Poverty alleviation is possible only through skill-based employment generation at grass root levels and for this purpose, Planning Commission would support setting up training centres at district levels in the country for skills generation to the masses, which will enable them get jobs not only within the country but abroad as well.

This was stated by Deputy Chairman, Planning Commission, Sardar Aseff Ahmad Ali while addressing the inaugural session of National Seminar on Welding Science and Technology organized by Pakistan Atomic Energy Commission on 10th August 2009.

Energy generation is also the top priority and the government is focusing on all avenues of electricity generation including nuclear, hydel and other renewable resources. Energy production utilizing the huge deposits of local coal is an attractive source and Planning Commission is venturing into a pilot project for its use in electricity production. Upon the success of this pilot project, it will be handed over to the Provinces/respective ministries for putting up large size coal-based projects.

Pakistan’s Nuclear Programme has been a successful deterrence and it is fully backed by the nation and reflects its aspirations. PAEC as Centre of Excellence deserves all praise for this historical endeavor, Sardar Aseff Ahmad Ali said.

The joblessness of the youth is an explosive issue deserving government's utmost attention as in the absence of channels of skill-based learning and avenues of earning, they are vulnerable to all forms of extremes. The idea behind putting up technical training centres at district levels is to provide them job chances within and outside the country. These training centres will impart them specialized skills for their absorption in technical job market. For this purpose, reservoir of technical facilities with Pakistan
Atomic Energy Commission may be utilized.

Addressing the PAEC Scientists and Engineers, he uttered in a lighter vein “You do welding to join materials for fabrications while we at political level join the people together for the strength and glory of the nation”.

About government efforts in producing hydel electricity, he said Bhasha Dam is underway. This project worth $12 billions will be completed within ten years. Similarly, Bunji run-off-the-river project will soon be initiated. Together, the two will generate 10,000 MWe.

On Nuclear Power Plants, he said, Pakistan would welcome a civil nuclear deal with USA similar to the one offered to India.

Earlier in his welcome address, Chairman, PAEC, Dr. Ansar Parvez said “Right now we have two power plants operating and one under construction which will start production in early 2011. With the support of the government, we plan to add many more plants in the future”.

“Pakistan was subjected to many embargoes to force the country to compromise on our defense but our nation did not yield and our Nuclear Programme could not be derailed. In some ways the embargoes helped us as PAEC ended up establishing its own network of R&D centres, Engineering Workshops and associated fuel cycle technologies”, Chairman, PAEC told.

“PAEC has been active in socio-economic sector and has built 13 cancer hospitals, where more than 350,000 patients are treated annually, most of them free of cost. We have been contributing to the agricultural sector by developing new crops and have carried out model projects to set the roadmap for implementing it at the broader national scale. Saline Agricultural and Farmers Participatory Programmes are typical examples”, Dr. Ansar Parvez added.

“PAEC has contributed to the human resource development of the country by setting up a number of educational and training centers”, Chairman, PAEC stated.

Earlier in his introductory remarks, Muhammad Naeem, Director of PAEC’s Pakistan Welding Institute informed that the Institute which was basically envisaged for the fabrication needs of PAEC Programme, is now contributing at the national level by offering training and certification to the personnel from industry and academia. In this connection, it has offered 117 such training courses imparting essential training in high-tech welding to as many as 1720 personnel and by virtue of these services, it is actively engaged in industrial uplift of the country.
PAEC popularizing science among youth, sponsors young Pakistani Scientists meet Nobel Laureates in Germany

The programme initiated by PAEC for the Interaction of Young Pakistani Scientists with Nobel Laureates as a Joint Venture with HEC is successfully underway. Since 2003, seven groups of talented science graduates have attended the annual meetings of Nobel Prize Winners in Germany. This year, the meeting was in the field of Chemistry. Applications of students with baseline of throughout First Division were invited from all universities/institutes where research in the field of Chemistry was carried out. About 90 applications were received from different institutions as well as individuals. According to a preset merit criterion, 25 persons were short listed on merit. These candidates were interviewed by a selection board comprising of experienced professors, senior scientists and subject specialists. Finally ten young researchers were selected from all over the country to attend the 59th Meeting of Nobel Laureates in Lindau, Germany from June 28- July 3, 2009. Due to large number of applications from all around the world, this time the Council of Nobel Laureates Meetings in Germany accepted the following six graduates from Pakistan.

