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Newsletter of the Pakistan Atomic Energy Commission

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Dr. Ansar Parvez takes over as PAEC Chief

Dr. Ansar Parvez took over as Chairman, Pakistan Atomic Energy Commission (PAEC) in a simple and dignified ceremony held at PAEC H.Q. on April 06, 2009. The outgoing Chairman, Mr. Anwar Ali, had completed his tenure of appointment.

The incoming Chairman paid glowing tributes to the services rendered by Mr. Anwar Ali in realizing the objectives of the PAEC Programme and expressed his determination to live up to the successes and work values of his predecessors.

In his farewell remarks, Mr. Anwar Ali advised the PAEC personnel and leadership to uphold time-honored traditions of the organization and work selflessly for the strength and well being of the country. He expressed his full confidence in the capabilities of his successor to steer the organization to yet higher levels of achievements and excellence.

Dr. Ansar Parvez, who has risen up through the ranks of the organization, brings to his job rich experience in diverse disciplines of Nuclear Science and Technology. His association with the Commission is spread over nearly four decades. He has to his credit accomplishment of varied assignments in the broad areas of Reactor Physics, Nuclear Safety, Nuclear Power Planning and Economics and Human Resource Development.

Dr. Parvez did his M.Sc. Physics from Punjab University, Lahore, securing a gold followed by M.Sc. in Nuclear Technology from Quaid-i-Azam University, Islamabad. He earned his Ph.D. in 1977 from Rensselaer Polytechnic Institute of USA.

During the course of his service in PAEC, he has been General Manager of Chashma Nuclear Power Unit-2. He was elevated as Member (Science), PAEC in 2006 to supervise the Commission's Programme in the domain of Nuclear Medicine, Agriculture, Biotechnology, R&D and Higher Education.

Before his appointment as Chairman, he was Member, Nuclear Power Projects,

looking after the Nuclear Power Development Programme of the country.

Dr. Ansar Parvez is the 7th Chairman of Pakistan Atomic Energy Commission



PAEC Chairman, Dr. Ansar Parvez (left) shaking hands with outgoing Chairman, Mr. Anwar Ali after taking over the charge of the office.

since its inception. Dr. Nazir Ahmad, Dr. I. H. Usmani, Mr. Munir Ahmed Khan, Dr. Ishfaq Ahmad, Mr. Parvez Butt and Mr. Anwar Ali have served the Commission as Chairmen before him.



Group photo with outgoing Chairman, Mr. Anwar Ali (centre) to his right, Dr. Ansar Parvez, Chairman, PAEC, Mr. Mansoor Ali Sheikh, Member (Finance), Maj. Gen. (Retd) Khalid Mushtaq, Member (Admin) and Mr. Abdul Hamid, Secretary, Commission. To his left, Mr. Ghulam Nabi, Member (Tech), Mr. Muhammad Naeem, Member (Fuel Cycle), Dr. Shoaib Ahmed, Member (Physical Sciences) and Dr. Abdul Rashid, Member (Biosciences).

PINSTECH Observes its First Annual Development Review Day

Pakistan Institute of Nuclear Science and Technology (PINSTECH) has been playing a pivotal role for various programmes of PAEC since its inception. The institute hosts one of the best operational research facilities in the region. Researchers at PINSTECH are doing state-of-the-art research and development work that has great scope and applications in the fields of environment, agriculture, life sciences, industry and materials, etc.

For better awareness of young researchers and to promote collaboration among various technical groups at the Institute, PINSTECH Annual Development Review (ADR)-2008 day was observed on April 15, 2009 upon the initiative of Dr. Shoaib Ahmed, Member (Physical Sciences), PAEC. Dr. Jamshed H. Zaidi, CS (Director Science) and Dr. Riffat M. Qureshi, CS (Director Coordination) acted as Convener and Chief Coordinator of the event respectively. All the 16 Divisions in 7 Directorates of PINSTECH participated in this event and displayed scientific models and posters at respective scientific stalls to highlight their R&D achievements during the year 2008.

