha (Pro-Rector A), Mr. Ahsan Basir Sheikh (Pro-Rector A & F), Prof. Dr. Jameel-Un Nabi (Dean FES), Mr. Mohammad Ismail (Director Finance), Mr .Muhammad Yousaf (Director Procurement) and Mr. Latifullah (Deputy Director Procurement). He also appreciated Mr. Muhammad Shafiq (PS FES) Mr. Iftikhar Ali (Accounts Section), Mr. Majid Khan(Payments Section), Mr. Younis Imran (FES Technician), Mr. Muhammad Tariq (FES Store) and Mr. Faulad Khan (Attendant Advance Photovoltaics Research Laboratories).

Prof. Hassan Sayyad said that this collaborative project will serve as a platform for producing scientists and engineers trained in the design and fabrication of cost effective next generation solar cells and solar panels. Upon the successful completion of this project, the program will be elevated to a self-sustaining center of next generation solar cell research at the GIKI that will liaise with industry in developing low cost stand-alone solar cell modules and related products of commercial importance. Solar energy is an unlimited form of clean and renewable energy that is abundantly available in Pakistan. Cost effective harvesting of solar energy can endlessly fuel our civilization.

During meeting with Prof. Dr. Mukhtar Ahmed, Chairman HEC, Prof. Hassan Sayyad said that during the execution of the project our focus is mostly on the development, optimization and commercialization of dye-sensitized solar cells (DDSCs) alternative to silicon. He told that these cells can be incorporated into any part of structure, such as, roof, window, wall, etc. He also mentioned that we are developing the solar cell modules and will very soon demonstrate the
commercial potential of the low cost, stable and efficient solar cell technology at the GIK institute. He has requested that if HEC and the Pakistani Government cooperate and support us more we are sure that the energy crisis of Pakistan can be resolved to a great extent. We may require further funding which will be only a very small fraction of the money the Pakistani government is spending on the generation of electrical power.

* It may be noted that Prof. Dr. Muhammad Hassan Sayyad has made great contributions to the strengthening of research and development activities in Pakistan. He has supervised several MS and NINE HEC sponsored PhD students in multi-disciplinary areas of organic solar cells, sensors, memories, microelectronics devices, amplified spontaneous emission, etc. Currently, under the PAK-US project, he is supervising three PhD and one MS student in the areas of (i) design and modeling of non-metallic dyes for higher efficiency DSSCs of solar cells and (ii) fabrication, characterization and optimization of dye-sensitized, Perovskite and quantum dot solar cells. He has published over 80 papers in reputed international journals, wrote several books and participated in numerous international conferences. At the GIK Institute, Prof. Hassan Sayyad, in addition to the four labs inaugurated today, he is founder of the research labs of Organic Electronics and Laser Ablation also.