

Newsletter

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University of Engineering &
Technology, Peshawar, Pakistan

Patron: Engr. Syed Imtiaz Hussain Gilani, Vice Chancellor

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Flash

Institute of Mechatronics Engineering



striving for the highest level of
ENGINEERING EXCELLENCE

Vice Chancellor's Message

Public sector higher education (HE) sector went through turbulent financial times in the last few months. Mercifully, better sense has prevailed, and while still short of desirable amounts, enough funds have been released to universities to keep their programs running. We are hoping for further softening of hearts for HE.



Leaders in the HE sector of Khyber Pakhtunkhwa are of the considered opinion that credible and equitable education is the only-repeat, only-answer to Pakistan myriad problems. This is not rocket-science and indeed, a no-brainer. Somehow this thought never found root on ground.

Among a host of existing things that need to be corrected and new ones established, it is self-evident that public sector education can become credible and equitable only if it is adequately funded. To us in KPK, adequate funding translates to 4% of GDP (Global average is around 5%). The current outlays on education of less than 2% of GDP are lost as "expenditure"; this can be converted into "investment" if we raise it to 4% that ensures a future stream of revenues in the form of better trained human resource – the fuel that powers the economy.

Let us strive towards this goal with the slogan:

تعلیم کو 4 دو قوم کو سدھار دو

4 to Education Road to salvation

God bless you all.

Engr. Syed Imtiaz Hussain Gilani

World Space Week 2010

The World Space week was held at UET, Peshawar in joint collaboration of SUPARCO Karachi, from 4–8 October. The four day event organized by ASME, was aimed to build the workforce of inspiring engineering students in the field of upper space technology while promoting space science in engineering education through international cooperation. The four day event commenced from with the inauguration ceremony, included seminars, quiz competitions, poster making competition, declamation contest culminated with the prize distribution ceremony, and “Space Walk”. The Vice-Chancellor, Career Development Center, administration, teaching staff and students actively participated in the event, and was extensively covered by the electronic and print media different seminars on topics “Mysteries of cosmos, were conducted by experts from SUPPARCO and Institute of Space Technology Islamabad. Dr. Qamar-ul-Islam, Chairman, Department of Communication studies, IST delivered lecture on Space Satellites. Dr. Arshad deliberated on the “use of GIS and GPS,” Mr. Hayat Khan SUPPARCO talked on “Robotic in space” and Mr. Kashif, explained about the materials and software’s used for Space”. The Vice-Chancellor delivered his address at the inaugural ceremony and appreciated the role of partners particularly CDC in holding such a healthy activities in the university. The Space Walk, was arranged on October 7 from UET to PUTA Hall with the message to promote the peaceful use of Space Technology the Heads of Departments, and students, led by Dean faculty of

Engineering, Professor Dr. Azzam-ul-Asar took part in the walk. Professor Dr. Azzam-ul-Asar also conferred awards to the prize winners earlier.

The prize winners for the Quiz Competition included, First prize: Zohaib Alam, (Mechatronics Engineering) and Ossama (Industrial Engineering), Second Prize: Mashal Riaz and Arshad Ali (Mining Engineering), Third prize: Zakir Ullah (Electrical Engineering) and Yahya Khurshid (Industrial Engineering).

The Prize winners for the Model Making Competition contest included: First prize: Mashal Riaz, Arshad Ali, M.Nazeer and Asghar Iqbal (Electrical Engineering), Second Prize: Rabiya Abbasi, Aniq Azeem and Ufaq Fahim (Mechatronics Engineering), Third Prize: Usman Saeed, Haider Shahid and Shafiq Ullah (Mechanical Engineering).

The The Prize winners for the Poster Making Competition included: First Prize: Faizan Bashir (Computer Systems Engineering), Second Prize: Myda Khan (Electrical Engineering), Third Prize: Anosh and Sadia Bakhtiar (Mechatronics Engineering).

The Prize winners for the Declamation Contest included: First Prize: Sher Afghan (Electrical Engineering), Second Prize: Yousaf (Industrial Engineering), Third Prize: Amir Zahoor (Mechatronics Engineering).



