International Conference on Electrical Information and Communication Technology (EICT 2013)

13-15 February 2014

Revised Program Schedule
&
Keynote Speeches

Organizer

Faculty of Electrical and Electronic Engineering
Khulna University of Engineering & Technology (KUET)

Technical Co-sponsor

IEEE
Bangladesh EDS/SSCS

Conference Schedule

Program Highlights Day 1				
Day 1 : 13 February 2014 (Thursday) (*Venue: KUET Auditorium*)				
10:00 AM – 03:00 PM	Registration and Kit Distribution			
03:00 PM – 04:00 PM	Inauguration Ceremony			
04:00 PM – 04:30 PM	Refreshment and Prayer			
04:30 PM – 05:15 PM	Keynote Session I			
05:15 PM – 06:00 PM	Keynote Session II			
End of Day 1				

Program Highlights Day 2				
Day 2 : 14 February 2014 (Friday)				
08:45 AM – 09:45 AM	**Parallel Technical Session A**			
	D2A1	D2A2	D2A3	D2A4
09:45 AM – 10:00 AM	Tea Break			
10:00 AM – 10:30 AM	Keynote Session III			
10:30 AM – 11:00 AM	Keynote Session IV			
11:00 AM – 11:30 AM	Keynote Session V			
11:30 AM – 12:30 PM	**Parallel Technical Session B**			
	D2B1	D2B2	D2B3	D2B4
12:30 PM – 02:45 PM	Prayer and Lunch Break			
02:45 PM – 03:45 PM	**Parallel Technical Session C**			
	D2C1	D2C2	D2C3	D2C4
03:45 PM – 04:30 PM	Keynote Session VI			
04:30 PM – 05:00 PM	Prayer and Tea Break			
05:00 PM – 06:00 PM	**Parallel Technical Session D**			
	D2D1	D2D2	D2D3	D2D4
06:00 PM – 06:15 PM	Prayer Break			
06:15 PM – 07:15 PM	**Parallel Technical Session E**			
	D2E1	D2E2	D2E3	D2E4
07:30 PM – 10:40 PM	Conference Dinner			
End of Day 2				

Program Highlights Day 3				
Day 3 : 15 February 2014 (Saturday)				
09:00 AM – 10:00 AM	**Parallel Technical Session A**			
	D3A1	D3A2	D3A3	D3A4
10:00 AM -10:30 AM	Closing Ceremony			
11:00 AM – 05:15 PM	Sight Seeing Tour			
End of Day 3				

Keynote Sessions

Day 1 : 13 February 2014 (Thursday) ***Venue : KUET Auditorium***

Key Note Session I	**Time: 04:30 PM –05:15 PM**
Title: Renewable Energy in Bangladesh: The Way Forward Speaker: ***Prof. M. Rezwan Khan****, Vice Chancellor, United International University, Dhaka*	
Chair : ***Prof. M. A. Samad,*** *Khulna University of Engineering & Technology*	

Key Note Session II	**Time: 05:15 PM – 06:00 PM**
Title: Design Challenges for Low Power VLSI Circuits Required for Wireless Communication Speaker: ***Prof. Subir Kumar Sarkar****, Jadavpur University, India*	
Chair : ***Prof. Bashuseb Chandra Ghosh****, Khulna University of Engineering & Technology*	

Day 2 : 14 February 2014 (Friday) ***Venue : EEE Seminar Room (EEE 317)***

Key Note Session III	**Time: 10:00 AM – 10:30 AM**
Title: Mobile Networks: Architecture, Performance and Energy Considerations Speaker: ***Prof. Mohammed Atiquzzaman,*** *School of Computer Science, University of Oklahoma, USA*	
Chair : ***Prof. Nurunnabi Mollah****, Khulna University of Engineering & Technology*	

Key Note Session IV	**Time: 10:30 AM – 11:00 AM**
Title: Systems Engineering for Extensible and Interactive Networking and Software Defined Network (SDN) Speaker: ***Prof. Javed I. Khan****, Department of Computer Science, Kent State University, USA*	
Chair : ***Prof. M. M. A. Hashem****, Khulna University of Engineering & Technology*	

Key Note Session V	**Time: 11:00 AM – 11:30 AM**
Title: Designing and Implementing the Countrywide Infrastructure for BdREN Speaker : ***Prof. M. M. A. Hashem,*** *Khulna University of Engineering & Technology*	
Chair : ***Prof. Md. Abdul Muttalib****, Islamic University of Technology*	

Key Note Session VI	**Time: 03:45 PM – 04:30 PM**
Title: Outcome Based Education Speaker: ***Prof. Muhammad H. Rashid****, Electrical & Computer Engineering, University of West Florida, USA.*	
Chair : ***Prof. K. M. Azharul Hasan****, Khulna University of Engineering & Technology*	

Technical Session : Day 2 – Parallel Session A (D2A1) 14 February 2014		
Venue : Library 203		**Time:** 08:45 AM – 09:45 AM
Session Title : Artificial Intelligence		
Chair: *Dr. Md. Faijul Amin, Khulna University of Engineering & Technology*		
D2A1 - 1	1026	Discrimination Analysis of EEG Signals at Eye Open and Eye Close Condition for ECS Switching System *Fayeem Aziz, Mohammad Mahbubur Rahman, Tanvir Ahmad, Md. Sorwar Jahan, Toalha Mohammad Tosrif, Mohammad Mojammal Huq, C.M.F.S. Reza, Afaz Uddin Ahmed, Papan Day, Shahriar Badsha, Abdullah Al Mamoon, S.M. Mithun Hasan*
D2A1 - 2	1395	Human Ear Recognition Using Geometric Features *Mostafizur Rahman, Muhammad Sheikh Sadi, and Rezwanul Islam*
D2A1 - 3	1279	Re-evaluating Chain-Code as Features for Bangla Script *Minhaj N. Alam, and M. A. Naser*
D2A1 - 4	1328	Eye Gaze Behavior of Virtual Agent in Gaming Environment by Using Artificial Intelligence *Avijeet Das, and Md Mahmudul Hasan*
D2A1 - 5	1359	Highly Constrained University Course Scheduling using Modified Hybrid Particle Swarm Optimization *Tania Ferdoushi, Prodip Kumer Das, and M. A. H. Akhand*

Technical Session : Day 2 – Parallel Session A (D2A2) 14 February 2014		
Venue : CSE 220		**Time:** 08:45 AM – 09:45 AM
Title : Renewable Energy – I		
Chair: *Dr. M. Rezwan Khan, United International University*		
D2A2 - 1	1033	Integration of Solar Heater and Solar Pond Technology for Enhancing the Thermal Efficiency of Water Heating System *M. Sabbir Rahman, Ismat Zerin, A Z M Shahriar Muttalib*
D2A2 - 2	1089	Hybrid Energy Assisted Electric Auto Rickshaw Three-Wheeler *Necolus Shaha, Md. Bashir Uddin*
D2A2 - 3	1184	Study on Strain in InGaN-based Multijunction Solar Cell *Md. Aminur Rahman, Md. Rafiqul Islam*
D2A2 - 4	1191	The Feasibility Study of Solar Irrigation: Economical Comparison between Diesel and Photovoltaic Water Pumping Systems for Different Crops *Md. Tareek-Al-Islam Khan, Suvasish Sarkar, Shakhawat Hossain, Ahsan Uddin Ahmed, Bishwajit Banik Pathik*
D2A2 - 5	1397	Power Converters and Control of Wind Energy Conversion Systems *Syed Naime Mohammad, Nipu Kumar Das, Saikot Roy, Arif Ahammad*