- Dr. Zahid Shafiq, Bahauddin Zakariya University, Multan
- Mr. Muhammad Imran, Punjab University, Lahore
- Ms. Amina Asghar, Government College University, Lahore
- Ms. Farohia Liaqat, Quaid-e-Azam University, Islamabad
- Ms. Farhat Huma, NESCOM, Islamabad
- Ms. Humaira Seema, Peshawar University, Peshawar

Before leaving for Germany, a two days Orientation Camp was organized on 24-25 June, 2009 in Islamabad for informal guidance of the selected candidates. In that camp, eminent scientists/professors like Dr. Ishfaq Ahmad, Former Chairman, PAEC, Dr. Ansar Parvez, Chairman, PAEC, Dr. Shoaib Ahmed, Member (Physical Sciences) PAEC, Dr. S. Sohail H. Naqvi, Executive Director HEC, Dr. Mukhtar Ahmad, Member Operations and Planning HEC, Dr. Shaukat Hameed Khan, Member Planning Commission, Dr. M. Aslam, Rector PIEAS, Dr. Imtinan Elahi Qureshi, Executive Director COMSATS, Prof. G.A. Miana, Dean Sciences, Ripha International University, Prof. Sakhawat Shah, Chairman Chemistry Department, Quaid-i-Azam University, Prof. Mahmud-ul-Hassan Butt, Vice Chancellor, Allama Iqbal Open University, Ms. Katharina Lack, Head Cultural Section, German Embassy, Islamabad, Dr. N. M. Butt, Country Representative of Lindau Council and Mr. Waqar A. Butt, Project Coordinator addressed the candidates. A few participants of previous Lindau Meetings were also invited for sharing their experience. Mrs. Ina Lepel, Deputy Head of Mission, German Embassy hosted a reception for the Organizing Committee as well as the selected students.

With this preparation the group left for Germany on 26th June. The opening ceremony was held on 28th June at Inselhalle; the Congress Hall in the Island of Lindau. Countess Bettina Bernadotte, the President of the Council opened the Meeting and welcomed 23 Nobel Laureates as well as 580 young researchers from 67 countries including 93 from USA, 27 from China and 43 from India. The technical programme started on the morning of 29th June. Formal lectures of Laureates were held in the morning session followed by a panel discussion among five laureates. The afternoon was devoted to question/answer sessions and face-to-face discussions among the Laureates and young scholars. Same pattern was followed for four days. On the last day of the meeting, all the participants and Laureates took a cruise to the Island of Mainau for the closing ceremony.

After the meeting in Lindau, the group went to Mainz on 5th July and visited two research centres; the prestigious Max Planks Institute of Chemistry and the University of Mainz. This university has more than 35,000 students in different disciplines. The participants also attended four seminars at the Institute of Science and Technology which were delivered by Ph.D/Post-Doc students of Prof. Hans Jurgen Butt; the Director of the Max Planks Institute who arranged this visit. Another Chemist, Dr. Michael Kappl coordinated the visit to various laboratories in the institute. The research was mainly oriented towards polymer science and nanobiotechnology. Our students were asked to submit research proposals to...
relevant professors in case they were interested to do research there. It was indicated that lots of funds are available as research grants and any one from any country can avail these opportunities. One of the group members, Dr. Zahid Shafiq was offered Post-Doc at the Max Planks Institute after an interview with a professor there with full board/lodge and travel.

On 7th July, the group visited University of Darmstadt. This visit was arranged by Prof. Dr. Hartmut Fuess, a renowned Material Scientist and former Dean of Material Sciences. The Dean of Chemistry as well as four professors gave an overview of R&D work being carried out in their respective domains. The labs were very well equipped with state of the art equipment and lot of research activity was going on. The doors were opened to students from other countries subject to acceptance of their research proposals. It is intended to persuade relevant researchers at different universities/research institutes in the country to prepare good proposals and submit to respective institutes as lot of funds are available with these universities/research institutes.