Vice Chancellor, Dr. Qamar-ul-Islam and Asstt. Prof. Kashif Naveed addressing the audience



Prof. Dr. Azzam-ul-Asar and students of UET during the Space Walk

Welcome Aboard

Dr. Muhammad Irfan Khattak

Having received a prestigious scholarship from UET, Peshawar, Dr. Muhammad Irfan Khattak completed his Ph.D from leading "Center for Mobile Communications Research" at Loughborough University, UK. After winning and completing a six month competitive research spot with the UKs' Technology Transfer Board, he returned to UET as an Associate professor at the Department of Civil Engineering, Bannu Campus in September 2010.

Dr. Khattak is an expert on Microwave Measurement Techniques and, in particular, new techniques for Wearable Antennas. His major research has been to see how antennas behave when they are close to humans. This knowledge will be needed for the next generation communication systems that will be integrated into clothes. Technical textiles and on-body antennas have been identified as key areas for technology growth in the communications sector. The University welcomes Dr. Irfan on board!

Dr. Rawid Khan

Dr. Rawid Khan completed his Ph.D in Civil (Transportation) Engineering from University of Nottingham, UK, under the UET Faculty Development Program, and joined the department of Civil Engineering. His Ph.D thesis titled, "Quantification of Micro-structural Damage in Road Asphalt" is part of revising the British Standard (BS) Code for road design in UK and Europe. His research focused on strength decrease of asphalt road without visible sign of failure. He used non-destructive technique to study the internal microstructure of asphalt including nucleation, orientation and propagation of cracks due to traffic load. Fatigue, permanent deformation and moisture damage at micro level investigated in road asphalt. His work presented in international conferences and published in the journals of international reputation.

Dr. Rawid continued his research in the Texas Transportation Institute (TTI), Texas A&M University, USA for three months under the UK-USA joint research program. He also worked as post doctorate research fellow in University of Nottingham on the design optimization of re-claimed asphalt and advanced modelling of asphalt pavement. His research was carried out in joint collaboration with other institutions as well. He had a chance to visit road/transportation research centers in Denmark, Belgium, Netherlands and Germany. He also remained the incharge of non-destructive laboratory in Nottingham Transportation Engineering Centres, University of Nottingham.

Dr. Rawid has seven-year experience in design and construction supervision of roads and its allied structures. He also has work experience in design and construction supervision of Islamabad Peshawar Motorway M-1. The University welcomes Dr. Rawid on board!

UET and IHT to Work Jointly in "Sustainable Production"

UET and Iqbal Hamid Trust (IHT), the consultant firm running the capacity building project, "Sustainable and Cleaner Production" in the manufacturing industries of Pakistan, SCI-Pak, signed a Memorandum of Understanding for enhancing the capacity building of students and faculty through trainings and seminars in the field of Sustainable Production. SCI-Pak is a three-year capacity building project under the SWITCH- Asia Program, partly funded by the European Union, Pakistan. The MoU was signed by the vice chancellor and Qazi Hamid, Senior Consultant, IHT.



Vice Chancellor and Qazi Hamid while signing the MoU

Honors & Awards

PEC Life Time Achievement and Excellence Awards

The Pakistan Engineering Council (PEC) held its Convention and 22nd Annual General Body meeting in Peshawar from 17-18th April, 2010 under the convener ship of Engr. Zahid Arif. The chief guest, Governor Khyber Pakhtunkhwa, Engr. Owais Ghani Ahmad conferred PEC life time achievement and excellence awards to the selected professionals from UET, Peshawar at the award distribution ceremony. These included vice chancellor, Engr. Syed Imtiaz Hussain Gilani, Dr. Khan Gul Jadoon, Professor mining engineering, Dr. M.A.Q Jahangir Durrani, Professor civil engineering, Dr. Taj Ali Khan, Professor agricultural engineering and Dr. Iftikhar Ahmad, Professor electrical engineering for rendering valuable service in the engineering profession. The convention was attended by a large number of eminent engineers, academics, students and industrialists from across the country.

UET selected for Special Mention at ACU Network Conference

UET Peshawar has been selected in the "Special Mention" category for the 4th Association of Commonwealth Universities (ACU) PR, Marketing and Communications Network Conference to be held

from 24 - 26 November, 2010 in Melbourne, Australia. The Directorate of Media and Publications submitted the entry for competition based on university's efforts in setting the best example of "outreach and community relations" by offering five month diploma in gemology to the deserving people from FATA, offered at its Gemstone Development Center in collaboration with the USAID, Pakistan.

