2017 International Conference on Electrical and Computing Technologies and Applications (ICECTA 2017)

Ras Al Khaimah, UAE 21-23 November 2017



IEEE Catalog Number: ISBN:

CFP17M75-POD 978-1-5386-0873-9

Copyright \odot 2017 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP17M75-POD

 ISBN (Print-On-Demand):
 978-1-5386-0873-9

 ISBN (Online):
 978-1-5386-0872-2

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400 Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



2017 International Conference on Electrical and Computing Technologies and Applications (ICECTA)

Antennas and Propagation-1

	Quasi-Isotropic Circular Arrays of Anisotropic Sensors	
	Houcem Gazzah (University of Sharjah, United Arab Emirates)	1
	Equivalent Circuit for Implemented Low Pass Filter with SRR Metamaterial Sara Ghanem (German University in Cairo, Egypt), Abdelmegid Allam (German University in Cairo, Egypt), Raed Shubair (Massachusetts Institute of Technology (MIT), USA)	6
	Planar Monopole MIMO/Diversity Antenna for LTE/WWAN Applications in Smart Mobile Handsets	
	Hari Shankar Singh (Thapar University, Patiala, India), Kunal Singh (Thapar University, India), Raed Shubair (Massachusetts Institute of Technology (MIT), USA)	10
	A Compact Mobile Handsets MIMO/Diversity Antenna for GSM1800 and WiMAX Applications	
	Hari Shankar Singh (Thapar University, Patiala, India), Kunal Singh (Thapar University, India), Raed Shubair (Massachusetts Institute of Technology (MIT), USA), Vinamrata Singh (SSET, United Arab Emirates)	14
	Investigation of Electromagnetic (EM) wave attenuation in oil pipeline	
	Radouane Karli (Khalifa University of Science and Technology, United Arab Emirates), Abdellatif Bouchalkha (The Petroleum Institute & Art and Science College, United Arab	18
Computer I	Networks	
	Recursive Computation of Steady State Probabilities in M/M/1/B Queues	
	Rana Ahmed (American University of Sharjah, United Arab Emirates)	22
	Mobile Fingerprint Authentication in Saudi Arabian Call Centers Rabea Kurdi (Effat University, Saudi Arabia), Fawzia Hersi (Effat University, Saudi Arabia), Sara Bahagari (Effat University, Saudi Arabia), Mohammed Kaosar (Effat University, United Arab Emirates), Saeed Qaisar (Effat University, Saudi Arabia), Abdulhamit Subasi (Effat University, Saudi Arabia)	26
	An Improved Approach for Route Selection in MANETs using Genetic Algorithm for Smart Grids Applications	
	Firas Albalas (Jordan University of Science and Technology & Jordan, Jordan), Yaser Khamayseh (Jordan University of Science and Technology, Jordan), Reema Abujazoh (Jordan University of Science and Technology, Jordan), Albara W Awajan (Al-Balqa Applied University, Jordan)	30
	FIR Filter for Frequency Estimation Using Eigen-Approach	
	Fadia Elissa (Princess Sumaya University for Technology, Jordan), Mohammad Mismar (Princess Sumaya University for Technology, Jordan)	36

	Decentralized Localization in Wireless Sensor Networks Mohammad Al Hattab (Al Ain University, United Arab Emirates), Maen Takruri (American University of Ras Al Khaimah, United Arab Emirates), Hussain Attia (American University of Ras Al Khaimah, United Arab Emirates), Huthaifa Al-Omari (Al Ain University of Science and Technology, United Arab Emirates)	41
	Investigating Random Behavior of One Way Delay Jitter Huthaifa Al-Omari (Al Ain University of Science and Technology, United Arab Emirates), Mohammad Al Hattab (Al Ain University, United Arab Emirates)	46
Signal and	Image Processing -1	
	Classification of Single-Lead ECG Signal to Normal and Abnormal Subjects Using Histogram- based Features	
	Turky Al Otaiby (King ABDULAZIZ CITY for Science and Technology, Saudi Arabia)	52
	Design of a Text Independent Speaker Recognition System Selma Ozaydin (Cankaya University, Turkey)	55
	Anti-Spoofing Cooperative Localization Using Kalman Filter Thabet Mismar (Al Ain University of Science and Technology, United Arab Emirates), Jung Kim (University of Toledo, USA)	60
	Simulation of Intensity Based Triangular Fringe Projection Technique for Surface Shape Measurements Sami Al-Hamdan (Yarmouk University, Jordan), Mohammad Bawaneh (Budapest University of technology and economics Budapest, Hungary, Hungary)	65
	An Isolated Word Speaker Recognition System Selma Ozaydin (Cankaya University, Turkey)	70
	Comparison of Sampling Possibilities for Circularly Band Limited Two Dimensional Signals Nada Mirza (Al Ain University of Science and Technology, United Arab Emirates), Muhammad Talha Zia (Al Ain University of Science and Technology, United Arab Emirates), Nazih Khaddaj Mallat (Al Ain University of Science and Technology, United Arab Emirates), Haroon Ashraf (Milkhaas Pvt. Ltd, Pakistan)	75
Student Pa	per Contest -1	
	Probabilistic Cryptosystem with Two Pairs of Private/Public Keys Reem Alfaifi (King Saud University, Saudi Arabia)	81
	2x1-D Fast Fourier Transform Interpolation for LTE-A OFDM Pilot-Based Channel Estimation Mohammed Zourob (University of Western Ontario, Canada), Raveendra Kolarramakrishna Rao (University of Western Ontario, Canada)	85
	Design of Sub-station Grounding System - a case study at PDO, and MZEC, Sultanate of Oman Hammad Khayari (Caledonian College of Engineering, Oman)	