On the whole, the visit was very successful. The active participation of our young researchers in various scientific activities enhanced the image of Pakistan at such a high level of international forum. One of our participants, Miss Faroha Liaqat, was selected by the team of ‘Nature’, a well reputed science journal, along with a German and two American students for a detailed documentary movie to be shown at “Nature.com” for six weeks in August-September 2009. Her selection was based on interviews with the panel of eminent scientific administrators. Out of 580 talented young scholars from all over the world, her selection is a pride for the nation. Moreover, the links established during these days with the fellow participants as well as the researchers in well-established laboratories in Germany will go a long way for scientific collaboration which may lead to high quality human resource.

**Ph.D. Degree for PAEC’s NCNDT Engineer**

Dr. Muhammad Adil Khattak, Senior Engineer (Mech.) at National Center for Non-Destructive Testing (NCNDT), SES Directorate, PAEC has been awarded Ph.D. degree by the Faculty of Mechanical Engineering (FKM), Universiti Teknologi Malaysia (UTM), Malaysia. The title of his thesis was “Effects of Absorbed Hydrogen and Thermal Exposure on Mechanical Properties, Crack Opening and Fatigue Crack Propagation of Welded Steel”. He completed his research work under the supervision of Professor Dr. Mohd Nasir Tamin. His research work has been published and presented in various conference proceedings.

#### PINUM as a Model ISO Certified PAEC Medical Centre

PAEC’s Punjab Institute of Nuclear Medicine (PINUM), Faisalabad is keeping up with its golden traditions after being recognized as the first ISO certified medical centre in PAEC. Due to the endless efforts and dedicated work of its officers and staff, now this institute is considered as a model for other PAEC medical centres who are trying to get ISO certification. In this regard a three member delegation from GINU Gujranwala visited labs of PINUM on 05-05-2009 and appreciated the working standards. A team from IRNUM, Peshawar visited PINUM on 16-05-2009 to see the documentation needed for ISO certification and to have a look in the DNMT teaching program. They also visited College of Paramedics Faisalabad. Thirteen member team comprising of officers and staff from CENUM, Lahore visited PINUM on 23-05-2009 to see implementation of ISO 9001 standards at PINUM. They appreciated the services as well as standards practiced at PINUM.

After completion of 3 years of ISO certification in current year, renewal of the same was required. In this regard four member team from DQA, headed by Mr. Nasir Butt conducted surveillance audit of PINUM from 26-27 May 2009. Later three member team of BVCI conducted 3rd party audit on 13-06-2009 and declared PINUM eligible for certification for the next 03 years without any major or minor non-conformity according to ISO 9001-2008 criteria. The team head, in his address to PINUM officers declared this institute as the best one among PAEC medical centres, which is being projected as a model for other institutes. PINUM management and workers are highly thankful to PAEC HQs for their full support for these achievements.
Achievement of PAEC’s National Centre for Non-Destructive Testing (NCNDT) in Goal-oriented Development of Technical Manpower

National Centre for Non-destructive Testing (NCNDT), SES Directorate, PAEC, has achieved a landmark by conducting a record 10 number of training courses in six (6) months duration (Jan-June, 2009) since the initiation of training courses at NCNDT. This is due to the increased interest and awareness of NDT techniques in public and private sectors. To accommodate large number of applicants from PAEC and industry, NCNDT has successfully conducted several repeat courses as well.

During the reported period, NCNDT conducted training courses in the following techniques:

- Level-1 Radiographic Testing
- Level-1 Liquid Penetrant Testing
- Level-1 Ultrasonic Testing
- Level-1 Eddy Current Testing
- Level-2 Radiographic Testing
- Course on Defect Detection With Digital/Analog Manual Ultrasonic Flaw Detectors
- Basic NDT Training Course for DQA Engineers

A total of 126 NDT personnel participated in the above mentioned courses. In addition to these training courses, a special level-2 ultrasonic training course was also conducted for a Syrian candidate, who completed two (2) months IAEA fellowship training at NCNDT. “Re-examination and Re-certification” was also conducted for NDT personnel of different organizations.

Awards and Honours for PIEAS Faculty

Dr. Muhammad Yousaf Hamza, Principal Engineer, PIEAS has completed his PhD degree from Lahore University of Management Sciences (LUMS) Lahore, in June 2009 funded by HEC. The topic of his research was “Mitigation of SPM and GVD effects in fiber optic communications: dispersion and power maps co-optimization using genetic algorithm”. Due to his excellent academic performance, Yousaf has been awarded Merit Certificate and his name has been placed at "Dean's Honor List" at LUMS. He has 12 national/international journal/conference publications to his credit.