The entry, appreciated by the Network judges, will receive publicity in the ACU PR Marketing and Communication Network magazine "Impact" and will be highlighted at its Awards ceremony to be held at the forth coming conference. UET is the only university for being selected in the respective category from Pakistan.

Faculty Development Program

Best Paper Award

The International Society for Genetic and Evolutionary Competition (ISGEC) created the "Best Paper Award" in its Genetic and Evolutionary Computational Conference in 2002. Under the same theme, the ISGEC nominated Dr. Gul Muhammad, Associate Professor, Department of Electrical Engineering, UET, Peshawar for presenting the best paper titled, "Evolution of Cartesian Genetic Program Capable of Learning".

Engr. M. Ashraf Visited MAE Center, UIUC, USA

Engr. Mohammad Ashraf, Assistant Professor Department of Civil Engineering and Ph.D Student of Prof. Dr. Akhtar Naeem Khan, visited the top ranked university of USA, University of Illinois at Urbana-Champaign (UIUC) for six and half months training (Jan-Aug, 2010). Engr. Ashraf worked at the state-of-the-art Earthquake Engineering Center of UIUC known as Mid-America Earthquake (MAE) Center. He went through rigorous training under the supervision of Dr. Amr Elnashai, who is the Chair of Civil and Environmental Engineering Department at UIUC. The visit of Engr. Ashraf was sponsored under the HEC project of international linkage of UET with UIUC.

Engr. M. Ashraf at UIUC conducted his Ph.D research related to seismic risk assessment of Pakistani Buildings with special emphasis on retrofitting of masonry buildings. As part of research he also got hand on experience of sophisticated experimental testing facilities at UIUC and audited advance courses in Earthquake Engineering. Besides attending numerous seminars and conferences. Engr. Ashraf presented a seminar on seismic retrofitting of masonry buildings to the researchers and faculty members at MAE center. During his stay at UIUC, Engr. Ashraf completed his Ph.D thesis writing, published five papers in international conferences and submitted two other to international impact-factor journals. He presented one of his papers in the 9th US national and 10th Canadian Earthquake Engineering Conference, Toronto, Canada.

Prof. M. Pervaiz Designed the Solar Assisted Conventional Tobacco Barn

Having a capacity of 2 ton, a solar assisted conventional barn was designed and implemented at Tobacco Research Center Mardan. An estimated cost of Rs. 1 million was spent by Pakistan Tobacco Board. Prof. M. Pervaiz, Department of Mechanical Engineering acted served as the consultant for this project. The solar assisted barn having a 24

square meter aperture area and an absorber plate with 1500 fins. 2 pebble beds were designed for energy recovery, reducing the wood consumption by 40-50 pc. It will reduce deforestation and is environment friendly.

Commercializing your Research Ideas

An event on "Commercializing your Research Ideas" was held at UET (Mardan Campus) on 5th May. The event was organized by Wicom Society (Mardan Campus). The speaker, Dr. Akhtar H. Khalil Associate Professor highlighted the importance of commercialization of research ideas for universities and R&D organizations/institutions. Commercialization, he said, encourages R&D activities at universities while promoting competition and improvement would create profitable business opportunities, employments, job trainings for graduates. Dr. Akhtar Khalil particularly emphasized on the commercialization of research ideas with regard to protecting Intellectual Property and licensing, consultancy and spin out companies.

Proposal Writing

Dr. Akhtar Hussain Khalil, Assistant Professor and Director Public Policy Research arranged a one-day workshop on "Proposal Writing" on 29th September, at Mardan Campus. Dr. Akhtar highlighted a few misconceptions about project selection and gave a detailed orientation of "proposal writing".

This interactive workshop trained the students on proposal writing and discussed in detail the essential components of a proposal, different types of proposal formats, made for funding/projects which are normally mentioned in the call for proposals. Dr. Akhtar also trained the participants on writing effective proposals for final year projects, while giving hands-on training to the students.

Dr. Akhtar urged the participants to reflect innovation, contribution, creativity, industrial applications and impact of their projects on public policy, economy and environment.