Dr. Ansar Parvez, Chairman, PAEC was the chief guest on the occasion. Almost all the hierarchy of the Commission including DG's and Directors of PAEC Establishments in Islamabad witnessed this first ever venture of its type at PINSTECH. Many of them had deep affiliations with this mother Institute and recalled the memories of their past. The Chairman and other guests took active interest in the event and visited each scientific stall. They appreciated the fact that younger scientists & engineers were given chance to explain the posters and models. The Materials Division, PINSTECH mainly displayed high performance materials developed indigenously by researchers in this division. The Isotope Production Division displayed indigenously prepared radiopharmaceutical kits that are supplied to a number of medical centres and hospitals in Pakistan. Engr. Nasrullah Khan Qazi, Director General, PINSTECH, delivered vote of thanks and highlighted the salient features of PINSTECH R&D activities.

He informed that research and development programme of PINSTECH is multidisciplinary in nature, which includes Physical Sciences, Chemical Sciences, Materials Sciences, Engineering Sciences, Environmental Sciences and Research Reactor Utilization. In view of national needs, our current research themes include R&D work on nano materials, super alloys, fuel for nuclear research reactors, waste remediation, diagnostic and therapeutic radiopharmaceuticals and development of alternate energy sources. He mentioned that the Annual Development Review event has provided a three prong strategy for scientific and technical evaluation of R&D activities at PINSTECH. Firstly, it has helped us to evaluate what we have done in the past, what we are doing at present and what we should do in the future in view of our national needs. Secondly, it has helped researchers to explore areas for inter divisional collaboration. Thirdly and most importantly, this event has provided an excellent opportunity to seek advice and guidance from our seniors who have kindly graced the occasion by their presence. This is indeed a unique day when first time in the history of PINSTECH, researchers have displayed the past exploits, present endeavors for assessment & evaluation so as to streamline their future S&T activities.

Three Evaluation Committees unanimously decided winners of the best prizes in each category. The Chairman, PAEC awarded the prizes. The Best Model Prize was awarded to Mr. Jehanzeb, Pr. Scientist, Health Physics Division on his model titled: "Radiation Protection Robot for High Radiation Area". The Poster by NILOP titled: "Synthesis and Characterization of Silicon Carbide Thin Films by Radiofrequency Reactive Magnetron Sputtering Technique" was declared as the Best Poster of the event. Isotope Production Division won the Best Stall Prize. At this occasion, Member (Physical Sciences) and Director General, PINSTECH presented Souvenirs to the Chairman, PAEC.

In his concluding address, Dr. Ansar Parvez appreciated the theme of Annual Development Review Day and advised that such performance evaluations should be held on annual basis. He appreciated that through this event, PINSTECH researchers have very ably presented their best R&D outputs in a short time span. He emphasized that goal oriented research and measurable progress must be the hallmark of work at R&D establishments of PAEC. He commended the commitment, dedication and hard work of scientists/engineers, technicians and supporting staff and attributed PAEC's success to these work virtues.



A group photo taken on the occasion.

PIEAS Launches Master's Degree in Radiation and Medical Oncology

Radiology, nuclear medicine and radiation oncology are sometimes collectively termed as radiation medicine. Pakistan Atomic Energy Commission got engaged in this peaceful application of radiations soon after its creation when the first nuclear medical centre was established in Mayo Hospital, Lahore in 1963. The number of nuclear medical centres, which provide services in all the sub-specialties of radiation medicine, has now grown to 13. The doctors who used to run these centres during initial years were trained mostly in the West. Foreseeing the need for nuclear physicians, Dr. Inam-ur-Rahman, the founder of Pakistan Institute of Engineering and Applied Sciences (PIEAS) Islamabad initiated M.Sc. programme in nuclear medicine for doctors in 1988. With the support of Dr. Sher Mohammad Khan, the programme began with very close association of several leading international experts in the field including Dr. Alexander J. McEwan, who is, now, the President of Society of Nuclear Medicine of America and the legendary, Dr. M. N. Maisey, author of the text-book "Clinical Nuclear

Medicine".