Technical Session : Day 2 – Parallel Session A (D2A3) 14 February 2014		
Venue : ECE 220		**Time:** 08:45 AM – 09:45 AM
Title : Power Systems		
Chair: *Dr. Md. Abdur Rafiq, Khulna University of Engineering & Technology*		
D2A3 - 1	1095	Experimental Study of Breakdown Voltage for Different Types of Vegetable Oils Available in Bangladesh. *Md. Abdul Goffar Khan, Md. Khaled Hossain, Md. Fazle Arosh*
D2A3 - 2	1299	Efficient Power Generation System Design with High Rated KVA Generators for Medium Load Industry *Mohammad Nazmul Houque, Md. Shahid Iqbal, Md. Moniruzzaman, Ruchira Shikdar, Md. Janibul Alam Soeb, Md. Monjurul Islam, Ataullah Mishkat*
D2A3 - 3	1335	Negative Sequence Protection of Generators against Unbalanced Loads using VAMP 210 Generator Protection Relay *Ahmadullah Siddiq, Syed Enam*
D2A3 - 4	1390	Optimization of Power System Operation with Static Var Compensator applying ACO Algorithm *S. M. Rakiul Islam, Md. Alimul Ahsan, Bashudeb Chandra Ghosh*
D2A3 - 5	1430	Restricted Earth Fault Protection with Superconducting Fault Current Limiter for 100% Stator Winding *Md. Islam, Md. Elias Khan, Apurbo Biswas*

Technical Session : Day 2 – Parallel Session A (D2A4) 14 February 2014		
Venue : IEM 214		**Time:** 08:45 AM – 09:45 AM
Title : Wireless Communication-I		
Chair: *Dr. Mostafa Z. Chowdhury Khulna University of Engineering & Technology*		
D2A4 – 1	1215	Designing a Mobile Satellite Communication Antenna and Link Budget Optimization *MD. Tofael Hossain Khan Shovon, Anindya Kumar Kundu Anu, Md. Osman Goni Arik, Wahida Sharmin Orin, Kazi Abul Barket Imran*
D2A4 - 2	1142	Handover Priority Based on Adaptive Channel Reservation in Wireless Networks *Tahsin Ahmed Chowdhury, Rahul Bhattacharjee, and Mostafa Zaman Chowdhury*
D2A4 - 3	1220	Design and Performance Analysis of a Dual Band Waveguide Dipole Feed Cassegrain Antenna and Link Budget Optimization *MD. Tofael Hossain Khan Shovon, Anindya Kumar Kundu Anu, Md. Osman Goni Arik, Wahida Sharmin Orin, Kazi Abul Barket Imran*
D2A4 - 4	1412	Performance of Relay Assisted Multiuser Uplink MIMO Wireless *Communication Using Walsh Hadamard Sequences* *M.M. Kamruzzaman*
D2E4 - 5	1153	Comparative Analysis of GNSS Reliability: GPS, GALILEO and combined GPS-GALILEO *Md Hossam E-Haider, Asma Tabassum, Rafiul Hossain Shihab, and Mahbub Hasan*

Technical Session : Day 2 – Parallel Session B (D2B1) 14 February 2014		
Venue : Library 203		**Time:** 11:30 AM – 12:30 PM
Title : Knowledge & Data Engineering		
Chair: *Dr. Kazi Md. Rokibul Alam, Khulna University of Engineering & Technology*		
D2B1 - 1	1037	An Integrated Online Courseware: A Step to Globalization *G. M. M. Bashir, A. S. M. L. Hoque, S. Majumder, B. Bepary, K. Rani*
D2B1 - 2	1300	Chunking Implementation of Extendible Array to Handle Address Space Overflow for Large Multidimensional Data Sets *K. M. Azharul Hasan, Mehnuma Tabassum Omar, S. M. Masudul Ahsan, Nazmin Nahar*
D2B1 - 3	1146	Application of Neural Networks in Talent Management *Sajjad Waheed, A Halim Zaim, Halil Zaim,Selim Akyokus, Ahmet Sertbas*
D2B1 - 4	1276	Native Language Identification using Probabilistic Graphical Models *Garrett Nicolai, Md Asadul Islam, Russ Greiner*
D2B1 - 5	1213	A Novel Steganographic Scheme using Sudoku *Arnab Kumar Majiz, Rajat Kumar Pal, Sudipta Roy*

Technical Session : Day 2 – Parallel Session B (D2B2) 14 February 2014		
Venue : CSE 220		**Time:** 11:30 AM – 12:30 PM
Title : Renewable Energy - II		
Chair: *Dr. Md. Faruk Hossain, Rajshahi University of Engineering & Technology*		
D2B2 – 1	1227	Technical and Economic Assessment of Biogas Based Electricity Generation Plant *Niloy Talukder, Anik Talukder, Debangshu Barua, Anindya Das*
D2B2 – 2	1063	Financial Feasibility Analysis of a Microcontroller Based Solar Powered Rickshaw *A. R. M. Siddique, A. A. Khondokar, M. N. H. Patoary, M. S. Kaiser, A. Imam*
D2B2 – 3	1193	Hypothetical Discussion On Windmill On Train *Jamil Sarwar, Ahnaf Shakil*
D2B2 – 4	1043	Design and Cost Benefit Analyses of a Proposed Solar Recharging Station in Bangladesh *Sikder Sunbeam Islam*
D2B2 - 5	1391	Proposal of Possible OTEC Sites in Bangladesh *Shifur Rahman Shakil, Md.Safwat Hossain, Nirjhor Rouf*

Technical Session : Day 2 – Parallel Session B (D2B3) 14 February 2014		
Venue : ECE 220		**Time:** 11:30 AM – 12:30 PM
Title : Power Electronics		
Chair: *Capt. M. Mahbubur Rahman, Military Institute of Science and Technology*		
D2B3 – 1	1160	Efficiency Improvement of Semi-Bridgeless Phase-Shifted Boost Converter with Power Factor Correction in Energy Storage System *Parvez Akter, Muslem Uddin, Md. Mizanur Rahman, Monirul Islam, Md. Rezaul Basher Bhuiyen*
D2B3 – 2	1176	A New Transformerless Inverter for Grid Connected Photovoltaic System With Low Leakage Current *Monirul Islam, Mahamudul Hasan, Parvez Akter, Md. Mizanur Rahman*
D2B3 – 3	1260	Grid Frequency Analysis with the Issue of High Wind Power Penetration. *Md.Emdadul Haque Emdad*
D2B3 – 4	1318	A Variable Speed Three Phase Generator Voltage Hook Up With a DC Bus by VIENNA Rectifier *Khizir Mahmud, Lei Tao,Md. Shamsul Alam*
D2B3 - 5	1102	Comparison of DTC and FOC for FSTP Inverter Fed Interior Permanent Magnet Synchronous Motors *Tanvir Ahmed, Anupam Das, Kalyan Kumar Halder*