UET Entrance Test 2010

The Entrance Test for admission to B.Sc Engineering programme and Bachelor of Computer Sciences, BCS (Non-Engineering Programme), session 2010 was held on August 22nd, at Col. Sher Khan Stadium and Ayub Medical College, Abbottabad simultaneously. The test was conducted by Education Testing and Evaluation Agency (ETEA). In total, 10,718 candidates appeared in both centers. Under the engineering programme, over all 9,981 male candidates while 393 female candidates took the Entrance Test. Whereas for BCS, 341 candidates appeared both in Peshawar and Abbottabad Centers.

Fullbright Scholarships

Tariq Usman Saeed and Sikandar Hayat Sajid, students of Department of Civil Engineering have joined the University of Idaho, Idaho, USA and Tennessee Technological University, Cookeville, TENNESSEE, USA, respectively under the Fullbright Scholarship (Global undergraduate Exchange Program) jointly administered by USEFP (United States Education Foundation in Pakistan) and IREX (International Research and Exchange Board) for Fall, 2010 semester.

Research/Conference Papers

- ▶ Dr. S. S. Mahmud, "Centralized resource allocation policies for meshed high data rate wireless personal area network", IET communication journal, September 2010.
- ▶ Dr. S. A. Mahmud, "A resource Allocation Strategy for Meshed High Data Rate WPANs", IEEE communication letters, June 2010.
- ▶ Dr. S. A. Mahmud, "Rate adaptation for multi-rate IEEE 802.11 WLANs using mutual feedback between transmitter and receiver", IEEE PIMRC 2010, Istanbul, Turkey, September 2010.
- ▶ Dr. Gul Muhammad Khan, Julian Francis Miller, "Rearranging games using single development neuron" Odense, Denmark, published in *Alife XII: proceedings of the 12th international conference on the synthesis and simulation of living systems*, 241-248-2010, 19-23 Aug. 2010.
- ▶ Dr. Gul Muhammad Khan, Julian Francis Miller, "Solving mazes using an artificial developmental neuron" Odense, Denmark, published in *Alife XII: proceedings of the 12th international conference on the synthesis and simulation of living systems*, 634-641-2010, 19-23 Aug. 2010.
- ▶ Maryam Mahsal Khan, Gul Muhammad Khan, Julian F. Miller, "Evolution of neural networks using Cartesian genetic programming" published in WCCI 2010, world Congress on Computational Intelligence, Barcelona, Spain, 18-23, July 2010.
- ▶ Javed Ali, Saeed Islam, Siraj-ul-Islam "The Solution of Multipoint Boundary value Problems by the Optimal Homotopy Asymptotic Method" *Computer Mathematics with Applications*, Vol. 59, 6, (2010), 2000-2006.
- ▶ Fazal Haq, Imran Aziz, Siraj-ul-Islam "A Haar Wavelets Based Numerical Method for Eight-order Boundary Problems, *Computer Mathematics with Applications*", Vol. 6, 1, (2010), 25-31.
- ▶ Siraj-ul-Islam, Imran Aziz, Fazal Haq "A Comparative Study of Numerical Integration Based on Haar wavelets and Hybrid Functions, *Computer Mathematics with Applications*, Vol. 59, 6, 1 (2010), 2026-2036.
- ▶ Siraj-ul-Islam, Fazal Haq, S.I.A. Tirmizi "Collocation Method Using Quartic B-Spline for the Numerical Solution of the Modified Equal Width Wave Equation", *J. Appl. Math. & Informatics*, Vol. 28, (2010), 611-624.
- ▶ M. Idrees, S. Islam, Siraj-ul-Islam "Application of Optimal Homotopy Asymptotic Method to Squeezing Flow" *Computers and Mathematics with applications*, Vol:59(11), (2010), 3858-3866.
- ▶ Sirajul Haq, Arshad Hussian, Siraj-ul-Islam "Solutions of Coupled Burger's, Fifth-Order KdV and Kawahara Equations Using Differential Transform Method with Padé Approximant", *Selçuk Journal of Applied Mathematics* Vol. 11, 1, (2010), 43-62.