At present, there are over 130 nuclear medicine physicians in Pakistan. Recognizing the high academic standards of this programme, International Atomic Energy Agency (IAEA) has included it in the programmes and it actively sponsors the same in the form of allocation of Fellowships for attending it. Nagara Tamaki, an eminent nuclear medicine physician from Japan, has written about the programme in his letter to "Journal of Nuclear Medicine", a highly valued publication in the field:

"One university in Pakistan offers an excellent nuclear medicine training program including nuclear cardiology. This extensive 2-year training and teaching program requires preparation and submission of a research thesis. Such efforts may serve to increase the number of nuclear cardiology scans performed." (J Nucl Med 2004 45: 19N-20N)

Pursuant to urgent need for qualified radiation oncologists in PAEC's Cancer Hospitals across the country, PIEAS has initiated a two-year M.Sc.

programme in "Radiation and Medical Oncology". It comprises of one-year course-work in basic and clinical sciences preceded by a two-month zeroeth semester. Prominent oncologists of the country will contribute to the programme in addition to PIEAS faculty. The second year is devoted to research and clinical training. For this purpose, students will be placed at leading institutes providing healthcare in oncology. The students will be rotated between the institutes in order to expose them to clinical training in all areas of oncology. Such training will enable the graduates to treat cancer patients using both radiation and medicine.

The first batch consists of 11 students. It includes three fellows; two students each from CENAR (Quetta) and AEMC (Karachi); and one each from MINAR (Multan), INOR (Abbottabad), IRNUM (Peshawar) and NLP (Islamabad). It is hoped that the graduates of M.Sc. (Radiation and Medical Oncology) will provide good professional care to the patients in their respective centres, especially in small cities like Quetta and Abbottabad. ■

One-day International Seminar on the Fabrication of low dimensional nanostructures (quantum wells, wires and dots) by Molecular Beam Epitaxy

Directorate of National Institute of Lasers and Optronics (NILOP) organized a One Day International Seminar on the fabrication of low dimensional nanostructures (quantum wells, wires and dots) by molecular beam epitaxy held at PINSTECH on 30th, January 2009. Three distinguished speakers, Dr. Bodo Richter, Dr. Andreas Thissen from M/s Specs Germany and Dr. Arshad Mahmood, Project Director, Nano-devices Labs from NILOP/PINSTECH delivered lectures related to the fabrication of low dimensional nanostructures by molecular beam epitaxy. DG, PINSTECH elaborated

the importance of this session in his address.

Currently, NILOP has commissioned Molecular Beam Epitaxy (MBE) system which will be helpful for the research of international standard in the area of low dimensional nanostructures. Molecular Beam Epitaxy produces complex structures of varying layers which are further processed to produce a range of electronic and optoelectronic devices, including high speed transistors, light-emitting diodes, and solid state lasers. MBE is a powerful technique both for research into new materials and layer structures, and for producing high-

performance devices. These devices are used in such applications as fiber-optics, cellular phones, satellites, radar systems, and display devices. This system will provide a pivot for promoting nation-wide interdisciplinary research for scientific and technological development. The particular contribution of the system will be manpower development by imparting research-based higher education (M.Phil, Ph.D. and Post Doc.) in the area of Nano-materials indigenously, thereby helping to meet the need for Human Resource Development in Pakistan in this emerging technology. ■

PAEC's NIA Tandojam organizes Farmers' Day-2009

PAEC's Nuclear Institute of Agriculture (NIA) Tandojam organized Farmers' Day on Wednesday 25th February 2009. Dr. Abdul Hameed Bajoi, Vice Chancellor, Lasbela University of Agriculture, Water and Marine Sciences, Uthal, Balochistan graced the occasion as the chief guest. Those who attended included progressive growers, members of Provincial Seed Council, representatives of Sindh Zarai Forum, Sindh Abadgar Board, Chamber of Agriculture, Private Seed Corporations, Department of Agriculture and the media.

Mr. Muhammad Afzal Arain, Director, NIA, highlighted the achievements of the Institute. He said that the research activities of the institute are performed in the four important disciplines of agriculture, namely Plant Breeding & Genetics, Plant Protection, Plant Physiology and Soil Science. The institute has evolved 22 high yielding, good quality and better adapted varieties of important crops such as wheat (9), rice (6), cotton (3), sugarcane (2), mungbean (1) and lentil (1). These varieties have contributed significantly in the national economy and have improved the socio-economic conditions of the farmers. The institute research is based on the present needs of the growers. New varieties of crop species have been evolved which besides their higher yield have also potential to thrive under biotic (diseases) and abiotic (high temperature, drought and salinity) stresses.

