

2013 7th IEEE GCC Conference and Exhibition (GCC 2013)

**Doha, Qatar
17-20 November 2013**



**IEEE Catalog Number: CFP1329A-POD
ISBN: 978-1-4799-0721-2**

Program

2013 7th IEEE GCC Conference and Exhibition (GCC)

Electronics and Instrumentation-1

<i>Design and Implementation of Low Cost Hand-held Logic Analyzer</i> Sujur Alagar Ramalingam (Higher Colleges of Technology, UAE)	1
<i>Monte Carlo Analysis of the Static Noise Margins for CMOS Gates in Predictive Technology Models</i> Nilay V Acharya (McDermott International, UAE), Jithu Lissi Raju (Emirates Group HQ, UAE), Anand Kumar (BITS Pilani, Dubai Campus, UAE), Mihai Tache (United Arab Emirates University, UAE), Valeriu C. Beiu (UAE University, UAE)	5
<i>Fault Detection and Isolation of the Wind Turbine Based on the Real-Valued Negative Selection Algorithm</i> Esmaeil Alizadeh (Qatar University, Qatar), Nader Meskin (Qatar University, Qatar), Mohieddine Benammar (Qatar University, Qatar), Kash Khorasani (Concordia University, Canada)	11
<i>Energy-aware Joint Power, Packet and Topology Optimization by Simulated Annealing for WSNs</i> Fotis Foukalas (Qatar University, Qatar), Apostolis Xenakis (University of Thessaly, Greece), Georgios Stamoulis (, Greece), Tamer Khattab (Qatar University, Qatar)	17
<i>An Interoperable Multi-Sensor System For Healthcare</i> Bassant Selim (Khalifa University, UAE), Youssef Iraqi (Khalifa University, UAE), Ho-Jin Choi (Korea Advanced Institute of Science and Technology (KAIST), Korea)	22

Power System and Energy-2

<i>Optimal micro-siting of small wind turbine using Numerical Simulation</i> Sultan AL-Yahyai (Sultan Qaboos University, Oman), Yassine Charabi (Sultan Qaboos University, Oman), Adel Gastli (Qatar University, Qatar)	28
<i>Conserving Energy in UAE Buildings: Demand Side Management and Methods for Experiencing Energy</i> Ahmed M. Gaouda (United Arab Emirates University, UAE), Khaled Shuaib (United Arab Emirates University, UAE), Mohammed Adel Abdel-Hafez (United Arab Emirates University, UAE), Nasser Aljuhaishi (Kuwait University, USA), Mahmoud Alahmad (University of Nebraska - Lincoln, USA), Hamid Sharif (University of Nebraska-Lincoln, USA)	33
<i>The Role of Regulation in the Economic Evaluation of Renewable Energy Investments in Developing Countries</i> Ameena Saad Al-Sumaiti (University of Waterloo, Canada)	39
<i>Load Forecasting for Power System Planning Using a Genetic-Fuzzy-Neural Networks Approach</i> Anwar Hasan Jarndal (Department of Electrical and Computer Engineering, University of Sharjah, Sharjah 27272, UAE, UAE)	44
<i>Measurements and Evaluation of Harmonics in HV Networks - Oman MIS Case Study</i> Mohammed Albadi (Sultan Qaboos University, Oman), Amer S. Al-Hinai (Sultan Qaboos University, Oman), Abdullah Al-Badi (Sultan Qaboos University, Oman), Masoud Al Reyami (Oman Electricity Transmission Company, Oman), Salem Al-Hinai (Sultan Qaboos University, Oman), Rashid Al-Abri (Sultan Qaboos University, Oman)	49

Power System and Energy-1

<i>New Topologies for Photovoltaic-Fed Single-Stage Boost Inverters</i> Ahmed Elserougi (Texas A&M University at Qatar, Qatar), Ahmed Massoud (Qatar University, Qatar), Ayman Abdel-Khalik (Alexandria University, Egypt), Ahmed Shehab (Texas A&M University at Qatar, Qatar)	54
<i>Global Renewable Electricity Potential</i> Faisal Rahiman Pazheri (King Saud University, Saudi Arabia), Abdulrahman Ali Al-Arainy (King Saud University, Saudi Arabia), Mohd Fauzi Othman (University of Technology Malaysia, Malaysia), Nazar Malik (King Saud University, Saudi Arabia)	59
<i>Multiple FACTS devices integration through distributed control system and its application on the GCC Interconnection</i> Tariq Masood (Qatar Petroleum, Qatar), Raj Aggarwal (University of Bath, Qatar), Rehan Arif (UET, Lahore, Pakistan), D P Kothari (Vellore Institute of Technology, India)	64
<i>Cooperative Games among Consumers in the Smart Grid</i> Yassine Abdulsalam (Alcatel-Lucent, Canada)	70
<i>Segregation of Technical and Commercial Losses in an 11 kV Feeder</i> Sudhir Rajoli (CENTRAL POWER RESEARCH INSTITUTE, India)	76