Technical Session : Day 2 – Parallel Session B (D2B4) 14 February 2014		
Venue : IEM 214		**Time:** 11:30 AM – 12:30 PM
Title : Optical Communication – I		
Chair: *Dr. Saifuddin Faruk, Dhaka University of Engineering & Technology*		
D3B4 - 1	1164	Design and Performance Analysis of Ultra Wideband Double Inverted-FL Micro strip Antenna for Wi-Fi, WLAN, WiMAX and UMTS Applications *Farzana Khanam, Sathi Rani Mitra, Md. Asadur Rahman, Md. Selim Hossain*
D2B4 - 2	1295	Comparative Study of Optical Cross Connect Architectures Regarding Wavelength Interchanging Capability *Md. Ishtiaque Aziz Zahed, Satya Prasad Majumder*
D2B4 - 3	1324	DSP Aided Chromatic Dispersion Reckoning in Single Carrier High Speed Coherent Optical Communications *Amir Hamja, Siam Uddin, Jakia Sultana, Monjurul Islam,Shahid Iqbal*
D2B4 - 4	1273	Design of a Photonic Crystal Fiber for Dispersion Compensation over Telecommunication Bands *Redwan Ahmad, A.H. Siddique, Md. Sharafat Ali, Md. Aminul Islam, K M Nasim, and M Samiul Habib*
D2B4 - 5	1373	Estimation of Second-Order PMD from Adaptive FDE in Coherent Optical Receivers *Md. Saifuddin Faruk*

Technical Session : Day 2 – Parallel Session C (D2C1) 14 February 2014		
Venue : Library 203		**Time:** 02:45 PM – 03:45 PM
Title : Genetic Algorithms and Optimizations		
Chair: *Dr. Md. Shahjahan, Khulna University of Engineering & Technology*		
D2C1 - 1	1245	Session -Based Improved Test Case Generation Using Genetic Algorithm *Arif Mahmud, Fardina Fathmiul Alam, Muhammad Masroor Ali*
D2C1 - 2	1353	An Approach to Develop an Effective Job Rotation Schedule by Using Genetic Algorithm *Pritom Kumar Mondal, A.M.M. Nazmul Ahsan, Kismot Abdul Quayum*
D2C1 - 3	1354	A Novel Optimization Technique for Autonomous Robot Path Planning in Dynamic Environment Inspired by Bacterial Foraging Technique *Md. Arafat Hossain, Israt Ferdous*
D2C1 - 4	1284	Velocity Tentative Particle Swarm Optimization to Solve TSP *M. A. H. Akhand, Shahina Akter, M. A. Rashid*
D2C1 - 5	1377	Localization of FACTS Devices for Optimal Power Flow Using Genetic Algorithm *A.K.M. Rezwanur Rahman, Md. Shahabul Alam, Md. Zakir Hossain, Md. Shahjahan*

Technical Session : Day 2 – Parallel Session C (D2C2) 14 February 2014		
Venue : CSE 220		**Time:** 02:45 PM – 03:45 PM
Title : Biomedical Engineering		
Chair: *Dr. Mohiuddin Ahmad, Khulna University of Engineering & Technology*		
D2C2 - 1	1100	Speckle Noise Modeling in the Contourlet Transform Domain *Shahriar Mahmud Kabir,Mohammed Imamul Hassan Bhuiyan*
D2C2 - 2	1325	Detection of Cognitive State for Brain-Computer Interfaces *Md. Abu Baker Siddique Akhanda, Shaon Md. Foorkanul Islam, Md. Mostafizur Rahman*
D2C2 - 3	1093	Statistical Parameters in the Dual Tree Complex Wavelet Transform Domain for the Detection of Epilepsy and Seizure *Anindya Bijoy Das, Mohammed Imamul Hassan Bhuiyan, S. M. Shafiul Alam*
D2C2 - 4	1261	Channel Selection and Feature Extraction for Cognitive State Estimation with the Variation of Brain Signal *Monira Islam, Tazrin Ahmed, Md. Salah Uddin Yusuf, Mohiuddin Ahmad*
D2C2 - 5	1330	Feature Selection of EEG data with Neuro-Statistical Method *Md. Zakir Hossain, Md. Monirul Kabir, Md. Shahjahan*

Technical Session : Day 2 – Parallel Session C (D2C3) 14 February 2014		
Venue : ECE 220		**Time:** 02:45 PM – 03:45 PM
Title : Electrical Materials and Devices - I		
Chair: *Dr. M. A. Goffar Khan, Rajshahi University of Engineering & Technology*		
D2C3 - 1	1059	Numerical Investigation of Singularity at a Vertex in 3D Transversely Isotropic Piezoelectric Bonded Joints by FEM *Md. Shahidul Islam, Mohiuddin Ahmed*
D2C3 - 2	1152	Flexible Graphene Field Effect Transistor with Graphene Oxide Dielectric on Polyimide Substrate *Mohi Uddin Jewel, Tanvir Ahamed Siddiquee, Md. Rafiqul Islam*
D2C3 - 3	1208	Vacancy Induced Phonon Properties of Hydrogen Passivated Graphene *Md. Sherajul Islam, Md. Tawabur Rahman, Ashraful Ghani Bhuiyan, Akihiro Hashimoto*
D2C3 - 4	1112	Linear Asymmetric Pocket Profile Based Low Frequency Drain Current Flicker Noise Model for Pocket Implanted Nano Scale n-MOSFET *Muhibul Haque Bhuyan, Quazi Deen Mohd Khosru*
D2C3 - 5	1281	Self-Consistent Field Method with Damped Oscillation for Nano Device *Sudip Kumar Saha, Ibnul Sanjid Iqbal, Md. Osman Goni*

Technical Session : Day 2 – Parallel Session C (D2C4) 14 February 2014		
Venue : IEM 214		**Time:** 02:45 PM – 03:45 PM
Title : RFID and RF Engineering		
Chair: *Dr. Md. Osman Goni, Khulna University of Engineering & Technology*		
D2C4 - 1	1252	Autocorrelation – MTM: A Compound Detector for Spectrum Hole Identification in Low SNR *Md. Mizanur Rahman, Chalie Charoenlarpnopparut, Prapun Suksompong, Attaphongse Taparugssanagorn*
D2C4 – 2	1323	Realization of Low-Pass Filters From Arbitrarily Designed Nonuniform EBG Structures *S. M. Shakil Hassan, Mohammad Nurunnabi Mollah, S. M. Anayetullah, Khandkar ,Raihan Hossain, Md. Mahfuz Ahmed, Md. Abu-Al Shufian, Md. Mehedi Hasan*
D2C4 – 3	1272	Gain and SAR Improvement of a Conventional Patch Antenna Using a Novel Pi-shaped DNG Metamaterial *Anik Mallik, Sanjoy Kundu, Md. Osman Goni*
D2C4 – 4	1116	Spectrum Hole Identification in Multiple TV bands by Adaptive Threshold Multi-Taper Spectrum Estimator for Cognitive Radio *Md. Mizanur Rahman, Chalie Charoenlarpnopparut, Prapun Suksompong,* *Attaphongse Taparugssanagorn*
D2C4 - 5	1337	Balanced Energy and Coverage Guaranteed Protocol for Wireless Sensor Networks *Nam Tuan Le, Ratan Kumar Mondal, Nirzhar Saha, Sunghun Chae, Yeong Min Jang*