Dr. Mohammad Jaudet, Principal Scientist, PIEAS, has been declared successful for the award of Ph.D. degree in Electrical Engineering by PIEAS. The title of his research was "Interoperability of telecommunications network for central monitoring and diagnostics". He worked under the supervision of Dr. Naeem Iqbal, Principal Engineer, Department of Electrical Engineering, PIEAS. He published five papers during his research work.

Mr. Jamaluddin, Director, NCNDT.

Mr. Ghulam Nabi, Member (Technical), PAEC, was the chief guest at the certificate awarding ceremony pertaining to Radiographic Testing Course (NDT-207) Level-2, organized recently by NCNDT. In the photograph above, he is awarding certification to one of the participants. Seen in the middle is Mr. Abdul Hai, D.G. (SES). On the extreme right is Mr. Jamaluddin, Director, NCNDT.

Dr. Mohammad Jaudet, Principal Scientist, PIEAS, has been declared successful for the award of Ph.D. degree in Electrical Engineering by PIEAS. The title of his research was “Interoperability of telecommunications network for central monitoring and diagnostics”. He worked under the supervision of Dr. Naeem Iqbal, Principal Engineer, Department of Electrical Engineering, PIEAS. He published five papers during his research work.

Dr. Haroon-Ur-Rashid, Principal Engineer, has joined PIEAS after completing his Ph.D. studies at Beijing Institute of Technology, P.R. China. Haroon won the HEC scholarship for PhD studies in 2006 and joined High Performance Computing Lab at Beijing Institute Technology, China. His PhD research was focused on performance issues in on-chip multicore interconnection architecture. He has 11 publications to his credit, out of which 3 are Journal articles.

Mr. Fayyaz-ul-Amir Afsar Minhas (JS, DCIS) has received the National Youth Award 2009 with a cash prize of Rs.50,000/- in the category of Science and Technology.
In the quest of quality education and holistic value addition to the nation, PAEC’s Pakistan Institute of Engineering and Applied Sciences (PIEAS) is glad to launch BS Programs in Electrical and Mechanical Engineering in fall 2009. Our existing faculty strength and research capability has enabled us to augment our current portfolio with these new programs. Admissions are currently open till July 20, 2009.

Following other programs are successfully managed by PIEAS:

- MS Nuclear Engineering
- MS System Engineering
- M.Sc. Nuclear Medicine
- MS Medical Physics
- MS Process Engineering
- MS Materials Engineering
- MS Mechanical Engineering
- M.Phil. Laser, Plasma and Computational Physics
- M.Sc. Radiation and Medical Oncology

The PIEAS educational endeavor would be compatible worldwide.

NIA Showcases its Technologies at Agri Moot by National Bank

National Bank of Pakistan organized a one-day Symposium on agriculture each at three different zones of the Sindh province i.e. Hyderabad, Sukkur and Larkana on 2nd, 4th and 5th June 2009 respectively. The main objective of the symposium was to familiarize the officer/staff of the bank with modern crop production and protection technology.

Eight scientists of PAEC’s Nuclear Institute of Agriculture (NIA) including the Director participated in the symposium and delivered talk on the production and protection technology of wheat, rice, cotton and sugarcane crops. The Director, Mr. Muhammad Afzal Arain highlighted the role of NIA in boosting agriculture particularly in the province of Sindh.

The symposium was attended by the bankers enthusiastically and long sessions of discussions were held at each place. The officers of the bank appreciated the efforts of NIA in delivering the production and protection technology of various crops and suggested that such type of symposium should be held at regular intervals.

They emphasized that such type of symposium not only proved useful to increase the crop productivity but also helped the bankers in loaning advance to the farmers to enhance overall crop production of the country. It was concluded in the symposium that the banks should advance loans to agriculture units only when they use high quality approved seeds.

Efforts may also be made by the banks to promote the bio-control technology by advancing loans for the establishment of laboratories to manage the insect pests through environment friendly techniques. In this regards NIA has a vast experience in this field and already established 8 laboratories at various locations in the province of Sindh with the collaboration of private sector.