Communications and Signal Processing-1

<i>New UWB antenna with inverted F and U shape slots to reject WLAN and X-band applications</i> Noor Awad (University of Jordan, Jordan), MOhammed Abdelazeez (University of Jordan, Jordan)	80
<i>Enhanced Connectivity in Railroad Networks using LTE Relays with Directive Antennas</i> Elias Yaacoub (Qatar Mobility Innovations Center (QMIC), Qatar)	84
<i>Design of UWB Monopole Antenna using Genetic Algorithms</i> Joseph Jervase (Sultan Qaboos University, UAE)	89
<i>Modified QR-D and MMSE PMI Selection Technique for MIMO Closed Loop Spatial Multiplexing in LTE/LTE-Advanced</i> Ahmed Wagdy (Qatar University, Qatar), Tamer Khattab (Qatar University, Qatar), Essam Sourour (Alexandria University, Egypt)	93
<i>A USRP-Based Experimental Testbed for OFDM Systems Impaired by I/Q imbalance</i> Özgür Özdemir (Qatar University, Qatar), Ridha Hamila (Department of Electrical Engineering, Qatar), Naofal Al-Dhahir (University of Texas at Dallas, USA)	98
<i>Microstrip Monopole Antenna With Enhanced Bandwidth for LTE Applications</i> Lamia Tchoketch-Kebir (Rochester Institute of Technology Dubai, UAE), Boutheina Tlili (Rochester Institute of Technology dubai, UAE)	103

Computing and IT-1

<i>A New Text Representation Scheme Combining Bag-of-Words and Bag-of-Concepts Approaches for Automatic Text Classification</i> Alaa Alahmadi (University of Limerick, Ireland)	108
<i>An Improved Medical Image Classification Model using Data Mining Techniques</i> Satej Wagle (BITS Pilani, Dubai Campus, UAE), J. Alamelu Mangai (BITS, PILANI-DUBAI CAMPUS, UAE), V. Santhosh Kumar (Bits, Pilani-Dubai Campus, UAE)	114
<i>Automatic Handedness Detection from Off-Line Handwriting</i> Somaya Ali Almaadeed (Qatar University, Qatar), Fethi Ferjani (Qatar University, Qatar), Samir Elloumi (Qatar University, Qatar), Abdelâali Hassaïne (Qatar University, Qatar), Ali Jaoua (Qatar University, Qatar)	119

<i>A Framework for Managing and Optimizing the Adaptation Process Qualities</i> Alti Adel (University of setif, Algeria), Sébastien Laborie (Université de Pau et des Pays de l'Adour, France), Philippe Roose (University of Pau - IUT de Bayonne, France)	125
<i>Long-term Fairness in Multi-cell Networks Using Rate Predictions</i> Hatem Abou-zeid (Queen's University, Canada), Hossam S. Hassanein (Queen's University, Canada), Nizar Zorba (QMIC, Qatar)	131

Industrial Technology Applications -1

<i>Understanding Oil Field Power Quality Issues</i> Ritchie Pragale (Saudi Aramco, USA), Jaime Reyes (Plains Exploration & Production Company, USA)	136
<i>Modeling of A Seven-Phase Series-connected Three- Motor Drive System</i> Mohammed Saleh (Victoria University, Qatar), Akhtar Kalam (Victoria University, Australia), Atif Iqbal (Qatar University, Qatar), Moidu Thavot (Researcher, Qatar)	142
<i>Five-Phase PWM Current Source Rectifier</i> Mahmoud Masoud (Sultan Qaboos University, Oman), Rashid Al-Abri (Sultan Qaboos University, Oman)	148
<i>Five-Phase Induction Motor Drive System with Inverter Output LC Filter</i> Ahmad Anad Abdulllah (Qatar University, Qatar), Atif Iqbal (Qatar University, Qatar), Abdulaziz Al Hamadi (RasGas/ Qatar University, Qatar), Khalel Alawi (Kahramaa - Qatar University, Qatar), Mohammed Saleh (Victoria University, Qatar)	153
<i>High-Reliability Extra-Large Motor Drives for Oil and Gas Industry</i> Teruo Yoshino (Toshiba Mitsubishi-Electric Industrial Systems Corporation, Japan), H Masuda (Toshiba Mitsubishi-Electric Industrial Systems Corporation, Tokyo, Japan), Hiromi Hosoda (Toshiba Mitsubishi-Electric Industrial Systems Corporation, Japan), Masahiko Tsukakoshi (Toshiba Mitsubishi-Electric Industrial Systems Corporation, Japan), Mamun Mostafa (Toshiba Mitsubishi-Electric Industrial Systems Corporation, Japan), Lazhar Ben-Brahim (Qatar University, Qatar)	159