Technical Session : Day 2 – Parallel Session D (D2D1) 14 February 2014		
Venue : Library 203		**Time:** 05:00 PM – 06:00 PM
Title : Mobile Computing		
Chair: *Dr. Rameswar Debanath, Khulna University*		
D2D1 – 1	1418	Road Structure Analysis using GPS Information *Md. Kamrul Hasan, Javed Iqbal Khan, Raquib Ahmed, Mollah Md. Awlad Hossain, Md.Nur-Us Shams*
D2D1 – 2	1320	Devising a Solar Powered Standalone Vehicle using GSM Communication Network *A.S.M. Ashraf Ahmed, Labina Alamgir, Abu Nayeem, Devzani Sharma, Bishwajit Banik Pathik*
D2D1 – 3	1169	Performance Improvement Techniques For RSSI Based Indoor Localization Methods *Md Al Shayokh, Ugur Alkasi, Hakan Pasa Partal*
D2D1 - 4	1242	Measuring Security for Cloud Service Provider : A Third Party Approach *Md Whaiduzzaman, Abdullah Gani*

Technical Session : Day 2 – Parallel Session D (D2D2) 14 February 2014		
Venue : CSE 220		**Time:** 05:00 PM – 06:00 PM
Title : Computer Architecture and VLSI Design		
Chair: *Dr. Muhammad Sheikh Sadi, Khulna University of Engineering & Technology*		
D2D2 - 1	1123	Design and Implementation of a BIST Embedded Inter-Integrated Circuit Bus Protocol over FPGA *Shumit Saha, Md. Ashikur Rahman, Amit Thakur*
D2D2 - 2	1173	A New Assignment of Free Links in Midimew Connected Mesh Network *Md. Rabiul Awal, M.M. Hafizur Rahman, Rizal Mohd Nor, Tengku Mohd Bin Tengku Sembok, M. A. Haque Akhand*
D2D2 - 3	1179	Power, Delay and Area Optimization in a Full-Adder Circuit using FinFETs *Imamuz Zaman, Tonmoy Roy, Shafiqul Islam*
D2D2 - 4	1084	Design and Implementation of Fast FPGA based Architecture for Reversible Watermarking *Sudip Ghosh, Bijoy Kundu, Santi P Maity, Hafizur Rahaman*

Technical Session : Day 2 – Parallel Session D (D2D3) 14 February 2014		
Venue : ECE 220		**Time:** 05:00 PM – 06:00 PM
Title : Computer Networks		
Chair: *Dr. Md. Mahbubur Rahman, Khulna University*		
D2D3 - 1	1036	VANET Topology Based Routing Protocols & Performance of AODV, DSR Routing Protocols in Random Waypoint Scenarios *Aditi Roy, Bijan Paul*
D2D3 - 2	1055	Resource Allocation in Hybrid Access Control Femtocell Network Targeting Inter-cell Interference Reduction *Afaz Uddin Ahmed, Fayeem Aziz, Taufiq Mahmud Masum, Md. Sorwar Jahan, Mohammad Mahbubur Rahman, C.M.F.S. Reza, Abdullah Al Mamoon, Papan Day, M.R. Zaman*
D2D3 - 3	1105	Security Enhancement of Public Cloud by Parity Encryption through Two-dimensional Parity Scheme *Md. Nafiur Rahman Protik, Fatema Khatun*
D2D3 - 4	1403	Analysis of LTE Radio Parameters in Different Environments and Transmission Modes *Nafiz Imtiaz Bin Hamid, Nafiu Salele, Mugumya Twarik Harouna, Rammah Muhammad*

Technical Session : Day 2 – Parallel Session D (D2D4) 14 February 20140		
Venue : IEM 214		**Time:** 05:00 PM – 06:00 PM
Title : Optoelectronics		
Chair: *Dr. Md. Faruque Hossain, Khulna University of Engineering & Technology*		
D2D4 – 1	1175	Doping Dependency on Absorption Spectrum of Intraband Transition Based Photo detector *Sumit Narayan Saurov*
D2D4 – 2	1357	Effects of Interlayers in Threading Dislocation Reduction of Step-graded InGaN Heteroepitaxy *Shifa Khatun, Syeda Arza Sanober, Md. Arafat Hossain, and Md. Rafiqul Islam*
D2D4 - 3	1402	Effect of QD Size and Band-offsets on Confinement Energy in InN QD Heterostructure *Udoy Paul, Mahmudul Hasan, Md. Tawabur Rahman, and Ashraful G. Bhuiyan*
D2D4 – 4	1417	The Effect of Quantum Dot Size, Interdot Distance and Indium Content on InxGa1-xN/GaN QD-IBSC *Md. Mafizul Islam, Md. Touhidul Islam Bhuiyan, Md. Tawabur Rahman, and Ashraful Ghani Bhuiyan*
D2D4 - 5	1038	A Generalized Model using Genetic Algorithm for Optimization of Material Gain of the Active layer of a MQW Edge Emitting Laser with Unequal Well Width *Md. Mobarak Hossain Polash, Md. Imrul Kayes*

Technical Session : Day 2 – Parallel Session E (D2E1) 14 February 2014		
Venue : Library 203		**Time: 0**6:15 PM – 07:15 PM
Title : Algorithms		
Chair: *Dr. Koushik Deb, Chittagong University of Engineering & Technology*		
D2E1 - 1	1114	Bar 1-Visibility Representation of Optimal 1- Planar Graph *Mohammed Emtiaz Ahmed, Asad Bin Yusuf, Md. Zahid Hasan Polin*
D2E1 - 2	1229	Automated Color Pencil Sketch Generation *AHM Mahfuzur Rahman, Tasmiha Salam*
D2E1 - 3	1388	Variable Dependency Analysis of a Computer Program *Muhammad Sheikh Sadi, Linkan Halder, Seemanta Saha*
D2E1 - 4	1401	A Distributed Neighbor Discovery Based Approach for Cluster Head Selection in Wireless Sensor Networks *Mohammad Mamun Elahi, Mohammad Mahfuzul Islam*
D2E1 - 5	1406	A Distributed Load Balancing Algorithm for Adaptive Cognitive Radio Network *Mohammad Mamun Elahi, Shahrier Siddique*