	An Adaptive JPEG Compression- Encryption System Using Optimized Local Quantization Matrices	
	Rimah Bani Youniss (Princess Sumaya University for Technology, Jordan), Moh'd Al-Zoubi (Princess Sumaya University for Technology, Jordan), Arafat A. Awajan (Princess Sumaya University For Technology & Royal Scientific Society, Jordan)	. 95
	High Efficiency 88 - 108MHz, 25W Class-E PA for Transmitters in Smart Cities	
	Rashad Ramzan (United Arab Emirates University, United Arab Emirates)	100
2 4 1 4 2		
Student Pa	nper Contest -2	
	Design and Implementation of Smart Plug: An Internet of Things (IoT) Approach Ahmed Musleh (Khalifa University of Science and Technology, The Petroleum Institute, United Arab Emirates), Mahdi Debouza (Khalifa University of Science and Technology, United Arab Emirates), Mohamed Farook (Ministry of Foreign Affairs and International Cooperation, United Arab Emirates)	104
	Constructing Yeast Genetic Interaction Network using Biomedical Literature and Logistic Regression	
	Amira Al-Aamri (Khalifa University of Science, Technology and Research, United Arab Emirates), Kamal Taha (Khalifa University of Science, Technology & Research, United Arab Emirates), Dirar Homouz (Khalifa University, United Arab Emirates), Yousof Al-Hammadi (Khalifa University of Science Technology and Research, United Arab Emirates), Maher Maalouf (Khalifa University, United Arab Emirates)	108
	Decision Making for Multi-Objective Multi-Agent Search and Rescue Missions	
	Hend Al Tair (Khalifa University, United Arab Emirates), Tarek Taha (Khalifa University, United Arab Emirates), Jorge Dias (Khalifa University, United Arab Emirates), Mahmoud Al-Qutayri (Khalifa University, United Arab Emirates)	113
	Toward Self-Policing: Detecting Drunk Driving Behaviors through Sampling CAN Bus Data	
	Ahmad El Basiouni El Masri (American University of Beirut, Lebanon), Hassan A. Artail (American University of Beirut, Lebanon), Haitham Akkary (American University of Beirut, Lebanon)	117
	Security Analysis of Current Voting Systems	
	Abdullahi Abba (American University of Ras Al Khaimah, United Arab Emirates), Mohammed Awad (American University of Ras Al Khaimah, United Arab Emirates), Zakaria Al-Qudah (American University of Ras Al Khaimah, United Arab Emirates), Abdul Halim Jallad (American University of Ras Al Khaimah, United Arab Emirates)	122
Bioinforma	atics & Biomedical Electronics	
	Cloud Computing Based Healthcare Information Systems: A proposal for the Kingdom of Saudi Arabia	
	Rabea Kurdi (Effat University, Saudi Arabia)	128
	ECG-Derived Respiration in the Streptozotocin-Diabetic Rat Michael Jacobson (Rabdan Academy, United Arab Emirates), Frank Howarth (UAE University, United Arab Emirates)	133