Keynote Speech 2

<i>How Power Electronics contribute to the Current Energy Arena</i> Leopoldo Franquelo (University of Seville, Spain), José Leon (University of Seville, Spain)	165
--	-----

Electronics and Instrumentation-2

<i>BFSK Modulation to Compare Intra-body Communication Methods for Foot Plantar Pressure Measurement</i> Abdul Hadi Abdul Razak (Victoria University, Australia), Aladin Zayegh (Victoria University, Australia), Rezaul Begg (Victoria University, Australia), MirHojjat Seyedi (Victoria University, Australia), Daniel T. H. Lai (Victoria University, Australia)	172
<i>Device Interface for People with Mobility Impairment</i> Uvais Qidwai (Qatar University, Qatar), Eman Hassan (Qatar University, Qatar), Reham Al Halabi (Qatar University, Qatar), Mohamed Shakir (Qatar University, Qatar)	177
<i>Asymmetry Detection during Pathological Gait Using a Plantar Pressure Sensing System</i> Linah Wafai (Victoria University, Australia), Aladin Zayegh (Victoria University, Australia), Rezaul Begg (Victoria University, Australia)	182
<i>Robotic Toys for Autistic Children: Innovative tools for teaching and treatment</i> Uvais Qidwai (Qatar University, Qatar), Mohamed Shakir (Qatar University, Qatar), Olcay Connor (Step by Step Centre for Special Needs, Qatar)	188

Power System and Energy-3

<i>A New Five-Phase to Three-Phase Back-to-Back Current Source Converter Based Wind Energy Conversion System</i>	
Mohammed Elgenedy (Alexandria University, Egypt), Ayman Abdel-Khalik (Alexandria University, Egypt), Ahmed Elserougi (Texas A&M University at Qatar, Qatar), Ahmed Shehab (Texas A&M University at Qatar, Qatar), Ahmed Massoud (Qatar University, Qatar)	193
<i>A Hybrid Soft-Switching Integrated Magnetic Cuk Converter for Photovoltaic Applications</i>	
Suvankar Biswas (University of Minnesota Twin Cities, USA), Ned Mohan (UMU, USA)	199
<i>Deadbeat Control of Z Source Inverter with Voltage Ride-Through Capability</i>	
Yara Fayyad (Qatar University, Qatar), Lazhar Ben-Brahim (Qatar University, Qatar)	204
<i>Study of Voltage Source Converter-Based HVDC System During DC Side Faults</i>	
Hasan Khader (Qatar University, Qatar), Ahmed Massoud (Qatar University, Qatar), Adel Gastli (Qatar University, Qatar)	210

Communications and Signal Processing-2

<i>Standard Definition ANPR System on FPGA and an Approach to Extend it to HD</i>	
Xiaojun Zhai (University of Essex, United Kingdom), Faycal Bensaali (Qatar University, Qatar)	214
<i>Gas Ascertainment via Smartphone</i>	
Roger Achkar (American University of Science and Technology, Lebanon)	220
<i>Convergence Analysis of Threshold-based Sparse NLMS Algorithm</i>	
Abdurahman Al-Hassan (King Saud University, Saudi Arabia), Ahmed Iyanda Sulyman (King Saud University, Saudi Arabia), Abdulhameed Alsanie (King Saud University, Saudi Arabia)	225
<i>Coupled-Fed Antenna Integrated with USB Printed on Variable PCB for WWAN/LTE Mobile Phone</i>	
Israa Khaled (University of Jordan, Jordan), Mohamed K Abdelazeez (University of Jordan, Jordan)	229