Technical Session : Day 2 – Parallel Session E (D2E2) 14 February 2014		
Venue : CSE 220		**Time: 0**6:15 PM – 07:15 PM
Title : Neural Network and Fuzzy Logic		
Chair: *Dr. Muhammad Aminul Haque Akhand, Khulna University of Engineering & Technology*		
D2E2 - 1	1251	A Neural Network Model for Estimating Global Solar Radiation on Horizontal Surface *Muztoba Ahmad Khan, Saiful Huque, and Azim Mohammad*
D2E2 - 2	1381	Complex-valued Neural Network Using Magnitude Encoding Technique For Real-valued Classification Problems & Time Series Prediction *Shahriar Morshed, Nizam Uddin Ahmed, and Md. Shahjahan*
D2E2 - 3	1423	Bangla Handwritten Character Recognition using Deep Belief Network *Md. Musfiqur Rahman Sazal, Sujan Kumar Biswas, Md. Faijul Amin, and Kazuyuki Murase*
D2E2 - 4	1183	BER Analysis of Optical Wireless Communication System Employing Neuro-Fuzzy Based Spot-Diffusing Techniques *Shamim Al Mamun, M. Shamim Kaiser, Muhammad R. Ahmed, and Md. Imdadul Islam*
D2E2-5	1312	An Enhanced Model of Vertical Handoff Decision Based on Fuzzy Control Theory & User preference *Snigdha Khanum and Mohammad Mahfuzul Islam*

Technical Session : Day 2 – Parallel Session E (D2E3) 14 February 2014		
Venue : ECE 220		**Time:** 06:15 PM – 07:15 PM
Title : Electrical Materials and Devices - II		
Chair: *Dr. Subir Kumar Sarkar, Jadavpur University, India*		
D2E3 - 1	1421	Optical Properties of ZnO Thin Films Prepared by Automatic Sol-gel Method *Shuva Paul, and Md. Faruk Hossain*
D2E3 - 2	1425	An Analytical Approach to Study Energy Band Structure in Strained Graphene *Md. Shamim Sarker, Muhammad Mainul Islam, and Md. Rafiqul Islam*
D2E3 - 3	1426	DC Characteristics of Dual Gated Large Area Graphene MOSFET *Md. Tawabur Rahman, Ashish Kumar Roy, Hossain Md. Abu Reza Bhuiyan, Md. Tajul Islam, and Ashraful G. Bhuiyan*
D2E3 - 4	1432	Theoretical Investigation of Quantum Capacitance in Armchair-edge Graphene Nanoribbons *Md. Faruque Hossain, Asif Hassan, and Md. Sohel Rana*
D2E3 - 5	1022	Modeling of Crosstalk Induced Effects in Nanoscale Copper Interconnects *Manodipan Sahoo, and Hafizur Rahaman*

Technical Session : Day 2 – Parallel Session E (D2E4) 14 February 2014		
Venue : IEM 214		**Time:** 06:15 PM – 07:15 PM
Title : Wireless Communication-II		
Chair: *Dr. Md. Shamin Kaiser, Jahangir Nagar University*		
D2E4 - 1	1218	Design and Performance Analysis of a 4×1 MIMO Inverted F- Shaped Patch Antenna Array for X-Band Applications and Link Budget Optimization *MD. Tofael Hossain Khan Shovon, Anindya Kumar Kundu Anu, Md. Osman Goni Arik, Md. Ashikur Rahman Ashik, Kazi Abul Barket Imran*
D2E4 - 2	1144	Priority Based Adaptive Guard Channel for Multi-class Traffic in Wireless Networks *Rahul Bhattacharjee, Tahsin Ahmed Chowdhury, and Mostafa Zaman Chowdhury*
D2E4 -3	1413	Effect on Performance of Wireless Uplink for Placing Decode and Forward MIMO Relay at Different Position Between Source and Destination *M.M. Kamruzzaman*
D2E4 - 4	1290	Design of a Circular Polarization Switchable Microstrip Array Antenna using Magic-T Bias Circuit *Md. Azad Hossain, Piyas Chowdhury, Quazi Delwar Hossain, and Eisuke Nishiyama, and Ichihiko Toyoda*
D2E4 - 5	1243	Sinusoidal Appearance of Nonuniform Dumbbell Shape EBGSs in Microstrip Transmission Line *S. M. Shakil Hassan, S. M. Anayetullah, and Md. Nurunnabi Mollah*

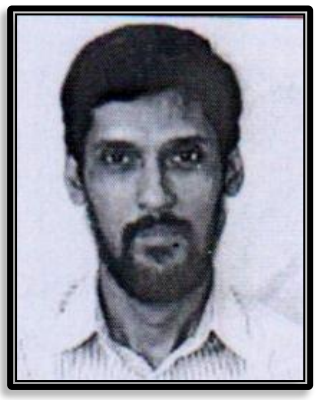
Technical Session : Day 3 – Parallel Session A (D3A1) 15 February 2014		
Venue : Library 203		**Time:** 09:00 AM – 10:00 AM
Title : Computer Vision and Pattern Recognition		
Chair: *Dr. Imamul H. Bhuian, Bangladesh University of Engineering & Technology*		
D3A1 - 1	1221	An Intelligent Robotic Framework for Interacting with Multiple Humans *Mohammed Moshiul Hoque, Quazi Delwar Hossian, Dipankar Das, Yoshinori Kobayashi, Yoshinori Kuno, and Kaushik Deb*
D3A1 - 2	1308	Motion Region Detection and Tracking Based on Temporal Differencing and Adaptive Background Subtraction *Kaushik Deb, Sayem Mohammad Imtiaz, Priyam Biswas and Md. Moshiul Hoque*
D3A1 - 3	1321	Layout Analysis of Technical Documents in a Universal Reader AHM *Mahfuzur Rahman, and Albert Astals Cid*
D3A1 - 4	1163	ANFIS Based Opportunistic Power Control for Cognitive Radio in Spectrum Sharing. *Joyraj Chakraborty, J. V. K. C Varma. And Maria Erman*
D3A1 - 5	1199	Robust Facial Expression Recognition Based on Median Ternary Pattern (MTP) *Farhan Bashar, Asif Khan, Faisal Ahmed, and Md. Hasanul Kabir*

Technical Session : Day 3 – Parallel Session A (D3A2) 15 February 2014		
Venue : CSE 220		**Time:** 09:00 AM – 10:00 AM
Title : Signal and Video Processing		
Chair: *Dr. A. B. M Aowlad Hossain, Khulna University of Engineering & Technology*		
D3A2 - 1	1139	Basis Expansion Model (BEM) Based MIMO-OFDMA Channel Capacity and Estimation *Mohammad Fazle Rabbi*
D3A2 - 2	1405	Speech Enhancement Using Modified Magnitude and Phase Spectra *Sk. Imran Hossain, Md. Fahim Hossain Chowdhury, Md. Faijul Amin, and Kazuyuki Murase*
D3A2 - 3	1303	Brightness Preserving Bi-Histogram Equalization Using Edge Pixels Information *Md. Moniruzzaman, Md. Shafuzzaman, and Md. Foisal Hossain*
D3A2 - 4	1349	Real-time Numeric Character Recognition System Based on Finger Movements *M. M. Farhad, Md. Sohorab Hossain, S. M. Nafiul Hossain, and Mohiuddin Ahmad*