	Mohamed Abbas (King Khaled University, Saudi Arabia)	136
	A VHDL Based Interpolator and Base Line Restorer for a Brain-PET Scanner Saeed Qaisar (Effat University, France)	142
	An Automatic Peltier Effect Based MPPC Gain Regulation for Brain-PET Saeed Qaisar (Effat University, France)	148
	Phase Sensing - A Novel Material Characterization Method Omar Siddiqui (Taibah University, Saudi Arabia), Rashad Ramzan (United Arab Emirates University, United Arab Emirates), Omar Muhammad (UAE University, United Arab Emirates), Amin Muhammad (Taibah University, Saudi Arabia)	154
Student Pa	per Contest -3	
	An Improved Reliable PSO Based Parameter Extraction Method Applied to GaN HEMTs for mm-Wave Applications	
	Ahmed Hussein (University of Sharjah, United Arab Emirates), Anwar Hasan Jarndal (University of Sharjah, United Arab Emirates)	158
	Comparison study on advanced control of Two 2DOF Manipulator robots Raouf Fareh (University of Sharjah Electrical Engineering, United Arab Emirates), Abdelbasset Mehiri (University of Sharjah, United Arab Emirates)	162
	Reconfigurable Cache Memory Architecture Design based on VHDL Ibrahim Amory (College of Electrical and Electronics Engineering Techniques, Iraq), Safaa Omran (College of Electrical and Electronic Techniques, Iraq)	167
	Computational Power Analysis of Wireless Communications Systems using Operation-Level Power	
	Maryam Tariq (Khalifa University, United Arab Emirates), Arafat Al-Dweik (Khalifa University, United Arab Emirates), Baker Mohammad (Khalifa University, United Arab Emirates), Thanos Stouraitis (Khalifa University, United Arab Emirates & University of Patras, Greece), Hani Saleh (Khalifa University of Sciente, Technology & Research, United Arab Emirates)	173
	Optimization of the Structure Cache for Distributed Data Structures in Overlay Networks Raed Al-Aaridhi (University of Duesseldorf, Germany), Niklas Foerst (University of Düsseldorf, Germany), Kalman Graffi (Heinrich Heine University Düsseldorf, Germany)	179
Student Pa	per Contest -4	
	Design and Analysis of Stacked CNT Loaded Polyurethane Composite DRA Antenna Mousa Hussein (UAE University, United Arab Emirates), Nadin Alrayes (UAE University, United Arab Emirates)	184
	A multiband circular-annular ring patch antenna for wireless applications Mousa Hussein (UAE University, United Arab Emirates), Indu Rajmohan (UAE University, United Arab Emirates)	188

Lohit Ka Arab En	network based optimal placement strategy for service components in cloud computing apoor (Thapar University, India), Archana Pandita (Birla Institute Of Technology, United nirates), Preeti Rajput (Institute of Engineering & Computer Sciences, United Arab s)	192
<i>Security</i> Ibrahim (Helwar	Assessment of Virtual Identity Approaches Gomaa (Cairo & National Telecommunications Institute, Egypt), EL Sayed Saad u University, Egypt), Alaa Hamdy (Helwan University, Egypt), Emad Abd-Elrahman SudParis (ex. INT), France)	198
Fatima	Pance Comparison of TCP Algorithms for D2D communication in LTE-A Qatan (American University of Sharjah, United Arab Emirates), Rana Ahmed an University of Sharjah, United Arab Emirates)	203
	ance Analysis of FPGA based Maximum Power Point Tracking Algorithms for Oltaic Applications	
Vidhya l Emirate Emirate	Koothupalakkal Viswambaran (University of Bolton Ras Al Khaimah, United Arabs), Anjana V (University of Bolton, Academic Centre, Ras Al Khimah, United Arabs), Arfan Ghani (Coventry University, United Kingdom (Great Britain)), Erping Zhousity of Bolton, United Arab Emirates)	207
Student Paper Co	ntest -5	
	ntact Doppler Radar Based Prediction of Nocturnal Body Orientations Using Deep Network for Chronic Heart Failure Patients	
(Faculty	uc Tran (University of Technology, Sydney & ResMed Ltd., Australia), Adel Al-Jumaily of Engineering and IT University of Technology, Sydney, Broadway NSW & UTS - Australia)	211
	ed PID Controller Based Voltage Oriented Control of the 7-level Diode Clamped for Distributed Generation System	
Amr Eln	ady (Sharjah University, United Arab Emirates), Saif Sinan (University of Sharjah, Arab Emirates)	216
E'qab A	efulness of Two-Dimensional (2D) Computational Electromagnetic Analysis Imajali (University of Sharjah, UAE, Canada), Derek McNamara (University of Ottawa,)	221
<i>Disturba</i> Amr Eln	on of Power Quality Problems Using Unified Power Quality Conditioner by an Improved cance Extraction Technique addy (Sharjah University, United Arab Emirates), Nabeel Alawadhi (University of , United Arab Emirates)	225
Mohama	erative and Roadside Unit-aided Localization Scheme for Vehicular Ad hoc Networks ad El Cheikh Ali (American University of Beirut, Lebanon), Hassan A. Artail (American ity of Beirut, Lebanon), Youssef Nasser (American University of Beirut, Lebanon)	230
Samah	Digitally Programmable Lock-in Amplifier for EEG Detection System Milhem (University of Sharjah, United Arab Emirates), Soliman Mahmoud (University of, United Arab Emirates)	235