Computing and IT-2

<i>Solution isolation strategies for the Bernstein polytopes-based solver</i>	
Mahfoud Djedaini (Qatar University, Qatar), Hichem Barki (Qatar University, Qatar), Sebti Foufou (Qatar University, Qatar), Dominique Michelucci (University of Burgundy, France)	234
<i>A Review of Mobile Cloud Computing Architecture and Challenges to Enterprise Users</i>	
Mohammed Arif Amin (Higher Colleges of Technology, UAE), Haider AL-Hashimi (Universiti Teknologi Malaysia, Malaysia), Kamalrulnizam Abu Bakar (Universiti Teknologi Malaysia, Malaysia)	240
<i>Secure Multicast Routing Protocol against Internal Attacks in Mobile Ad Hoc Networks</i>	
Menaka Pushpa A (Easwari Engineering College, India), Kathiravan Kannan (Easwari Engineering College, India)	245
<i>Assessing the Security of the Cloud Environment</i>	
Eman Al Awadhi (Kustar, UAE), Khaled Salah (Khalifa University of Science, Technology and Research (KUSTAR), UAE), Thomas Martin (Khalifa University, UAE)	251

Industrial Technology Applications -2

<i>Torque Control Strategies for a High Performance Switched Reluctance Motor Drive System</i>	
Omar Ellabban (Texas A&M University at Qatar, Qatar), Haitham Abu-Rub (Texas A&M University at Qatar, Qatar)	257

High Speed Control of Induction Machines

Roufin Mahmood (American University of Sharjah, UAE), Taimoor Hussain Shah (American University of Sharjah, UAE), Habib-ur Rehman (American University of Sharjah, UAE)	263
<i>Sensorless V/f Control with MRAS Speed Estimator for A Five-Phase Induction Machine under Open-Circuit Phase Faults</i>	
Ahmed Morsy (Texas A&M University, USA), Ayman Abdel-Khalik (Alexandria University, Egypt), Ahmed Shehab (Texas A&M University at Qatar, Qatar), Ahmed Massoud (Qatar University, Qatar)	268
<i>Suspension Force Model for Bearingless AC Homopolar Machines Designed For Flywheel Energy Storage</i>	
Eric Severson (University of Minnesota, USA), Nilssen Robert (NTNU, Norway), Undeland Tore M. (Norwegian University of Sci. & Tech., Norway), Ned Mohan (UMU, USA)	274

Electronics and Instrumentation-3

Computer based Sleep Staging: Challenges for the Future

Sana Tmar-Ben Hamida (Texas A&M University at Qatar, Qatar), Beena Ahmed (Texas A&M University at Qatar, Qatar)	280
<i>A Comparative Analysis of BLE and 6LoWPAN For U-HealthCare Applications</i>	
Rohan Tabish (Qatar University, Qatar), Adel Ben Mnaouer (Canadian University of Dubai, UAE), Farid Touati (Qatar University, Qatar), Abdulaziz M. Ghaleb (Qatar University, Qatar)	286
<i>Vocal Fold Disorder Detection based on Continuous Speech by using MFCC and GMM</i>	
Zulfiqar Ali (Universiti Teknologi PETRONAS, Malaysia), Mansour Alsulaiman (King Saud University, Saudi Arabia), Ghulam Muhammad (King Saud University, Saudi Arabia), Tamer Mesallam (King Saud University, Saudi Arabia), Irraivan Elamvazuthi (Universiti Teknologi PETRONAS, Malaysia)	292
<i>Enhancement of Light Absorption in Thin Film Solar Cells With Metallic nano-Strips</i>	
Azzouz Sellai (Sultan Qaboos University, Oman)	298

Power System and Energy-4

Modelling of High Voltage SF6 Circuit Breaker Reliability based on Bayesian Statistics

Mahir Muratovic (University Sarajevo, Faculty of Electrical Engineering Sarajevo, Bosnia and Herzegovina), Kemo Sokolija (University Sarajevo, Faculty of Electrical Engineering Sarajevo, Bosnia and Herzegovina), Mirsad Kapetanovic (University Sarajevo, Bosnia and Herzegovina)	303
<i>Compensated 12-pulse CSR Using Shunt APF with Power Locus VAr Offset</i>	
Mostafa Hamad (Arab Academy for Science and Technology, Egypt), Rashid Al-Abri (Sultan Qaboos University, Oman), Mahmoud Masoud (Sultan Qaboos University, Oman)	309
<i>A Simulink Model of an Active Island Detection Technique for Inverter-Based Distributed Generation</i>	
Faisal Khan (Qatar University, Qatar), Ahmed Massoud (Qatar University, Qatar), Adel Gastli (Qatar University, Qatar)	315
<i>Matlab/Simulink Implementation & Simulation of Islanding Detection using Passive Methods</i>	
Marwa Ashour (Qatar University, Qatar), Lazhar Ben-Brahim (Qatar University, Qatar), Nasser Al-Emadi (Qatar University, Qatar)	320
<i>Wireless Sensor Network Based Monitoring System for Photovoltaic Panels in Extreme GCC Climate Conditions</i>	
Dilek Dustegor (University of Dammam, Saudi Arabia), Noor Felemban (University of Dammam, Saudi Arabia)	326