Technical Session : Day 3 – Parallel Session A (D3A3) 15 February 2014		
Venue : ECE 220		**Time:** 09:00 AM – 10:00 AM
Title : Communications Systems		
Chair: *Dr. Md. Rafiqul Islam (1), Khulna University of Engineering & Technology*		
D3A3 - 1	1358	Blind Estimation and Compensation of IQ Imbalance in OFDM System *Nilanjon Chakraborty, Md. Rashidul Kadir and Md. Alamgir Hossain*
D3A3 - 2	1192	Remote Metering of Electricity Consumers using Frequency Division Multiplexing over XLPE Power Transmission Cable *Syed Mohammad Taukir Imam, Abu Mohammad Zafar Sadeque, Asif Islam and Mohammad Shariful Islam*
D3A3 – 3	1282	Low complexity SDNLMS Adaptive Channel Estimation for MIMO-OFDM systems *Tariq Ahmad Dewan, Sabbir Hasan, and Md. Foisal Hossain*
D3A3 - 4	1182	Power Allocation Grouping Scheme with Cosidering Constraints in Two Separate Stages for OFDM-Based Cognitive Radio System *Elham hosseini and Abolfazl Falahati*
D3A3 - 5	1407	Performance Enhancement of MIMO based Visible Light Communication *Ratan Kumar Mondal, Nirzhar Saha, and Yeong Min Jang*

Technical Session : Day 3 – Parallel Session A (D3 – A4) 15 February 2014		
Venue : IEM 214		**Time:** 09:00 AM – 10:00 AM
Title : Optical Communication - II		
Chair: *Dr. Mohammad Saifur Rahman, Khulna University of Engineering & Technology*		
D2A4 - 1	1072	Proposal for Dispersion Compensating Square-lattice Photonic Crystal Fiber *Ashraful Hossain Howlader and Md Asaduzzaman Shobug*
D3A4 - 2	1099	Design of a Square Lattice Photonic Crystal Fiber for Dispersion Compensation over Telecom Bands *A.H.Siddique Sohag, Redwan Ahmad Dipto, Sarafat Ali, M. A. Islam Aminul, K. M. Nasim Ruso, E. Khandker Mitul, and M. Samiul Habib*
D3A4 - 3	1202	Enhanced Tolerance of Rayleigh Backscattering in WDM-PONs by using Coded RZ Modulation *Pallab Choudhury*
D3A4 - 4	1267	Design of Hybrid Photonic Crystal Fibers for Tailoring Dispersion and Confinement Loss *Md. Sharafat Ali, Aminul Islam, Redwan Ahmad, A, H. Siddique, K M Nasim, M Samiul Habib, and M A G Khan*
D3A4 - 5	1361	Protection of WDM PON Systems Based on Modified 2-OLT Architecture *Fahmida Rawshan, Youngil Park*

Keynote Speaker I



Prof. M. Rezwan Khan
Vice Chancellor
United International University, Dhaka

Biography: Prof. M. Rezwan Khan obtained his B.Sc. in Electrical and Electronic Engineering from BUET in 1980 and subsequently joined BUET as teacher. He completed his M.Sc. and Ph.D. from University College London in 1983 and 1986 respectively. He then joined the United International University (UIU), Dhaka, in 2004 and is still serving as its Vice Chancellor. Prof. Khan has research interest in many different fields like thin film Nano-devices, power electronics, DSP, renewable energy and energy systems. He has been serving as the Chairman of the Technical Standard Committee of IDCOL since the inception of the micro financing program of SHSs in Bangladesh. In recognition of his contribution for popularizing SHS in Bangladesh, he received the Prime Ministers Award in 2005. Prof. Khan has published nearly 100 papers in reviewed journals and conferences. He received the '**Dana Chase Memorial Award**' for the best paper "*A Novel Dehumidification Technique Using Electric Field*" presented at the 45th International Appliance Technical Conference held at Madison, Wisconsin, USA, May 1994. He was awarded the Bangladesh Academy of Sciences Gold Medal in 2005 for his contribution in academic research. Prof. Khan is a senior member of IEEE.

Renewable Energy In Bangladesh: The Way Forward

Abstract: Bangladesh has significant potential of Renewable Energy (RE) and the cost of RE technology is coming down quite rapidly. It is high time for Bangladesh to make a comprehensive planning for the development and promotion of renewable energy. So far the RE resources are concerned, solar wind, biomass and biogas seem to have some prospect. Although the real potential for wind energy is still doubtful due to non-availability of strong winds, solar and biomass-biogas are proven resources. Biomass like rice husk and biogas using poultry, dairy or human waste products have great potential but electricity generation still need to face a number of challenges. They include storage and transportation of the raw materials, their preservation and filtration of the harmful gases that damages the Internal Combustion Engines.

Over the last decade there has been a tremendous growth of Solar Home System (SHS) in Bangladesh and it is the largest SHS program in the world with nearly 2.5 million SHSs installed and growing at a rate of around 50,000 systems per month. Despite the success of SHS, it has the limitation of very small energy output and no effective contribution in the economic developmental activities. With the falling prices of solar PV, it is envisaged that stand alone PV systems in the form of mini/micro grids having capacity close to 100kWp can overcome many of the limitations of the SHS. Cost of inverters

to convert the DC from the PV panels/batteries into AC is quite high, as high as nearly USD 1.0 per watt for smaller systems. However, it is interesting to note that most of the house hold gadgets needed by the rural users, like CFL/LED light, TV, mobile charger, computer etc. are insensitive to AC and DC as all of them have a rectifier inside them. Other gadgets like refrigerator or fan have electric motors and are sensitive to AC or DC supply. Looking at the price in the present world market, induction motors are much cheaper than their popular counter part of BLDC (Brush Less DC) motors, but there is a penalty to pay due to the lower efficiency of the induction motors. Considering the cost of the electricity, approx. Tk 30 /kWh, from the solar PV based mini/micro grid a BLDC motor for fan is a more economic option. Surveys done on the off grid rural areas indicate that fans are high in demand but only small percentage can afford to have refrigerators. So, a separate inverter can be arranged separately or DC refrigerators can be supplied for them. Our studies show that the cost of energy can be reduced by 20% if DC grid is established instead of the AC grids.

To reduce the cost further, particularly the cost of transmission line, we have proposed for DC Nano grids, having a capacity of 2-3kWp supplying energy to 15-20 households. Such small systems can cater the need of the rural households and at the same time can provide energy for an irrigation pump of 1kW during the months of February-May. As irrigation can be done during the day time and no battery backup is needed, solar irrigation incorporated with Nano or mini grids become competitive to the cost of running diesel irrigation pumps.

Keynote Speaker II

Prof. Subir Kumar Sarkar

Dept. of Electronics and Telecommunication Engineering
Jadavpur University, India

Biography: Prof. Subir Kumar Sarkar has completed his B. Tech, M. Tech and PhD(Tech) from Institute of Radio physics and Electronics, University of Calcutta and Post-Doctoral from Virginia Commonwealth University(VCU), USA . He has worked around 10 years in industry like Oil and Natural Gas Corporation (ONGC), Gov. of India as Executive Engineer and around 22 years in Universities (8 Years in Bengal Engineering and Science University and 14 Years in Jadavpur University) in different capacities. He has been working as coordinator of Evening course, M. Tech in VLSI Design and Microelectronics Technology for the last four years and Former Head of the Dept., Dept. of Electronics and Telecommunication Engineering, Jadavpur University, Kolkata, India.