Wireless Communications and Wireless Networks -1

	Decoding Complexity Analyses of PEG-Based Methods with the Improved Hybrid Iterative/ Gaussian Elimination Decoding Algorithm	
	Reem Alkanhel (Princess Nourah Bint Abdulrahman University (PNU), Saudi Arabia & Plymouth University, United Kingdom (Great Britain)), Marcel Ambroze (Plymouth University, United Kingdom (Great Britain))	239
	Equalization Techniques for Visible Light Communication System Asim Zafar (CCOMSATS Institute of Information Technology Lahore, Pakistan), Arslan Khalid (COMSATS Institute of Information Technology, Pakistan), Hafiz Asif (Comsats Institute of Information Technology Lahore, Pakistan)	244
	Analysis of PR-V-BLAST Receiver for Massive MIMO under Correlated Channel Khawla Alnajjar (University of Sharjah, United Arab Emirates)	
	Performance Evaluation of Time-Domain Interleaved OFDM Systems using Software Defined Radio Platforms	240
	Husameldin Mukhtar (University of Dubai, United Arab Emirates), Arafat Al-Dweik (Khalifa University, United Arab Emirates), Marios Masouridis (Khalifa University of Science and Technology, United Arab Emirates), Thanos Stouraitis (Khalifa University, United Arab Emirates & University of Patras, Greece)	253
	Efficient Decision Fusion for Cooperative Wireless Sensor Networks Mohammad Aljarrah (Khaifa University of Science Technology and Reserch, United Arab Emirates), Arafat Al-Dweik (Khalifa University, United Arab Emirates), Mohamad Kalil (IBM,	
	Canada), Salama Said Ikki (Lakehead University, Canada)	258
Computer	Canada), Salama Said Ikki (Lakehead University, Canada) Security / Cloud Computing / Data Mining/ Big Data	258
Computer	Canada), Salama Said Ikki (Lakehead University, Canada)	258263
Computer	Canada), Salama Said Ikki (Lakehead University, Canada) Security / Cloud Computing / Data Mining/ Big Data Survey of Task Scheduling in Cloud Computing based on Particle Swarm Optimization	
Computer	Canada), Salama Said Ikki (Lakehead University, Canada) Security / Cloud Computing / Data Mining/ Big Data Survey of Task Scheduling in Cloud Computing based on Particle Swarm Optimization Entisar Alkayal (KAU, Saudi Arabia) Collaborative Execution of Distributed Mobile and IoT Applications Running at the Edge Mohammad M. Shurman (Jordan University of Science and Technology, Jordan), Maha	263 269
Computer	Security / Cloud Computing / Data Mining/ Big Data Survey of Task Scheduling in Cloud Computing based on Particle Swarm Optimization Entisar Alkayal (KAU, Saudi Arabia) Collaborative Execution of Distributed Mobile and IoT Applications Running at the Edge Mohammad M. Shurman (Jordan University of Science and Technology, Jordan), Maha Aljarrah (JUST, Jordan) Comparative Analysis on the Performance of Selected Security Algorithms in Cloud Computing Ronald S. Cordova (Gulf College Muscat Sultanate of Oman, Oman), Rolou Lyn Maata (Gulf College Muscat Sultanate of Oman & Staffordshire University UK, Oman), Alrence S Halibas	263 269
Computer	Security / Cloud Computing / Data Mining/ Big Data Survey of Task Scheduling in Cloud Computing based on Particle Swarm Optimization Entisar Alkayal (KAU, Saudi Arabia) Collaborative Execution of Distributed Mobile and IoT Applications Running at the Edge Mohammad M. Shurman (Jordan University of Science and Technology, Jordan), Maha Aljarrah (JUST, Jordan) Comparative Analysis on the Performance of Selected Security Algorithms in Cloud Computing Ronald S. Cordova (Gulf College Muscat Sultanate of Oman, Oman), Rolou Lyn Maata (Gulf College Muscat Sultanate of Oman & Staffordshire University UK, Oman), Alrence S Halibas (Gulf College, Oman), Rula Al Azawi (Gulf College Muscat Sultanate of Oman, Oman) Securing Abu Dhabi's Electricity Grid from cyber attacks: Cost effective approach to hardening	263 269 274