Communications and Signal Processing-3

<i>Power Optimization and kth Order Selective Relaying in Free Space Optical Networks</i> Syed Imtiaz Hussain (Texas A&M University at Qatar, Qatar), Mohamed M. Abdallah (Texas A&M University at Qatar, Qatar), Khalid A. Qaraqe (Texas A&M University at Qatar, USA)	330
<i>Best Available Relay and User Selection Scheme for Interference Management in Wireless Cooperative Communication Networks</i> Zeineb Hraiech (SUP'COM, Tunisia), Aymen Omri (Qatar University, Qatar), Mazen Omar Hasna (Qatar University, Qatar), Mohamed Siala (Sup'Com, Tunisia), Fatma Abdelkefi (High School of Communications of Tunis (SUPCOM), Tunisia)	334
<i>Optimal Power Allocation and Relay Selection in Two-way Multi-relay Cooperative Communication</i> Reza Shakeri (IKIU, Iran), Abbas Taherpour (Imam Khomeini International University, Iran), Hamidreza Khakzad (Imam Khomeini International University, Iran), Tamer Khattab (Qatar University, Qatar)	339
<i>Optimal Relays Locations for Dynamic Resource Allocation in a Multi-Relay Multi-User Environment</i> AlHasan AlSaammare (Texas A&M University at Qatar, Qatar), Mohammad Shaqfeh (Texas A&M University at Qatar, Qatar), Hussein Alnuweiri (Texas A&M University, Qatar)	345
<i>A Simple and Efficient Approximation to the Modified Bessel Functions and Its Applications to Rician Fading</i> Ramy Salahat (UAE, UAE), Ehab Salahat (Khalifa University, UAE), Ali Hakam Abdul muhaimen (Khalifa University, UAE), Tasneem Assaf (Khalifa University of Science, Technology and Research, UAE)	351

Computing and IT-3

<i>Cliques and Clusters based Hierarchical Scheme for Sensor Networks Partitioning</i> Hicham Lakhlef (University of Franche Comté, France), Abdelhak Bentaleb (University of Bachir el Ibrahimi BBA, Algeria), Jean-Frederic Myoupo (Universite de Picardie Jules Vernes, France), Abdelhak Boubetra (University of Bachir El Ibrahimi, Algeria), Saad Harous (UAE University, UAE)	355
<i>A Wavelength Broker for Markets of Competing Optical Transport Networks</i> Yassine Abdulsalam (Alcatel-Lucent, Canada)	361
<i>An Efficient Approximation of $Q(\sqrt{x})$ Function and General BER Performance Analysis</i> Rawan Alkurd (Khalifa University, UAE), Ibrahim Abualhaol (Khalifa University, UAE), Sami Muhaidat (Khalifa University, UAE)	367
<i>Comparison of Different 1-D Interpolation Algorithms for Estimation of Shadow Fading</i> Nada Mustafa (Texas A&M Engineering Building Education City, Qatar), Hassan El sallabi (TAMUQ, Qatar), Khalid A. Qaraqe (Texas A&M University at Qatar, USA), Erchin Serpedin (Texas A&M University, USA)	372

Industrial Technology Applications -3

<i>Towards Ultra High Frequency and High Efficiency Gate Drive Circuits</i> Khalid Ahmed Ghazi Mohammad (Qatar University, Qatar), Lazhar Ben-Brahim (Qatar University, Qatar)	378
<i>A Single-stage Three-phase DC/AC Inverter Based on Cuk Converter for PV Application</i> Ahmed Darwish (University of Strathclyde, United Kingdom), Ahmed Elserougi (Texas A&M University at Qatar, Qatar), Ayman Abdel-Khalik (Alexandria University, Egypt), Ahmed Shehab (Texas A&M University at Qatar, Qatar), Ahmed Massoud (Qatar University, Qatar), Derrick Holliday (University of Strathclyde, United Kingdom), Barry Williams (University of Strathclyde, United Kingdom)	384