- ▶ G. Yao, Siraj-ul-Islam, B. Sarler, "A Comparative Study of Global and Local Meshless Methods for Diffusion-Reaction Equation" *Computer Modeling in Engineering & Sciences (CMES)*, Vol.59, no.2, (2010) 127-154.
- ▶ F. Haq, Siraj-ul-Islam and Ikram A. Tirmizi "A Numerical Technique for Solution of the MRLW Equation Using Quartic B-splines" *Applied Math. Modelling*, 34, (2010), 4151-4160.
- ▶ Siraj-ul-Islam, Arshad Ali, Sirajul-Haq "A Computational Modeling of the Behavior of the Two-dimensional Reaction-diffusion Brusselator System, *Applied Math. Modelling*, 34 (2010) 3896-3909.
- ▶ Siraj-ul-Islam, Imran Aziz, B. Sarler "The Numerical Solution of Second Order Boundary-Value Problems by Collocation with Haar Wavelets", *Mathematics and Computer Modelling*, 52 (2010) 1577-1590.
- ▶ Siraj-ul-Islam, Bozidar Sarler, "Non-Oscillatory Local Radial Basis Function Collocation Method for Hyperbolic Differential Equations" International conference on boundary element method "International conference on Numerical Analysis NumAn 2010, 2010 Chania Crete Greece (Sep 14-18).
- ▶ Bozidar Sarler, Siraj-ul-Islam, Umut Hangole, "Solution of Hot Shape Rolling by the Local Radial Basis Function Collocation Method" International conference on boundary element method Beteq 2010 Berlin Germany (July 1-14).
- ▶ Maryam Mahsal Khan, Gul Muhammad Khan, Julian F. Miller, "evolution of optimal ANNs for non-linear control problems using Cartesian genetic programming", published in *WorldComp 2010*, international conference on AI, Las Vegas USA, July 2010.
- ▶ Shujaat Ali Khan Tanoli, Imran Khan, and Nandana Rajatheva, "Asymptotic BER bounds of BICM-ID based cooperative network over Nakagami-m fading channels," accepted in 25th Queen's Biennial Symposium on Communication 2010, Canada, pp. 448-451, May 12-14, 2010.
- ▶ Ahmad, M.I., Jobson, M., Zhang, N., "Modelling and optimization for design of hydrogen networks for multi-period operation" *Journal of Cleaner Production* 2010; Vol 18:889-899.
- ▶ Irfan, M.A. and Chapman, W., "Thermal Stresses in Radiant Tubes: A Comparison between Recuperative and Regenerative Systems," *Applied Thermal Engineering*, Vol. 30. Feb 2010. pp. 196-200. (Impact Factor 1.349)
- ▶ Irfan, M.A., Schwam, D, Karve, A. and Ryder, R., "Improvement of Mechanical Properties in Die Cast Engine Blocks," 114th Metalcasting Congress, NADCA, Orlando, Florida, March 20-23, 2010.
- ▶ Muhammad Naveed, Mohammad Inayatullah Babar, Syed Waqar Shah and Riaz Akbar Shah, *Low Cost Crypto Core*, Sarhad Journal of Agriculture, 2010.
- ▶ F.K. Dotani, M. N. Arbab, S.Waqar Shah and M.Inayatullah Babar, "Comparison of Robust Watermarking Techniques Using Complex Wavelet Transform", *Sarhad Journal of Agriculture*, 2010.
- ▶ Asfandyar, Mohammad Inayatullah Babar, Syed Waqar Shah, Sahar Noor, Hameed Ullah and S.R.Akbar, "Exploring the Role of Gateway During Integration of Mobile IPv6 and Ad-Hoc On Demand Distance Vector Routing Protocol", *Sarhad Journal of Agriculture*, 2010.
- ▶ M. Inayatullah Babar, S. Waqar Shah, Sahar Noor, Rafiullah, Rifaqat Zaheer, M.Akmal and M. A. Raza, "Intelligent Request Tracking and Network Monitoring System", *Sarhad Journal of Agriculture*, 2010.
- ▶ S. Riaz Akbar, Khizar Azam, M.I.Babar, Waqar Shah, Hamidullah, S.Noor, A Review of Driving Under the Influence of Fatigue, *Journal of Engineering and Applied Sciences*, 2010.

SEMINARS & WORKSHOPS

SCADA System (PLC Programming and HMI Development)

A three-day workshop was conducted at CEEC from 12-14th October on "SCADA System (PLC Programming and HMI Development)". The resource person, Engr. Abdel Nasser, Asst. Prof, Department of Mechatronics Engineering trained the participants about data collection, reporting from production lines, material handling and automatic testing, simplified by using a SCADA system.