	Khalil M. Ahmad Yousef (Hashemite University, Jordan), Anas AlMajali (The Hashemite University, Jordan), Roa'a Hasan (Hashemite University, Jordan), Waleed Dweik (University of Jordan, Jordan), Bassam Jamil (Hashemite University, Jordan)	288
Studei	nt Paper Contest -6	
	New Model for Matching the Sketch Image with Corresponding Real Image Reem Alfaifi (King Saud University, Saudi Arabia)	293
	Bandwidth Quantization for Elastic Optical Networks with Uniform Traffic Distribution Shahad AlEnezi (Kuwait University, Kuwait), Anwar Alyatama (Kuwait University, Kuwait)	298
	Breakthrough in Access Control Technology Aysha Sunaina (Manipal University, United Arab Emirates), Ramaprasad Poojary (Manipal University, United Arab Emirates)	303
	On Linear Detector's Spectral Capacity for Massive MIMO Systems Mohammed Zourob (University of Western Ontario, Canada), Raveendra Kolarramakrishna Rao (University of Western Ontario, Canada)	307
Studer	nt Paper Contest -6+ DCT- and FFT-based OFDM Systems with Continuous Phase Modulation over Flat Fading Channels Rayan Alsisi (Western University, Canada), Raveendra Kolarramakrishna Rao (University of Western Ontario, Canada)	312
	High order CMOS differential Difference Current Conveyor Universal Filter using Analytical Synthesis Technique Sana A Alshwaikh (University of Sharjah & University of Ajman, United Arab Emirates), Soliman Mahmoud (University of Sharjah, United Arab Emirates)	318
	Secure Distributed Controllers in SDN based on ECC Public Key Infrastructure Seyed Bagher Hashemi Natanzi (Islamic Azad University Of Pardis, Pardis, Iran, Iran), Mohammad Reza Majma (Pardis Branch, Islamic Azad University, Iran)	322
	On Hybrid Model Parameter Extraction of GaN HEMTs Based on GA, PSO, and ABC Optimization Ahmed Hussein (University of Sharjah, United Arab Emirates), Anwar Hasan Jarndal (University of Sharjah, United Arab Emirates)	327
	Cost Analysis Study of Variable Parallel Prefix Adders Using Altera Cyclone IV FPGA Kit Ibrahim Marouf (King Faisal University, Saudi Arabia), Mohamad Musab Mohamad Asad (King Faisal University, Saudi Arabia), Ahmad Bakhuraibah (King Faisal University, Saudi Arabia), Qasem Abu Al-Haija (King Faisal University, Saudi Arabia)	332

Security Risk Assessment of the PeopleBot Mobile Robot Research Platform

	Institutions Qasim Alajmi (Oman Collge of Management and Technology & University of Malaysia Pahang, Oman), Mohammed A. Al-Sharafi (Faculty of Computer Systems & Software Engineering, Universiti Malaysia Pahang, Malaysia), Ruzaini Abdullah Arshah (Universitiy Malaysia Pahang, Malaysia), Adzhar Kamaludin (Universiti Malaysia Pahang, Malaysia)	336
Signal and	Image Processing -2	
	Authentication Using ECG Signals Ahmad Ba-Hammam (King Saud University, Saudi Arabia), Sulaiman Alhulwah (King Saud University, Saudi Arabia), Majid L Altamimi (King Saud University, Saudi Arabia), Saleh A Alshebeili (King Saud University, Saudi Arabia)	342
	Bayesian Decision Fusion for Enhancing Melanoma Recognition Accuracy Maen Takruri (American University of Ras Al Khaimah, United Arab Emirates), Abubakar Abubakar (American University of Ras AL Khaimah, United Arab Emirates)	346
	A Reversible Watermarking Scheme for Ownership Protection and Authentication of Medical Images Alavikunhu Panthakkan (University of Dubai, United Arab Emirates), Hussain Al-Ahmad (University of Dubai, United Arab Emirates), Saeed Al Mansoori (Mohammed bin Rashid Space Centre, United Arab Emirates)	350
	Electromagnetic Processing of Low-Loss Materials. Microwave Spectroscopy of Supercooled Water Confined in W/O Microemulsions Mustapha Merabet (American University of Ras-Al-Khaimah AURAK, United Arab Emirates)	354
Student Pa	per Contest -8	
	Condition Monitoring Technologies, Parameters and Data Processing Techniques for Fault Detection of Internal Combustion Engines: a literature review Ahmed Bingamil (University of Sharjah, United Arab Emirates), Imad Alsyouf (University of Sharjah, United Arab Emirates), Ali Cheaitou (University of Sharjah, United Arab Emirates)	358
	Melanoma detection Using Regular Convolutional Neural Networks Aya Abu Ali (Petroleum Institute, Khalifa University of Science and Technology, United Arab Emirates)	363
	A Novel Load Management Algorithm for EMU by Implementing Demand Side Management Techniques using ANN 'M. Prathapa Raju (Jawaharlal Nehru Technological University Hyderabad, India), Jaya Laxmi Askani (J.N.T.U. Hyderabad, India)	368
	Introducing Blockchains for Healthcare Zainab Alhadhrami (College of IT, UAEU, United Arab Emirates), Salma Alghfeli (College of IT, UAEU, United Arab Emirates), Mariam Alghfeli (College of IT, UAEU, United Arab Emirates), Juhar Abedlla (College of IT, UAEU, United Arab Emirates), Khaled Shuaib (UAE University, United Arab Emirates)	374
	,	