<i>Carrier-Based PWM of Voltage Fed Five-Phase qZSI with Coupled Inductors</i> Shaikh Moinuddin (Aligarh Muslim University, India), Haitham Abu-Rub (Texas A&M University at Qatar, Qatar), Atif Iqbal (Qatar University, Qatar)	390
<i>Matlab/Simulink Based Bi-directional Partial Resonant AC Link Converter</i> Sk Moin Ahmed (Texas A&M University, Qatar), Haitham Abu-Rub (Texas A&M University at Qatar, Qatar)	396
<i>Active Disturbance Rejection Control - Based Load Frequency Controller of Interconnected Power Systems Involving Wind Power Penetration</i> Emad Abu Khousa (Glory Horizons, UAE), Abdulla Ismail (Sharjah, UAE)	401

Keynote Speech 3

<i>Visual Language Processing (VLP) of Ancient Manuscripts: Converting Collections to Windows on the Past</i> Mohamed Cheriet (Ecole de technologie superieure (University of Quebec), Canada), Reza Farrahi Moghaddam (ETS, University of Quebec, Canada), Rachid Hedjam (Laboratory for Multimedia Communication in Telepresence, ETS, University of Quebec, Canada)	407
---	-----

Engineering Education & Development

<i>Systemic Framework of Competencies of 21st Century Technical and Engineering Human Resource: A Development Case for a Knowledge Based Economy in Qatar</i> Mahmoud Abdulwahed (Qatar University, Qatar), Shaligram Pokharel (Qatar University, Qatar), Walid Balid (Qatar University, Qatar), Mazen Omar Hasna (Qatar University, Qatar)	413
<i>Exploring the Factors that Motivate Female Students to Enroll and Persist in a Collegiate STEM Degree Program</i> Rosemary L. Edzie (University of Nebraska - Lincoln, USA), Mahmoud Alahmad (University of Nebraska - Lincoln, USA)	419
<i>Student engagement in engineering design: a successful story at Qatar University</i> Farid Benyahia Farid Benyahia (Qatar University, Qatar)	425

Power System and Energy-6

<i>Detection and Discrimination Between Unbalanced Supply and Phase Loss in PMSM Using ANN-Based Protection Scheme</i> Shady Samir Khalil (Research Associate at Texas A&M University, Qatar), Haitham Abu-Rub (Texas A&M University at Qatar, Qatar), Mohamed Saad (Cairo University, Qatar), Essam El-Din Abu El Zahab (Faculty of Engineering - Cairo University, Egypt), Atif Iqbal (Qatar University, Qatar)	430
<i>Analysis of the Dynamic Behavior and LVRT Capability of a DFIG using SDBR during Grid Disturbances</i> Mohamed Soliman (Heriot Watt University, UAE), Hammam Soliman (Arab Academy for Science, Technology and Maritime Transport, Egypt), Prashant Kumar Soori (Heriot-Watt University, UAE)	436
<i>Numerical Differential Protection Algorithm for Power Transformers</i> Abdelrahman Hamouda (Qatar University, Qatar), Fadhel Al Anzi (Qatar University, Qatar), Hussein Gad (Qatar University, Qatar), Adel Gastli (Qatar University, Qatar)	440
<i>AC Solid State Circuit Breakers for Fault Current Limitation in Distributed Generation</i> Rabi Nasereddein (Qatar University, Qatar), Ilies Amor (Qatar University, Qatar), Ahmed Massoud (Qatar University, Qatar), Lazhar Ben-Brahim (Qatar University, Qatar)	446

Power System and Energy-5

<i>Early detection of an Instantaneous Total Blockage accident in the core of a Sodium-cooled Fast Reactor</i> Sinuhe Martinez (University of Reims Champagne-Ardenne, France), Nadhir Messai (University of Reims Champagne-Ardenne, France), Danielle Nuzillard (University of Reims Champagne Ardenne, France), Jean-Philippe Jeannot (CEA, France)	450
<i>A New Power Flow Control Scheme Using Interline Power Flow Controller</i> Mustafa M. Al Khabbaz (Saudi Aramco, Saudi Arabia), Mohammad A. Abido (KFUPM, Saudi Arabia)	456
<i>An Adaptive PR Controller For Inverter-Based Distribution Generation With Active Damped LCL Filter</i> Hisham Magdi El Deeb (Qatar University, Qatar), Ahmed Elserougi (Texas A&M University at Qatar, Qatar), Ayman Abdel-Khalik (Alexandria University, Egypt), Ahmed Shehab (Texas A&M University at Qatar, Qatar), Ahmed Massoud (Qatar University, Qatar)	462
<i>Design of a Power System Stabilizer for a Synchronous Generator Using Hybrid Intelligent Controller</i> Syed Ahmed Raza Naqvi (Prince Mohammad Bin Fahd University, Saudi Arabia), Syed Akbar Raza Naqvi (National University of Science and Technology-Military College of Signals, Pakistan)	468