Besides released varieties, cases of two new high yielding wheat varieties, NIA-Amber and NIA-Sonehri, and a high yielding good fiber quality cotton variety NIA-2008 are lying with Sindh Government for release in the Province. Introduction of new hybrids of rice may enhance production in the rice growing areas, but it needs the quality assurance of seed and proper quarantine measures. Rice varieties evolved by NIA have excellent yield potential and fetch comparatively higher market value than the hybrid ones.

NIA has developed a biocontrol technology for insect pest management of important crops and fruits. The technology is finding a wide use by the farming community of Sindh. Recently, a new bio-control



Dr. Abdul Hameed Khan Bajoi, Vice Chancellor, Lasbela University of Agriculture, Water and Marine Sciences, Uthal, chief guest and others addressing the participants of Farmers' Day at NIA, Tandojam.

laboratory has been established at Rani Pur Sugar Mills, which will facilitate the farmers of Sukkur, Khairpur and Sadiqabad for economical and eco-friendly management of insect pests.

Water logging and salinity is a serious problem being addressed globally. NIA has introduced trees, which serve as biological pumps for lowering down the water table. Through Farmers Participatory Development Project on Saline Agriculture, successful efforts have been made in district Badin to utilize wastelands under saline environments.

Raees Abdul Majeed Nizamani, President, Sindh Aabadgar Board, and others including Mr. Noor Ahmad Nizamani, Major (Retd) Omar Farooque, Dr. Fareed Laghari, Dr. M. Sarwar Bughio, Mr. Zahir Hussain, Mr. Tariq Khanzada, representing different forums of farming community gave their views. Their major complaints were related to the

shortage of irrigation water, increasing prices of inputs and their non-availability at proper times. The speakers appreciated the scientific achievements of NIA in enhancing their agricultural productivity by introducing different productive and protective technologies. The chief guest, Dr. Bajoi in his address appreciated the efforts of NIA scientists and urged the promotion of research activities in the new areas. He also emphasized to establish joint projects with Balochistan government and with the Lasbela University of Agriculture.

A scientific exhibition was also launched. The participants witnessed the achievements of scientists by visiting the green wheat fields of seed multiplication and various experiments. Lastly, Director Muhammad Afzal Arain offered vote of thanks.

Earlier, Dr. Abdul Hameed Bajoi, Vice Chancellor visited different labs and had thorough discussions with the scientists.



Participants of Farmers' Day visiting fields of NIA, Tandojam. Front (Centre) Dr. Abdul Hameed Khan Bajoi, chief guest.

Three-day Workshop on Bio-Control Technology at PAEC's NIA, Tandojam

The insect pests are conventionally controlled by indiscriminate use of large quantities of insecticides, which produce several undesirable effects including development of resistance to insecticides, toxic residues in the produce, environmental pollution, destruction of beneficial organisms and health risks. The concept of Integrated Pest Management [IPM] is becoming popular because it encourages the use of several components in the pest control system in a harmonious combination and minimal impact on the environment. Biological control is a basic component of an IPM system and has been used successfully at global level to combat many insect pests.



Participants of the workshop with chief guest and Director, NIA.

Nuclear Institute of Agriculture (NIA) has developed a bio-control technology for the insect pest management of sugarcane and cotton crops. During the year 2007-2008, NIA succeeded in releasing the bio-control agents on 98 thousand hectares of sugarcane for the management of borers and on 600 hectares of cotton to manage the bollworms and sucking pest complexes. Mass rearing of fruit fly, *Bactrocera zonata* and its parasitoids are being done at NIA and the bio-control agents are being integrated with male annihilation

technique for the management of fruit flies at farmer's field.