A Conceptual Model of E-Learning based on Cloud Computing Adoption in Higher Education

	Embedded Synthetic Aperture Radar Imaging System on Compact DSP Platform Xingyu Xie (Khalifa University of Science and Technology, United Arab Emirates), Mohamed A Abou-Khousa (Khalifa University of Science and Technology & Petroleum Institute, United Arab Emirates), Khaled Al-Wahedi (The Petrolum Institute, United Arab Emirates)	378
	Comparative Design of Fuzzy Logic Controller for Photovoltaic Panel Maximum Power Point Tracking Hussain Attia (American University of Ras Al Khaimah, United Arab Emirates)	382
Antennas &	k Propagation -2	
	Carpet Structure of Combination of Crown Square and Sierpinski Gasket Fractal Antenna Using Transmission Line Feed Varinderjit Kaur Bal (PTU, India), Yogesh Bhomia (Amity University & Amity University, India), Arushi Bhardwaj (PTU, India), Tanu Thakur (PTU, India)	387
	To Design and Simulate Microstrip Patch Antenna by Line Feed Yogesh Bhomia (Amity University & Amity University, India), Vipin Gupta (Kurukshetra University, India), Arushi Bhardwaj (PTU, India), Nasreen Akhtar (PTU, India)	392
	Design of Triple Band Pass Filter Using Defected Stepped Impedance Log Periodic Resonator Sara Ghanem (German University in Cairo, Egypt), Abdelmegid Allam (German University in Cairo, Egypt), Raed Shubair (Massachusetts Institute of Technology (MIT), USA)	397
	Performance Analysis of Beamforming-Based DOA Estimation in the Presence of an Interfering Source Houcem Gazzah (University of Sharjah, United Arab Emirates)	401
	Dual Polarized Semi-Circular MIMO/Diversity Antenna based on LTCC Technology Waleed Tariq Sethi (RFTONICS, King Saud University, Saudi Arabia), Mohammed AlShareef (King Abdulaziz City for Science and Technology, Saudi Arabia), Hatim Behairy (King Abdulaziz City For Science and Technology, Saudi Arabia), Muhammad Ashraf (Technology Innovation Center in RF and Photonics For the e Society, Saudi Arabia), Saleh A Alshebeili (King Saud University, Saudi Arabia)	406
	Metamaterial Effect on UWB Circular Microstrip Antenna Mousa Hussein (UAE University, United Arab Emirates), Elham Serria (UAE University, United Arab Emirates)	411
Student Pa	per Contest -7	
	IoT-Cloud based framework for patient's data collection in smart healthcare system using Raspberry-pi Kavita Jaiswal (IIIT Bhubaneswar, India), Srichandan Sobhanayak (IIIT Bhubaneswar, India), Bhabendu Kumar Mohanta (IIIT Bhubaneswar, India), Debasish Jena (IIIT Bhubaneswar, India)	415
	Mutual Coupling Reduction for MIMO CPW Bow-Tie Aperture Antennas Abdul-Kadir Hamid (University of Sharjah, United Arab Emirates), Walid Obaid (UOS, United Arab Emirates)	419