A one-day Seminar on “Multimodal Management of Carcinoma Breast” at NIMRA Jamshoro

A one-day seminar on the Multimodal Management of Carcinoma Breast was organized by NIMRA and Society of Surgeons Liaquat University Jamshoro and Hyderabad Chapter, at NIMRA, Jamshoro on 27th June 2009. The aim of this academic event was to highlight the different aspects in the diagnosis and Multimodal Management of Carcinoma Breast. The other objective of this Seminar was to develop interaction among different specialists involved in the diagnosis and management of the disease.

This Seminar was inaugurated by Prof. Abdul Sattar Memon, Dean Faculty of Surgery, LUMHS, Jamshoro. Dr. Naeem Ahmed Laghari, Director NIMRA, in his welcome address highlighted the academic activities of NIMRA and Mobile Mammography facilities for screening of Breast Cancer at NIMRA Jamshoro. He also stressed for need to develop close cooperation and interaction among doctors of various specialities at LUMHS, Jamshoro and NIMRA for better management of Ca. Breast. The eminent surgeons/oncologists from Karachi and LUMHS attended and presented their research papers in the seminar.

PAEC Scientist honoured

Dr. Imtiaz Ahmed Khan, Principal Scientist, Nuclear Institute of Agriculture, Tandojam has been selected by Higher Education Commission as HEC approved supervisor for Ph.D. level students funded under various HEC in-country Scholarship Programs. Dr. Imtiaz is committed to maintain the highest academic standard and finest intellectual quality of doctoral students.
Assignments of PAEC Experts Abroad

- Mr. Hamid Mahmood, Senior Director, Directorate of Nuclear Power Engineering-Structures (DNPES), Islamabad undertook Mission as an IAEA Expert at Tehran, Islamic Republic of Iran from 06-10 June, 2009 for Review of Chapter-3 of Final Safety Analysis Report (FSAR) of Bushehr Nuclear Power Plant (BNPP-1).

- Mr. Azhar Zia, Chief Engineer, Mr. Asmatullah Abul Khaire, Deputy Chief Engineer and Mr. Aijaz Ahmed Siddiqui, Principal Engineer, Karachi Nuclear Power Complex (KNPC), Karachi will undertake assignment as National Consultants for Expert Mission for Task: Review the Detailed Design of Accident Monitoring Instrumentation for KANUPP at IAEA Headquarters, Vienna (Austria) from 29 June - 03 July, 2009 under Project Ensuring Long Term Safety of the Karachi Nuclear Power Plant.

- Mr. Afaque Ahmed Shaikh, Chief Engineer and Mr. Saad Ullah Khan, Principal Engineer, KNPC, Karachi will undertake assignment as National Consultants for Expert Mission for Task: Fuel Channel Integrity Assessment at IAEA Headquarters, Vienna 29 June - 03 July, 2009 under Project Ensuring Long Term Safety of the Karachi Nuclear Power Plant.

Visit of IAEA Expert


Visits of Foreigners to Pakistan

- Mr. Peter Rathey and Mr. Thomas Brauer from M/s. Isotope Technologies, Dresden GMBH, Germany visited IPD, PINSTECH, Islamabad for Installation/Commissioning of Mo-99 Production Plant from 09-20 June, 2009.
- Mr. Hou Xinjie and Mr. Lei Quanhong, People's Republic of China participated in National Conference on Development and Commercialization of Biotechnology held at NIBGE, Faisalabad from 19-20 June, 2009.
- Mr. Krzysztof Ciborowski, (Poland) visited INMOL, Lahore from 23-25 June, 2009 for Application Training of INFINIA-II Gamma Camera.
- Mr. Karl Heinz, Deutsh and Mr. Calabretti Silvio, Italian visited INMOL, Lahore from 04-10 July, 2009 for installation of Dual Energy Linear Accelerator.
- Mr. Monti Azelio, Commissioning Supervisor of M/s. ASTER, Italian firm is scheduled to visit KNPC, Karachi during July to September, 2009 for Testing and Commissioning of Nuclear Desalination Plant (NDDP) at KNPC, Karachi under a Contract between KNPC and M/s. ASTER.
- Mr. John Ciantar (Maltese), Installation Supervisor of M/s. ASTER, Italian firm is scheduled to visit KNPC, Karachi during July to September, 2009 to supervise the Installation of a Nuclear Desalination Plant from 09-20 June, 2009.