To introduce the bio-control technology in the insect pest management set up of Pakistan, NIA organized a three day training workshop on Bio-Control Technology from 24 to 26 March 2009 which was attended by 30 participants from all over the country. The workshop was inaugurated by Mr. Muhammad Afzal Arain, Director, NIA who highlighted the need for eco-friendly insect pest management in the present scenario and urged the participants to

work for the residue free production of the crops and fruits. The participants took keen interest in preparation of artificial diets of fruit flies and the predator, *Chrysoperla carnea*. In the concluding ceremony, the chief guest Dr. Naeem Ahmed Laghari, Director NIMRA, Jamshoro distributed certificates to the participants of workshop. He appreciated the efforts of NIA for holding such an important workshop to minimize the usage of insecticides as many toxic chemicals are causing serious diseases like cancer, he mentioned. ■

Mehran University of Engineering and Technology (MUET) Jamshoro Organizes a talk on "Contributions of PAEC"

Mehran University of Engineering and Technology (MUET), Jamshoro organized a talk on "Contributions of PAEC towards Socio-Economic Uplift of Pakistan" on March 14, 2009.

Dr. Naeem Ahmed Laghari, Director, Nuclear Institute of Medicine & Radiotherapy (NIMRA), while addressing the participants, said that PAEC is continuously contributing to the development of the nation by utilization of nuclear technology over the years in the field of Nuclear Power Generation, Medical & Health Sciences, Agriculture and Industries, etc. In the question-answer session, students asked the questions

regarding job opportunities in PAEC and in its infrastructure.

The Vice Chancellor, MUET, Jamshoro appreciated the efforts and thanked Dr. Naeem Ahmed Laghari, Director, NIMRA for giving such informative presentation. The Vice Chancellor, MUET and Director, NIMRA also agreed to sign an MoU between NIMRA and Biomedical Engineering, MUET for the teachers training and training/internship for final year students of Biomedical Engineering discipline for the year 2009-10. The draft of the same has already been submitted to Chairman, PAEC for approval. ■

NIFA awarded ISO 9001-2000 certification

NIFA has been awarded ISO 9001-2000 certification. On behalf of Bureau Veritas, Director, DQA, Mr. Shahid Hussain, presented the certificate in a ceremony held at NIFA.

The event was chaired by Dr. Abdul Rashid, Member (Biosciences), PAEC. Dr. Tariq Jamal Solaija, DG, Technical, PAEC along with Directors Technical, Dr. Raskhshanda Bilal and Dr. Shafqat Farooq were also present at the occasion. Dr. Farooq-e-Azam, Director NIFA, Dr. Aurengzeb and Mr. Fazal Mehmood (DMR) were conferred special awards in recognition of their endeavours in achieving the certification. ■

Coordination Meeting held at NIFA

A three-day coordination meeting of PAEC agriculture/biotechnology institutes was held at NIFA, Peshawar from April 1-3, 2009 to review the R&D activities and discuss the future plan of work. The meeting was chaired by Member (Biosciences), Dr. Abdul Rashid. Director, NIFA, Dr. Farooq-e-Azam presented welcome address. Addressing the inaugural session, DG, Technical, Dr. Tariq Jamal Solaija emphasized on well oriented and coordinated research efforts to improve

agricultural production of the country. In his inaugural address, Member (Biosciences) appreciated the research work being carried out by the participating institutes and highlighted the need to convene such meetings regularly.

Directors of NIFA, NIAB, NIBGE and NIA presented an overview of research activities being undertaken at their institutes and the salient achievements.

A special committee headed by Director, NIFA and comprising directors of the participating institutes was formulated to prepare recommendations of the meeting. These recommendations were presented before the participants in the concluding session followed by a general discussion session. In his concluding remarks, Member (Biosciences) provided guidelines for future R&D work at the agriculture and biotechnology institutes.