The vice chancellor, in his address said UET was not only the degree award institution but learning at the university would enable our graduates to solve real life engineering issues. "We would harness the hidden potential which we have to, but could not do", adding education was the remedy for all the social evils, but the policy makers and the people who had control did not give the education its due importance. The vice chancellor said Pakistan was the fifth last country in the Human Development Index, investing less than 2pc in education. He urged the participants to force the government to invest 4pc of GDP in education in future, less than this, he said, would be of no use rather an expenditure.

Engr. Asif Shah, Director CEEC, in his address, assured the audience to translate the UET mission; "striving for the highest level of engineering excellence", into practice. The Center, he said, would soon become the national hub of providing latest engineering knowledge and sharing the best engineering practices in the world. He thanked the participants who came from the Air Weapon Complex, COMSATS, Abbottabad, Sarhad University, PTC, PESCO and University of Denver, USA.

While sharing on behalf of the participants, Engr. Rameez, graduate of University of Denver, USA said they had a great stay at CEEC. "By looking at the motivation and dedication of faculty and staff, we could believe that the Center would soon become the hub of training in the region", he added. He also appreciated the content and delivery of course and urged the administration to hold such courses in future for continuing engineering education of professionals.



Vice chancellor with participants of the workshop

Design Facilitation and Training Center

The Directorate of Science and Technology (DoST) in collaboration with UET will set up the Design facilitation and Training Center with an aim to train the engineers and professionals in the entrepreneurship and business development skills. The Center will establish linkages with the industry while engaging them in solving the real life problems of local industry. DoST conducted a one-day orientation seminar to look into the possibilities of establishing the center with experts from local industry, SMEDA, Chamber of Commerce, NUST and UET, who shared their thoughts.

The chief guest, vice chancellor in his address, said that in past we had only focus on importing technology and considered as we were doing the industrialization in our country. "Real development is based on how we are quick to respond to the demands of industry and what solutions we offer for the local problems. There is an urgent need to train and involve the engineers in entrepreneurship skills to strengthen an industrial base in the country," he added.

Director DoST, Maj. Riaz Khan informed, the Ministry of Science and Technology was committed to promote the industry by providing trained and skilled manpower. The reasons, he said, was the lagging of industry, lack of infrastructure, political will, technical education and labor force, which was the most important component of strong industry.

Javed Akhtar, President SMEDA informed that there were seventeen Small and Large/ Medium Enterprises in the province, out of which seven were Large/ Medium enterprise estates with only three of those were functional while four were nonfunctional due to the lack of basic infrastructure. He said, Khyber Pakhtunkhwa had a tremendous potential in minerals, furniture, pharmaceuticals, horticulture and carpet making. The SMEDA was active in establishing "carpet nagar", in the province, moreover, few industrial sites have been proposed where furniture village and other sectors will be established in future. He stressed the need that academia, industry and government should work jointly in developing the trained manpower and asked the provincial government for the provision of basic infrastructure so that the industrial base could be expanded.

Engr Nauman Wazir, Managing Director, Frontier Foundation Steel said that engineers were central to the progress of local industry. If engineers were trained in the entrepreneurship skills, they would be able to design products that suit the local needs of industrialists. He assured his cooperation in building up the base. Later, Dr. Abid Ghuman, Director NUST also spoke on establishing the center and its long term objectives.

Institute of Mechatronics Engineering

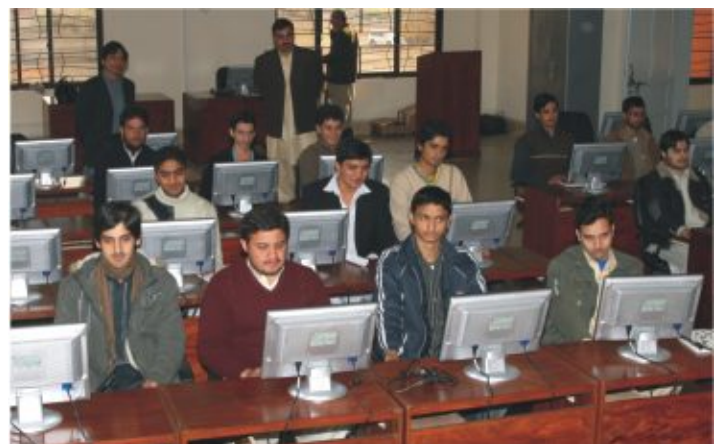


The global competitive environment poses formidable challenges to existing manufacturing setups. Due to these challenges, current manufacturing automation systems fail to support required business objectives. Existing engineering approach remains dominated by the use of general purpose engineering tools and resulting over complex solutions. These solutions are often poorly fit with end user needs.