	Single Linear-Polarized and Single Circular-Polarized Slot Antenna for WLAN Application Nornikman Hassan (Universiti Teknikal Malaysia Melaka, Malaysia), Badrul Hisham Ahmad (Universiti Teknikal Malaysia Melaka, Malaysia), Mohamad Zoinol Abidin Bin Abd Aziz (Universiti Teknikal Malaysia Melaka & Hang Tuah Jaya, Malaysia), Mohd Fareq Abdul Malek (University of Wollongong in Dubai, United Arab Emirates)	424
	Dual-band Co-planar Waveguide (CPW) Hexagonal Patch Antenna with Hexagonal Slot Mohd Fareq Abdul Malek (University of Wollongong in Dubai, United Arab Emirates), Nornikman Hassan (Universiti Teknikal Malaysia Melaka, Malaysia), Badrul Hisham Ahmad (Universiti Teknikal Malaysia Melaka, Malaysia), Mohamad Zoinol Abidin Bin Abd Aziz (Universiti Teknikal Malaysia Melaka & Hang Tuah Jaya, Malaysia)	430
	Model-Free Intelligent Proportional-Integral Control of a Wind Turbine for MPPT Aghiles Ardjal (Mouloud Mammeri University, Algeria), Maamar Bettayeb (University of Sharjah, United Arab Emirates), Rachid Mansouri (Mouloud Mammeri University, Algeria), Abdelbasset Mehiri (University of Sharjah, United Arab Emirates)	436
	An Improved LSBMR Steganography Based on Message Interleaving Approach Faisal Alawwad (King Abdulaziz City for Science and Technology, Saudi Arabia), Wadood Abdul (King Saud University, Saudi Arabia), Hatim Behairy (King Abdulaziz City For Science and Technology, Saudi Arabia), Amr Alasaad (King Abdulaziz City for Science and Technology, Saudi Arabia)	441
Student Pa	per Contest -9	
	Deriving Energy from Far Field RF Signal Arsheen Mir (Birla Institute of Technology and Science, Dubai, United Arab Emirates), Vilas H Gaidhane (BITS Pilani, Dubai Campus, India)	446
	A wearable robotics assistive device: Design, Technical solutions, and Implementation Mohammad Wedyan (University of Technology Sydney, Australia), Adel Al-Jumaily (Faculty of Engineering and IT University of Technology, Sydney, Broadway NSW & UTS - STAFF, Australia)	450
	The impact of query precision on returned data precision criterion Loubna Mimouni (University Mohamed 5 in Rabat & ENSIAS, Morocco), Ahmed Zellou (ENSIAS, Morocco)	455
	Millimeter Wave Antenna Based on SIW Technology for WLAN/WPAN 5G Networks at 60GHz Abdulwahid AL-Sayadi, AAS (King Saud University & King Saud University, Saudi Arabia), Hamsakutty Vettikalladi (King Saud University, Saudi Arabia), Majeed Alkanhal (King Saud University, Saudi Arabia)	
	Using Pattern Recognition With Hog To Automatically Detect Reflection Hyperbolas in Ground Penetrating Radar Data Tallat Noreen (National University of Sciences and Technology, Pakistan), Umar Shahbaz Khan (National University of Sciences and Technology, Pakistan)	465
	Near Infra Red (NIR)-Based Classification of Orange Juice Khaled Issa (KACST Technology Innovation Center in Radio Frequency and Photonics & King Saud University, Saudi Arabia), Bandar Al-Otaibi (King Saud University, Saudi Arabia), Moath Alfouzan (King Saud University, Saudi Arabia), Saleh A Alshebeili (King Saud University, Saudi Arabia)	