Design challenges for low power VLSI Circuits required for Wireless Communication

Abstract: The major challenges for design Engineers are to design new generation products, which consume minimum power, without compromising its performance or achieving minimum chip area. As we approach millennium, power dissipation has become the main design concern in many applications such as wristwatch, laptop, computers and pace makers although early VLSI design did not consider it. The objective of such applications is minimum power for maximum battery life. Power dissipation is the greatest obstacle for Moore's law. Modern chips consume ~100W of power of which about 20% is wasted in leakage through the transistor gates. The traditional means of coping with increased power per generation has been to scale down the operating voltage of the chip but voltages are reaching limits due to thermal fluctuation effects. To save power, several tricks viz., minimizing activity, glitches, effective capacitance, wire length of nodes and use of minimum possible supply voltage constrained by performance needed. Design for high speed and then reduce voltage to get the desired speed have been considered. There are many tricks to save power like "lost performance can be compensated by parallelism" and "design for high speed and then reduce voltage to get the desired speed".

Keynote Speaker III

Prof. Mohammed Atiquzzaman,

Edith J. Kinney Gaylord Presidential Professor
School of Computer Science University of Oklahoma, Norman

Biography: Mohammed Atiquzzaman (Senior Member, IEEE) obtained his M.S. and Ph.D. in Electrical Engineering and Electronics from the University of Manchester (UK) in 1984 and 1987, respectively. He currently holds the Edith J Kinney Gaylord Presidential professorship in the School of Computer Science at the University of Oklahoma.

Dr. Atiquzzaman is the Editor-in-Chief of Journal of Networks and Computer Applications, founding Editor-in-Chief of Vehicular Networks and serves/served on the editorial boards of many journals including IEEE Communications Magazine, Real Time Imaging Journal, International Journal of Communication Networks and Distributed Systems and Journal of Sensor Networks and International Journal of Communication Systems. He co-chaired the IEEE High Performance Switching and Routing Symposium (2003, 2011), several IEEE Globecom and ICC symposiums (2012, 2011, 2010, 2009, 2007, 2006), and the SPIE Quality of Service over Next Generation Data Networks conferences (2001, 2002, 2003). He was the panels co-chair of INFOCOM'05, and is/has been in the program committee of many conferences such as INFOCOM, Globecom, ICCCN, Local Computer Networks, and serves on the review panels at the National Science Foundation. He is the current Vice Chair of IEEE Communication Society Technical Committee on Communications Switching and Routing.

Dr. Atiquzzaman received IEEE Communication Society's Fred W. Ellersick Prize, and NASA Group Achievement Award for "outstanding work to further NASA Glenn Research Center's effort in the area of Advanced Communications/Air Traffic Management's Fiber Optic Signal Distribution for Aeronautical Communications" project. He is the co-author of the book "Performance of TCP/IP over ATM networks" and has over 250 refereed publications, most of which can be accessed at www.cs.ou.edu/~atiq. His current research interests are in areas of transport protocols, wireless and mobile networks, ad hoc networks, satellite networks, power-aware networking, and optical communications. His research has been funded by National Science Foundation (NSF), National Aeronautics and Space Administration (NASA), and U.S. Air Force, Cisco and Honeywell.

Mobile Networks: Architecture, Performance and Energy Considerations

Abstract: Previous work on mobility management in data networks have mainly dealt with solutions regarding mobility of individual hosts. Various networks layer and transport layer solutions have been developed. However, recently there has been strong interest in finding solutions for networks in motion, such as networks in an aircraft, train or ship. As they move, rather than handing off individual hosts on such a network, it is more efficient to handover the networks between access points. This results in the handoff being transparent to the hosts and less control traffic in the resource challenged wireless networks. The talk with provide an overview of the network layer based solution being developed by the Internet Engineering Task Force and compare with the end-to-end based solution (SINEMO) developed at University of Oklahoma in conjunction with the National Aeronautics and Space Administration for networks in motion. Issues related to architecture, performance and energy consumption of mobility protocols and future directions for research will be described. The application of networks in motion will be illustrated for both terrestrial and space environment.

Keynote Speaker IV

Prof. Javed I. Khan
Department of Computer Science
Kent State University, Ohio, USA

Biography: Dr. Javed I. Khan's research team specializes in applying multi-area expertise in cross-cutting problems in networking, communication and perceptual engineer. His lab is currently working on network based systems, next generation network architecture, cross-layer communication, active & programmable networking His cross-area research has been funded by various agencies including US Defense Advanced Research Project Agency (DARPA), National Science Foundation (NSF), NASA, AFRL, World Bank and State of Ohio. Dr. Khan is also active in international technology collaboration and has served as Fulbright Senior Specialist on research and education network infrastructure and digital divide. He helped planning and designing wide-area advanced optical networks in Western Africa and South Asia which are now being implemented. Dr. Khan a graduate of BUET and has received his PhD from University of Hawaii at Manoa. His is also an East West Center doctoral scholar. More information about Dr. Khan's research can be found at medianet.kent.edu. Since 2012 Prof. Khan is also serving as the Chair of Department of Computer Science at Kent State University.

Systems Engineering for Extensible and Interactive Networking and Software Defined Network (SDN)

Abstract: Software Defined Networks (SDN) is poised to make a major impact in classical network architecture. SDN to allow flows to be forwarded and processed as per application specification at networking elements. Though it has challenges, the implementation of Open Flow (OF) architecture by all major network vendors and NSF's GENI now paves the way for many innovative active and programmable networked systems to experiment at scale.

This talk will discuss key aspects of this exciting new paradigm. It will also present a formal framework for extensible networked systems building- the transient ware. This is a formal component engineering framework- which particularly focuses of transparency and interactivity among networked protocol components. Through it- applications or protocol components can systematically subscribe, receive, and in real-time react to selected events. Based on the level of interactivity- this enables several classes of adaptive networked systems to be engineered. As a proof of concept we have designed and implemented several transient ware enriched adaptive systems. For example, we have demonstrated elastic video- where TCP friendly adaptive MPEG- 2 video transcoder, which can directly interact with the transport layer and adjust its outgoing video rate to satisfy temporal quality constraint of the stream via a dynamic rate adaptive scheme. We have also shown fast mobile handoff cutting through cross-layer mismatch of conventional mobile IP. Interactivity in network protocol elements can greatly benefit advanced applications and middleware.

In this talk we discuss how such intelligent and formal component engineering can be facilitated within Open Flow architecture. This marriage can open up a new horizon- a spectrum of smart solutions can be potentially found to many of the current hard problems in networking.