Communications and Signal Processing-4

<i>On the Reduction in Specific Absorption Rate Using Uplink Power Adaptation in Heterogeneous Small-Cell Networks</i> Adnan Nasir (Texas A&M University at Qatar, Qatar), Muhammad Zeeshan Shakir (Texas A&M University at Qatar (TAMUQ), USA), Khalid A. Qaraqe (Texas A&M University at Qatar, USA), Erchin Serpedin (Texas A&M University, USA)	474
<i>Design of an Enhanced RF Energy Harvesting System for Wireless Sensors</i> Ahmed Al-Khayari (Sultan Qaboos University, Oman), Hamad Al-Khayari (Sultan Qaboos University, Oman), Sulaiman Al-Nabhani (Sultan Qaboos University, Oman), Mohammed Bait-Suwailam (Sultan Qaboos University, Oman), Zia Nadir (Sultan Qaboos University, Oman)	479
<i>Distributed Spectrum Sensing of Correlated Observations in Cognitive Radio Networks</i> Zahra Pourgharehkhani (Imam Khomeini International University, Iran), Saeid Sedighi (Qazvin International University, Iran), Abbas Taherpour (Imam Khomeini International University, Iran), Tamer Khattab (Qatar University, Qatar)	483
<i>Adaptive Hierarchical Cooperative Communication Using Energy Harvesting Relay</i> Hamidreza Khakzad (Imam Khomeini International University, Iran), Reza Shakeri (IKIU, Iran), Abbas Taherpour (Imam Khomeini International University, Iran), Tamer Khattab (Qatar University, Qatar)	489

Computing and IT-4

<i>Distributed Binary Consensus Algorithm in Wireless Sensor Networks with Faulty nodes</i> Abderrazek Abdaoui (Qatar University, Qatar), Tarek M. Elfouly (Qatar University, Qatar)	495
<i>Analysis of the Packet Dropping Constituency in Proxy-based Mobile IPv6 over WLANs</i> Nasser-Eddine Rikli (King Saud University, Saudi Arabia), Walaa Alayed (King Saud University, Saudi Arabia)	501
<i>Traffic-aware Self-Coexistence Management in IEEE 802.22 WRAN Systems</i> Mohammad Bani Hani (Jordan University of Science and Technology, Jordan), Haythem A. Bany Salameh (Yarmouk University, Jordan), Yaser Jararweh (Jordan University of Science and Technology, Jordan), Abdelkader Bouselham (Qatar Environment and Energy Research Institute, Qatar)	507

<i>A Cross Layer Rate based Transport solution to control intra flow contention in multi hop MANET</i> Radha R (Easwari Engineering College, India), Kathiravan Kannan (Easwari Engineering College, India)	511
--	-----

Industrial Technology Applications -4

<i>Inductive Power Transfer with Wireless Communication System for Electric Vehicles</i> Sara Asheer (Qatar University, Qatar), Amna Al-Marwani (Qatar University, Qatar), Tamer Khattab (Qatar University, Qatar), Ahmed Massoud (Qatar University, Qatar)	517
<i>Optimization of a pressure transmitter manufacturing line</i> Ashok Vydyanathan (University of California, San Diego, USA), Anand Kumar (BITS Pilani, Dubai Campus, UAE), Ravi Kant Mittal (Director, BITS Pilani, Dubai Campus, UAE), Maneesha Bhagchandani (BITS Pilani, Dubai Campus, UAE)	523
<i>Simultaneous Fault Detection and Control Design for an Autonomous Unmanned Underwater Vehicle</i> Mohammadreza Davoodi (Qatar University, Qatar), Nader Meskin (Qatar University, Qatar), Kash Khorasani (Concordia University, Canada)	529
<i>Cost Effective Air-Conditioning for Bahrain Domestic Applications</i> Waleed Elzanati (materials & supplies directorate, Bahrain), Siddeeq Yousif Ameen (University of Mosul, Iraq)	535

Invited Speech 8

<i>Subsurface Real Time Multiparametric Monitoring Systems Dedicated to Geophysics Explorations and Stability Control of Engineering Works</i> Damiano Crescini (University of Brescia, Italy)	541
---	-----