Appreciation for NIA Scientist

Dr. Muhammad Mureed Kandhro, Deputy Chief Scientist and Head Plant Breeding & Genetics Division, Nuclear Institute of Agriculture (NIA), Tando Jam was awarded an Appreciation Award and a Cash prize of Rs. 30000/- in recognition of his scientific achievements in the Kisan Convention 2009 on 26th May. Dr. Kandhro was nominated for the Award by the Government of Sindh to the Ministry of Food, Agriculture and Livestock (MINFAL) for his significant contribution in cotton breeding. Dr. Kandhro is the breeder of three cotton varieties Chandi 95, Sohni and Sadori, which are not only high yielding but also possess good fibre quality characteristics. Prime Minister of Pakistan Mr. Yousuf Raza Gilani was the Chief Guest at the Award Distribution Ceremony.

Ph.D. degree for PAEC Scientist

Dr. Jehan Zeb Shah, senior scientist at Optics Laboratories, PAEC has been awarded Ph.D. degree by the Faculty of Computer Science and Information Systems, Universiti Teknologi Malaysia. He was working with Prof. Dr. Naomie Salim in the field of Chemoinformatics, under the University Assistantship program. His thesis title was "Neural and Fuzzy Hierarchical approaches for Clustering of Molecular Structures with Overlapping Activities". He is the first Pakistani to have Ph.D. in the field of Chemoinformatics, an emerging area of research, where computers are used to process chemical compounds, their reactions and interactions, especially for drug discovery and designing. His research has been published in international journals and presented at numerous conferences abroad. His current interests focus on the applications of machine learning technologies such as fuzzy and neural networks for virtual screening and molecular diversity analysis.

PAEC Scientist Awarded Ph.D. Degree

Dr. Muhammad Yussouf Saleem, Principal Scientist, Nuclear Institute for Agriculture and Biology (NIAB), Faisalabad has been awarded Ph.D. degree by the Bahuddin Zakariya University (BZU), Multan. The topic of his research was "Genetic analysis of Basmati rice (Oryza sativa L.)". He completed his research work under the supervision of Prof. Dr. Javed Iqbal Mirza (BZU) and Dr. Muhammad Ahsanul-Haq, Chief Scientist/former Director NIAB, Faisalabad. His research work elucidated complexity of genetic system influenced by additive, dominance and epistasis effects for various yield and yield components. Based on gene action, heritability and genetic advance breeding strategy for the development of variety or hybrids was suggested. Dr. Saleem has published the results of his research work in peer reviewed journals and proceedings of a national conference.
A one-day Chemistry Conference 2009, entitled “Recent Trends in Chemistry” was held at PINSTECH auditorium on the 19th August 2009.

The conference was inaugurated by Engr. Nasrullah Khan Qazi, Director General PINSTECH. Two technical sessions were arranged with four talks delivered by the invited speakers from Quaid-i-Azam University (QAU), National University of Science and Technology (NUST), Pakistan Institute of Engineering and Applied Sciences (PIEAS) and Directorate of Technical Development (DTD), PAEC. The conference was attended by more than 100 scientists and engineers from various PAEC organizations. Each talk was followed by lively and interactive discussions indicating keen interest taken by the participants.

The closing session was chaired by honourable Dr. Ansar Parvez, Chairman, PAEC and was attended by Members of the Commission, Director Generals and Directors from various PAEC establishments along with other scientists and engineers of PAEC. Dr. Jamshed Hussain Zaidi, Director Science, PINSTECH presented the summary of the deliberations.

Dr. Shoaib Ahmed, Member (Physical Sciences), in his welcome address, stressed upon the need for further enhancing the innovative R&D work at PINSTECH. Souvenirs were presented to the invited speakers by the Chairman PAEC. In his closing address, the Chairman PAEC appreciated efforts of the organizers for holding one day chemistry conference which provided an opportunity to the participants to exchange innovative ideas and research being carried out in our academic institutes and in other PAEC organizations. He advised that such events should be organized regularly. Furthermore, he mentioned that our academic institutes and PAEC organizations should utilize the talent and facilities available at PINSTECH. He emphasized the need for collaborative and goal oriented research.