Keynote Speaker V

Prof. M.M.A. Hashem

Khulna University of Engineering & Technology (KUET)
Khulna, Bangladesh

Biography: Prof. Dr. M.M.A. Hashem received his Bachelor's degree in Electrical and Electronic Engineering from Khulna University of Engineering and Technology (KUET), Khulna, Bangladesh in 1988, Master's degree in Computer Science from Asian Institute of Technology (AIT), Bangkok, Thailand in 1993 and PhD degree in Artificial Intelligence Systems from Saga University, Japan in 1999. He received the "Institute Gold Medal" of BIT, Khulna (Now KUET) in recognition of outstanding performance in Bachelor's Degree. Currently he is working as a Professor in the Dept. of Computer Science and Engineering, Khulna University of Engineering and Technology (KUET), Bangladesh.
His research interest includes Distributed Evolutionary Computations, Intelligent Computer Networking, Grid/Cloud Computing, Wireless Networking, Soft-Computing, Evolutionary Cluster Computing etc. He has published more than 70 refereed articles in international Journals and Conferences. Prof Hashem is a Life Fellow of Instruction of Engineers, Bangladesh (IEB). He is also a member of IEEE. Prof. Hashem has coauthored a book titled "Evolutionary Computations: New Algorithms and their Applications to Evolutionary Robots", Springer-Verlag, Berlin/New York (2004). He had served as an Organizing Chair, IEEE 2008 11th International Conference on Computer and Information Technology (ICCIT 2008) and Workshops, held during 24-27 December, 2008 at KUET.
Prof. Hashem has worked as a visiting Professor at IIUM, Malaysia during 2006. He also has worked as a Technical Support Team (TST) Consultant for Bangladesh Research and Education Network (BdREN)--a World Bank Funded Project--of University Grants Commission (UGC) of Bangladesh from November 2009 to January 2013.

Designing and Implementing the Countrywide Infrastructure for BdREN

Abstrct: University Grants Commission (UGC) of Bangladesh, on behalf of the Ministry of Education (MoE), is currently implementing the Bangladesh Research and Education Network (BdREN) under HEQEP with assistance from World Bank. Now BdREN is in its initial phase. It will be a high-speed data-communications network that is independent of the commercial internet and is dedicated to meeting the needs of the academic and research communities of both public and private sectors.
BdREN with its multi-gigabit capability aims to connect all universities, research institutions, libraries, laboratories, healthcare and agricultural institutions across the country and to support geographically dispersed academics, scientists and researchers with reliable access to high-end computing, simulation tools and datasets. With a view to implementing the BdREN backbone, recently UGC has made an IRU contract with Power Grid Company of Bangladesh (PGCB) Ltd for its country-wide OPGW network. BdREN infrastructure is designed based on this optical fiber.
This talk focuses mainly on detailed background information in designing and implementing the countrywide 40G/10G DWDM based Optical Transmission Network using OPGW, 10G IP/MPLS based Data Network, NOC and Private Cloud based Tier-3 Data Center infrastructure, HD VC system based Virtual Classrooms and Unified Communication Systems which are the key BdREN.

Keynote Speaker VI

Prof. Muhammad H. Rashid

Electrical and Computer Engineering
University of West Florida, USA

Biography: Muhammad H. Rashid is employed by the University of West Florida as a Professor of Electrical and Computer Engineering. Previously, he was employed by the University of Florida as Professor and Director of UF/UWF Joint Program. Rashid received B.Sc. degree in Electrical Engineering from the Bangladesh University of Engineering and Technology, and M.Sc. and Ph.D. degrees from the University of Birmingham in UK. Previously, he worked as Professor of Electrical Engineering and the Chair of the Engineering Department at Indiana University- Purdue University at Fort Wayne. Also, he worked as Visiting Assistant Professor of Electrical Engineering at the University of Connecticut, Associate Professor of Electrical Engineering at Concordia University (Montreal, Canada), Professor of Electrical Engineering at Purdue University Calumet, and Visiting Professor of Electrical Engineering at King Fahd university of Petroleum and Minerals (Saudi Arabia), as a design and development engineer with Brush Electrical Machines Ltd. (England, UK), a Research Engineer with Lucas Group Research Centre (England, UK), a Lecturer and Head of Control Engineering Department at the Higher Institute of Electronics (in Libya & Malta).

Dr. Rashid is actively involved in teaching, researching, and lecturing in electronics, power electronics, and professional ethics. He has published 18 books listed in the US Library of Congress and more than 160 technical papers. His books are adopted as textbooks all over the world. His book, *Power electronics* has translations in Spanish, Portuguese, Indonesian, Korean, Italian, Chinese, Persian, and Indian edition. His book, *Microelectronics* has translations in Spanish in Mexico and in Spain, Italian, and Chinese.

He has received many invitations from foreign governments and agencies to give keynote lectures and consult, by foreign universities to serve as an external examiner for undergraduate, master's and Ph.D. examinations, by funding agencies to review research proposals, and by U.S. and foreign universities to evaluate promotion cases for professorship. Dr. Rashid has worked as a regular employee or consultant in Canada, Korea, United Kingdom, Singapore, Malta, Libya, Malaysia, Saudi Arabia, Pakistan, and Bangladesh. Dr. Rashid has traveled to almost all States in USA and many countries to lecture and present papers (Japan, China, Hong Kong, Indonesia, Taiwan, Malaysia, Thailand, Singapore, India, Pakistan, Turkey, Saudi Arabia, United Arab Emirates, Qatar, Libya, Jordan, Egypt, Morocco, Malta, Italy, Greece, United Kingdom, Brazil, and Mexico).

He is a *Fellow* of the Institution of Engineering & Technology (IET, UK) and a *Life Fellow* of the Institute of Electrical and Electronics Engineers (IEEE, USA). He was elected as an IEEE Fellow with the citation "*Leadership in power electronics education and contributions to the analysis and design methodologies of solid-state power converters*." Dr. Rashid is the recipient of the *1991 Outstanding Engineer Award* from The Institute of Electrical and Electronics Engineers (IEEE). He received the 2002 IEEE Educational Activity Award (EAB) Meritorious Achievement Award in Continuing Education with the following citation *"for contributions to the design and delivery of continuing education in power electronics and computer-aided-simulation*". He is the recipient of the 2008 IEEE Undergraduate Teaching Award with citation*: For his distinguished leadership and dedication to quality undergraduate electrical engineering education, motivating students and publication of*

outstanding textbooks. He is also the recipient of the IEEE 2013 Industry Applications Society *Outstanding Achievement Award*.
Dr. Rashid is an ABET program evaluator for electrical and computer engineering (and also from 1995-2000) and was an engineering evaluator for the Southern Association of Colleges and Schools (SACS, USA). He is also an ABET program evaluator for (general) engineering program. He is the Series Editors of *Power Electronics and Applications*, and *Nanotechnology and Applications* with the CRC Press. He serves as the Editorial Advisor of *Electric Power and Energy* with Elsevier Publishing. He lectures and conducts workshops on Outcome-Based Education (OBE) and its implementations including assessments.

Dr. Rashid is a Distinguished Lecturer for the IEEE Education Society and a Regional Speaker (previously Distinguished Lecture) for the IEEE Industrial Applications Society. He also authored a book on "The Process of Outcome-Based Education - Implementation, Assessment and Evaluations".2012 UiTM Press, Malaysia

Speech Title: OUTCOME BASED EDUCATION (OBE)

Abstract: The outcomes of a traditional curriculum are not normally defined, and the student learning depends on the methods of teaching and learning. Examinations and grades are used to measure the student learning. In an outcome-based, the curriculum is designed to develop specific student learning outcomes (SLOs), that is, what the students would be able to do after the completion of a course or a degree program. There must be a continuous assessment and evaluation process in place to determine the degree of achievement of student learning and for program improvement. This presentation identifies the needs for developing student critical thinking ability through exercises of cognitive level. This also emphasizes on the needs for the quality of education rather than the quantity of course contents. The main elements of knowledge management are identifies.