To manage the market driven challenges, new methods and IT solutions are required especially in the field of automotive, aerospace, medical, manufacturing, defense systems, consumer products and material processing. In response, Mechatronics is emerging as a key enabling future technology. Coined for the first time in 1969 in Japan, the term Mechatronics was used to describe the integration of mechanics and electronics. Mechatronics is the synergistic integration of physical systems, sensors, actuators, electronics, controls, and computers through the design process, thus enabling complex decision making. Integration is the key element in mechatronic design as complexity has been transferred from the mechanical domain to the electronic and computer software domain. Mechatronics is an evolutionary design development that demands horizontal integration among the various engineering disciplines as well as vertical integration between design and manufacturing.

The Institute of Mechatronics currently, having an intake of 85 students is offering undergraduate engineering degree with the following objectives.

- ▶ To enable the graduates to understand the interdisciplinary fundamentals of mechanical engineering, electrical engineering, control systems, computer engineering and their integration.
- ▶ To nurture strong team skills among graduates in order to enable them to solve complex problems that cross disciplinary boundaries.
- ▶ To enable the graduates to perform research, design, and implementation of intelligent engineered products and processes enabled by the integration of mechanical, electronic, computer, and software engineering technologies.



In Focus: Dr. Muhammad Imran Ahmad

Dr. Muhammad Imran Ahmad completed his Ph.D in Chemical Engineering from the Centre for Process Integration, School of Chemical Engineering & Analytical Science, University of Manchester, UK in 2009. He is currently serving as Assistant Professor at the Department of Chemical Engineering, UET Peshawar with an additional responsibility of being the Postgraduate Advisor for the same department.




His Ph.D thesis titled, "Integrated and multi-period design of diesel hydrotreating process", was focused on developing a framework for design and optimization of diesel production process for petroleum refineries. His research work focused on modeling of the reaction, separation, and heat recovery system of diesel hydro treating process. His work developed a novel approach for optimizing the design of overall diesel production process and also accounted for the changing operating conditions of refinery processes on the design of heat exchanger networks and hydrogen distribution system of petroleum refineries.

Besides research work, Dr. Imran worked as a consultant with Process Integration Limited, UK for software development on hydrogen management of petroleum refineries. He was actively involved in student affairs at The University of Manchester, UK as a Graduate Teaching Assistant at the School of Chemical Engineering & Analytical Science, at the Main Library (John Ryland's University Library) for Information Services, and as a Tutor at Owens Park Halls of Residence, University of Manchester, UK

Dr. Muhammad Imran Ahmad is an Affiliate Member of The Institute of Chemical Engineers (ICE), and a member of the Academic Council of UET Peshawar.

- Engr. Khurram Sheraz, Lecturer Department of Agricultural Engineering attended the "14th Master Trainers Faculty Professional Development Training Program", held at HEC, Islamabad from 29 September-17 November, 2010.
- A software Development Company, "D-BugZ," has joined the Technology Incubation Center, which is actively involved in the training of graduates to develop their small business start ups at TIC in the presence of professionals. Engr. Ali and Engr. Urooba have been working as freelance developers with the expert team from D-Bugz in the development of software at TIC.
- The students, Dur-e-Nayab and Najvia Khattak, (six semester) Department of Electrical Engineering won the winner shield and third prize in the "Problem Solving Contest" and "Slogan Making Competition", respectively. The two-day workshop was organized by the Ministry of Youth Affairs held at Gandhara Institute of Medical Sciences from 23-24 July, 2010, included competitions; on stage training, problem solving contest, naat and qirat competition, speech and essay competition, and slogan making competition.
- Engr. Tahir Mehmood as regular member of cricket team has represented UET, Peshawar for four years. During Pakistan inter varsities tournament, 2009-10, supervised by HEC, the University qualified for first time in final round due to his stunning performance by taking highest wickets with his phenomenal spin bowling. Tahir has got enough potential and maturity to play at any club level as well as international level.





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to Education

Road to salvation

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