Invited Speech 7

<i>Principles of Excellence in Engineering Education Applied to GCC/MENA Engineering Colleges and comparison with Australia and France: a thesis with analysis, results and observations</i> Boualem Boashash (Qatar University, Doha, Australia)	547
--	-----

Power System and Energy-7

<i>Smart Overhead Lines performance enhancement initiatives to improve distribution networks of Abu Dhabi Distribution Company</i> Husain Mohamed Al Meer (Abu Dhabi Distribution Company, UAE), Surendra Singh Chhajta (Abu Dhabi Distribution Company, UAE), Ali Al Uzri (Abu Dhabi Distribution Company, UAE)	553
<i>Energy Efficiency and Demand Side Management in Abu Dhabi</i> Ramiz Alaileh (Regulation and Supervision Bureau, UAE), Mohammed Yousif (Regulation and Supervision Bureau, UAE), Ahmed Fadul (Regulation and Supervision Bureau, UAE), Mark Preece (Regulation and Supervision Bureau, UAE)	559
<i>Correlation Between Climate Data and Maximum Electricity Demand in Qatar</i> Adel Gastli (Qatar University, Qatar), Yassine Charabi (Sultan Qaboos University, Oman), Rashid Alammari (Qatar University, Qatar), Ali Al-Ali (KAHRAMAA, Qatar)	565

<i>Small-Disturbance Stability of Oman/UAE Interconnected System</i>	
Omar H. Abdalla (Oman Electricity Transmission Company, Oman), Rashid Al-Badwawi (Oman Electricity Transmission Company, Oman), Hilal Al-Hadi (Oman Electricity Transmission Company, Oman), Hisham Al-Riyami (Oman Electricity Transmission Company, Oman), Ahmed Al-Nadabi (Oman Electricity Transmission Company, Oman), Karim Karoui (Tractebel Engineering, Belgium), Ariadne Szekut (Tractebel Engineering, Belgium), Amer Al-Hinai (Masdar Institute of Science and Technology, UAE)	571
<i>Optimal Locations of Distributed Generations in Electrical Power Distribution System</i>	
Kareem Gameel (Masdar Institute, UAE)	577

Communications and Signal Processing-5

<i>Adaptive Geometric Wavelet Transform Based Two Dimensional Data Compression</i>	
Syed Akbar Raza Naqvi (National University of Science and Technology-Military College of Signals, Pakistan), Imran Touqir (Military College of Signals, NUST, Pakistan), Syed Ahmed Raza Naqvi (Prince Mohammad Bin Fahd University, Saudi Arabia)	583
<i>Monocular Vision-Based Collision Avoidance System using Shadow Detection</i>	
Loay Ismail (Qatar University, Qatar), Lubna Eliyan (Qatar University, Qatar), Razan Younes (Qatar University, Qatar), Reem Ahmed (Qatar University, Qatar)	589
<i>Pixel Level Fusion of Multispectral Face Images: Short Review</i>	
Faten Omri (Qatar University, Qatar), Sebti Foufou (Qatar University, Qatar), Mongi Abidi (The University of, USA)	595
<i>MDLF-Mavg: A New Speech Feature with a Voice Print</i>	
Awais Mahmood (King Saud University, Saudi Arabia), Mansour Alsulaiman (King Saud University, Saudi Arabia), Ghulam Muhammad (King Saud University, Saudi Arabia), Sid-Ahmed Selouani (Université de Moncton, Campus de Shippagan, Canada)	601
<i>On the Relevance of Speech Rhythm Metrics to Characterize Social Factors</i>	
Alaidine Ayad (École de Technologie Supérieure de Montréal, Canada), Ghania Droua Hamdani (CRSTDLA, Algeria), Yousef A Alotaibi (King Saud University, Saudi Arabia), Sid-Ahmed Selouani (Université de Moncton, Campus de Shippagan, Canada)	606

Industrial Technology Applications -5

<i>Utilizing Inertial Energy to Extend Ride-through for Matrix Converters in Adjustable Speed Drives</i>	
David Orser (University of Minnesota, USA), Ned Mohan (UMU, USA)	611
<i>Precise torque control for Interior Permanent Magnet Synchronous Motor using FPGA based Hardware Controller</i>	
Tomoki Yokoyama (Tokyo Denki University, Japan), Asahi Kitada (Tokyo Denki University, Japan)	617
<i>A comparative study between diode and thyristor based AC to DC converters for aluminium smelting process</i>	
Mohammed Ayoub (University of Bath UK, UAE), Francis Robinson (University of Bath, United Kingdom)	622