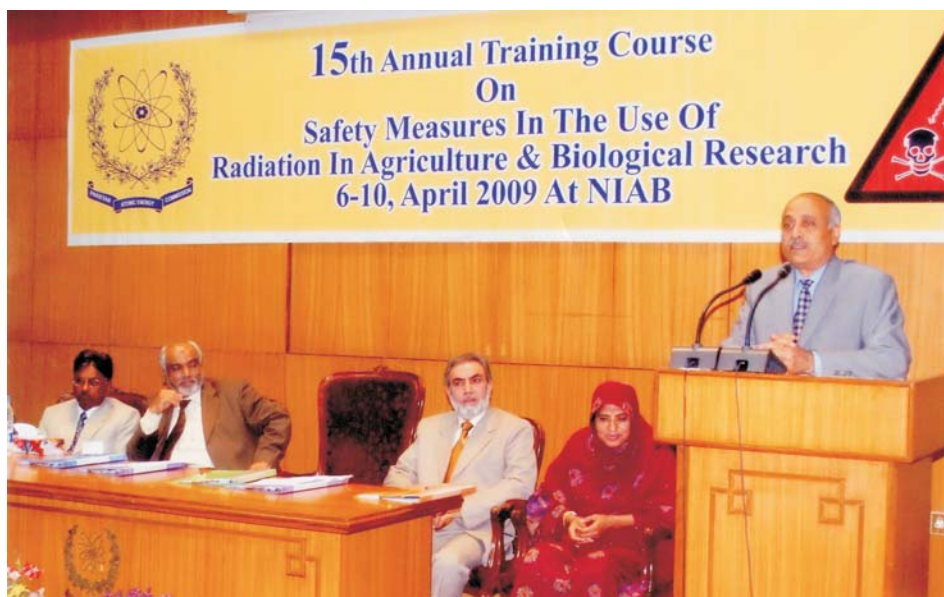


From (L to R) Dr. Farooq-e-Azam, Director, NIFA, Dr. Tariq Jamal Solaija, DG (Technical) and Dr. Abdul Rashid, Member (Biosciences) addressing the Coordination Meeting.

NIAB holds Annual Training Course on "Safety Measures in the use of Radiation"

PAEC's Nuclear Institute for Agriculture and Biology (NIAB), Faisalabad organized the 15th training course on the "Safety Measures in the use of Radiation in Agriculture and Biological Research" from 6-10 April, 2009. The objective of the course was to create awareness and impart knowledge on the use of atomic radiations and their safe handling at work places and radiation hazard areas. The course was attended by 32 participants representing 25 R&D organizations and universities of the country. This course has been a regular annual activity of the Institute and more than 315 researchers and academicians have been trained so far.

The course was inaugurated by Prof. Dr. Iqrar Ahmad Khan, Vice Chancellor, University of Agriculture, Faisalabad. Speaking on the occasion, Dr. Khan appreciated the research achievements and efforts of NIAB for dissemination of knowledge and human resource development in the country. He commended the efforts of course organizer and patronage of PAEC authorities for regularly organizing this training course for the



Professor Dr. Iqrar A. Khan addressing the audience, seated to his right are Dr. Nasim Akhtar, Course Organizer, Syed Anwar Shah, Director NIAB, Dr. Zafar M. Khalid, Director, NIBGE and Professor Dr. Iftikhar A. Khan, Dean Faculty of Agriculture, UAF.

last 15 years. Earlier, Director NIAB, Syed Anwar Shah, highlighted the achievements of the Institute. He mentioned that 26 improved varieties evolved by NIAB are grown on vast area in the country. The additional income accruing from these varieties runs into billions of rupees and farmers

are also benefiting from other technologies developed by the Institute.

Dr. Mubrik Ali, Chief Executive, Punjab Agricultural Research Board (PARB), Lahore was the chief guest at the concluding session.

Chairman's Assignment Abroad

- Dr. Ansar Parvez, Chairman, Pakistan Atomic Energy Commission participated in the International Ministerial Conference on Nuclear Energy in the 21st Century held at Beijing, People's Republic of China from 20-22 April, 2009. He made a presentation on Status and Prospects of Nuclear Energy in Pakistan in this International Ministerial Conference.

Member's Visit Abroad

- Mr. Zia-ul-Hasan Siddiqui, Member (Nuclear Power Generation), PAEC paid one-day visit to NPGS, San Diego, USA on 08 April, 2009.

Assignments of PAEC Scientists Abroad

- Dr. Manzoor Ahmad Choudhry, Deputy Chief Engineer, Head, Isotope Application Division (IAD), Directorate of Technology, PINSTECH, Islamabad undertook assignment as an IAEA Expert for IAEA/RCA Executive Meeting on Application of Isotope Techniques to Solve Hydrological Problems at Kuala Lumpur, Malaysia from 20-24 April 2009.
- Mr. Shahid Akbar Khalil, Senior Scientist and Mr. Zahid Mahmood, Junior Scientist, Food Science Division at Nuclear Institute for Food and Agriculture (NIFA), Peshawar participated in IAEA/RCA Regional Training course on "Use of Irradiation as a Phytosanitary Application for Economically Important Fruits" held at Beijing, China from 23-27 February 2009. The training was organized under RCA project on "Novel Applications of Food Irradiation Technology for Improving Socio-economic Development". Both the scientists also made presentations on the subject.
- Dr. Ihsanullah, DCS/Head Food Science Division, NIFA, Peshawar undertook assignment as an expert to Budapest, Hungary from 23-27 February 2009 for the inspection of High Dose Research Irradiator to be supplied to NIFA.
- Dr. Abubaker Shahid, DCMO/Director, PINUM, Faisalabad participated in "11th International Conference-Primary Therapy of Early Breast Cancer" from 11-14 March 2009 at St. Gallen's

Switzerland.

- Dr. Owais bin Qadeer Gill (MS Nuclear Medicine, SMO PINUM) attended a training programme in cardiac SPECT at Royal Adelaide Hospital (RAH) Adelaide, Australia (24 Nov to 24 Dec, 2008). This training was conducted in connection with International Council for Genetic Engineering and Biotechnology agency (ICGEB) sponsored research project titled "Cardiac SPECT imaging and its correlation with DNA mutations in LDL receptor gene in Familial Hyperlipidemia". It was focused on techniques used for cardiac stress and study acquisition. This training not only improved his skill required for carrying out Nuclear Cardiology studies, but will also help in better accomplishment of the above mentioned project.

- Mr. Sajid Bashir (MS Medical Physics, SS, PINUM) participated in 5-day training Course arranged by IAEA in cooperation with Bangladesh Atomic Energy Commission, on Quality Assurance in Nuclear Medicine for Medical Physicists in Dhaka from 18-02-09 to 22-02-2009. A total of 18 participants from 9 different countries attended the course. The objective of the course was to impart the importance of quality assurance in Nuclear Medicine and its ultimate effect in the proper diagnosis of diseases. Dr. George El Fakhri of Harvard Medical School, USA and Dr. Roger Faulton of University of Sydney delivered lectures on different aspects of quality assurance and the role of medical physicist in a nuclear medical centre. Overall, the training will enhance his performance evaluation of modern instruments in imaging physics.

Visits of Foreigners to Pakistan

- Dr. Carl Christian Dingel, Deputy Project Coordinator, Organization for Agriculture in Saline Environment (OASE), Amsterdam, Netherlands will visit NIAB/Projects Site Biosaline Research Station (BSRS), Lahore and Pakca Anna from 25-28 April, 2009 under Biosaline Agroforestry Project.
- Dr. Nico Marcar, Research (Australia) along with Dr. Theiveyanathan Swaminathan and Dr. Punthakey Jehangir Framroze (Australia) visited NIAB

(Pakca Anna, IWASRI Lahore Field Sites; Shorkot and Pindi Bhattian) from 24-28 February 2009 under Public Sector Linkage Programme/ACIAR Project.

Foreign Trainee under IAEA Award

- Mr. Franklenn Ikechukwn Ajaebili (Nigeria) who has been accepted for 3 months IAEA Fellowship under IAEA Technical Cooperation Programme (6 weeks each at INMOL, Lahore and NIBGE, Faisalabad) has started his first spell of six weeks Fellowship Training at INMOL, Lahore in the field of Radioimmunoassay from 31 March to 14 April, 2009. Thereafter, he will join NIBGE, Faisalabad for further six weeks Training in PCR Technology from 15 April to 31 May 2009.

Assignment of Expatriate Pakistani Consultant under VEPCON Programme

- Dr. Ghazala Naheed Usmani, Associate Professor of Pediatrics Chair, Pediatric Palliative Care, University of Massachusetts Medical Center, USA (Specialist in Pediatric Hematology Oncology) carried out assignment at INMOL, Lahore from 23 February 2009 to 5 March 2009 under VEPCON Programme. PAEC doctors at INMOL, Lahore discussed with her Pediatric Hematology Malignancy Unit to be started in

HMC-3 Engineer awarded Ph.D. degree

Dr. Miraj Mohammad Jan, Senior Engineer, HMC-3 has been awarded Ph.D. degree by the University of Leoben, Austria in the field of mechanical engineering. The topic of his thesis was "Application of Damage Tolerant Design in Mechanical Engineering".



In the course of his research work, Dr. Jan combined advanced experimental methods in the areas of mechanics and micromechanics of materials, leading to a novel and promising method of obtaining stress-life diagrams from the basic static and fatigue crack growth properties of metallic alloys, and applying them to design computations, especially in the context of damage tolerant design.

PAEC's Directorate General of Safety Organizes Training Course on Safe Transport of Radioactive Material, 20-24 April 2009

Thousands of shipments of radioactive materials of all kinds are transported daily on international and national routes. These consignments, which are carried by road, rail, sea, air and inland waterways, can range from smoke detectors and cobalt sources for medical uses to nuclear fuel cycle materials for electricity generation. Safety measures have been developed to protect people, property and the environment against the hazards posed by these transport activities. The International Atomic Energy Agency (IAEA) has published harmonized regulations known as TS-R-1 for the safe transport of radioactive material worldwide by all means of transport.

PNRA has already adopted in toto these IAEA regulations (TS-R-1 2003 Version) as national regulations for the safe transport of radioactive material. In order to provide awareness and in-depth knowledge on the application of these IAEA regulations to PAEC professionals, Directorate General of Safety (DGS) organized a Training Course on Safe Transport of Radioactive Material based on IAEA Transport Regulations (TS-R-1 2003 Version) from 20-24 April, 2009 at Islamabad. This was the second Course on this topic organized by DGS. The first Course was held in 2006 in which 65 participants from various PAEC Establishments attended the course. The present Course was inaugurated by Mr. Ghulam Nabi, Member (Technical), PAEC in a simple ceremony. DGs & Directors of various PAEC Establishments attended the function.

Fifty participants from various PAEC Establishments, SPD Security Division and PAEC Security Directorate including participants from Pakistan Army, Pakistan Navy, Pakistan Air Force and International Relations Analysts attended this Training Course.



Mr. Ghulam Nabi (Member Technical), PAEC addressing the gathering at the inaugural session.

Members of teaching faculty comprising of officers from DGS, DNFC, PINSTECH, NORI, KNC-I, Chairman Secretariat and Security Division, PAEC delivered lectures. Mr. Ibrar A. Sheikh, Deputy Chief Scientist was the Coordinator of this Course.

A total of eighteen lectures were delivered during the course of five days including fourteen lectures on various topics related to TS-R-1 requirements, three lectures on the implementation of these regulations and one demonstration/presentation on package preparation.

The participants were provided folders containing copies of the IAEA regulations TS-R-1 and IAEA Advisory Material. The IAEA Advisory Material provides the explanation of the requirements of transport regulations TS-R-1 in greater detail and also the basis for determining the dose rate on the surface of the package or on conveyance depending on the type of package. In addition, the participants were also provided a CD containing relevant documents issued by IAEA for the implementation of these regulations.

To make the Training Course more interactive, three group exercises were arranged. These exercises proved very useful as the participants fully involved

themselves in these exercises. Three videos one of thirty minutes duration and other two of about ten minutes duration each were also shown to the participants. These videos were very much appreciated by the participants as being very informative. The videos provided an overview of the transport activities and transport practices being carried out worldwide. In the final session, a practical demonstration on the preparation of A-type package containing Technetium Generator and Iodine Isotope was given covering the practical dimensions of the Course.

The Course was concluded by Mr. Muhammad Naeem, Member (Fuel Cycle) on 24 April, 2009. DGs & Directors of various PAEC Establishments attended the function. Certificates were awarded to all the participants by Member (Fuel Cycle).



Mr. Muhammad Naeem, Member (Fuel Cycle), PAEC awarding a certificate to one of the participants. Seen in the middle is Dr. Syed Arif Ahmad, DG, DGS.