	Computational investigation of material combinations in triboelectric generators Steffin Varghese (College Of Engineering, India), Shimna Shafeek (University Of Bolton RAK Academic Center, United Arab Emirates), Ranjith Kumar (College Of Engineering, India), Mini S (College Of Engineering, India)	476
	Development of Autonomous Drone for Gas Sensing Application Musab Asad (United Arab Emirates University(UAEU), United Arab Emirates), Mousa Hussein (UAE University, United Arab Emirates)	480
Renewable	Energy and PVs -1	
	Performance Evaluation of Solar Tracking Systems for Power Generation Based on Simulation Analysis: Solar Island Concept Omar Akash (American University of Ras Al Khaimah, United Arab Emirates), Nada Alsafarini (American University of Ras Al Khaimah, United Arab Emirates), Mousa Mohsen (American University of Ras Al Khaimah, United Arab Emirates)	486
	Shunt Compensation of SMIB Power System Incorporated with Highly Penetrated Photovoltaic Generator Mohammad Widyan (The Hashemite University, Jordan), Ahmad Harb (German Jordanian University, Jordan), Thaer Sweidan, Sr (Hashemite University, Jordan)	490
	Mathematical model study of solar electrodialysis desalination Hanen Nafaa (University of Gabes, Tunisia), Maissa Farhat (American University of Ras Al Khaimah, United Arab Emirates), Lassaad Sbita (ENIG, Tunisia)	495
	Electrical energy consumption in buildings by means of experimental measurements Fernando Del ama Gonzalo (American University of Ras Al Khaimah & Polytechnic University of Madrid, United Arab Emirates)	499
	Speaker Verification in Emotional Talking Environments based on Three-Stage Framework Ismaill M. Shahin (University of Sharjah, United Arab Emirates)	503
Artificial Int	telligence and Machine Learning & IoT	
	Challenges and Features of IoT Communications in 5G Networks Muneer Masadeh (Jordan University of Science and Technology, Jordan), Aisha Al-Sadi (Jordan University of Science and Technology, Jordan)	508
	Monitoring Pollution: Applying IoT to Create a Smart Environment Anwar Alshamsi (American University of Ras Al Khaimah, United Arab Emirates), Younas Anwar (American University of Ras Al Khaimah, United Arab Emirates), Maryam Almulla (American University of Ras Al Khaimah, United Arab Emirates), Mouza Aldahoori (American University of Ras Al Khaimah, United Arab Emirates), Nasser Hamad (American University of Ras Al Khaimah & AURAK, United Arab Emirates), Mohammed Awad (American University of Ras Al Khaimah, United Arab Emirates)	513

	Combined Software-Defined Network (SDN) and Internet of Things (IoT) Muneer Masadeh (Jordan University of Science and Technology, Jordan), Mohammad Al- Rousan (Jordan University of Science and Technology, Jordan, Kuwait), Shadi Aljawarneh (Jordan University of Science and Technology, Jordan), Wesam Rashdan (Jordan University of Science and Technology, Jordan), Wail Mardini (Jordan University of Science and Technology & School of Information Technology and Computer Engineering, Jordan)	517
	Global Optimization of Neural Network-Based Electrothermal Model for GaN Transistors Anwar Hasan Jarndal (University of Sharjah, United Arab Emirates), Sadeque Hamdan (University of Sharjah, United Arab Emirates)	523
	Automatic Seagrass Detection: A Survey Syed Islam (Edith Cowan University & The University of Western Australia, Australia), Syed Raza (Edith Cowan University, Australia), MD Moniruzzaman (Edith Cowan University, Australia), Naeem Janjua (Edith Cowan University, Australia, Australia), Paul Lavery (Edith Cowan University, Australia), Adel Al-Jumaily (Faculty of Engineering and IT University of Technology, Sydney, Broadway NSW & UTS - STAFF, Australia)	527
	On the Performance of Artificial Neural Network with Sine-Cosine Algorithm in Forecasting Electricity Load Demand	
	Sadeque Hamdan (University of Sharjah, United Arab Emirates), Shaikha Binkhatim (University of Sharjah, United Arab Emirates), Anwar Hasan Jarndal (University of Sharjah, United Arab Emirates), Imad Alsyouf (University of Sharjah, United Arab Emirates)	532
	DCNN-Based Elderly Activity Recognition Using Binary Sensors	
	Munkhjargal Gochoo (National Taipei University of Technology, Taiwan), Tan-Hsu Tan (National Taipei University of Technology, Taiwan), Shing-Hong Liu (Chaoyang University of Technology, Taiwan), Shih-Chia Huang (National Taipei University of Technology, Taiwan), Fady Al Najjar (UAE University, United Arab Emirates)	537
	A Comparative Study on Machine Learning Algorithms for Green Context-Aware Intelligent Transportation Systems	
	Adel Mounir Said (National Telecommunication Institute (NTI), Egypt), Emad Abd-Elrahman (Telecom SudParis (ex. INT), France), Hossam Afifi (Télécom SudParis, Institut Telecom & Paris Saclay, France)	542
Student Pa	per Contest -10	
	Implementation of a Scalable Real Time Canny Edge Detector on Programmable SOC Bhagesh C. Maheshwari (Institute of Technology, Tallaght & Xilinx Reseach labs Ireland, Ireland), John Burns (Institute of Technology Tallaght, Ireland), Michaela Blott (Xilinx, Research, Ireland), Giulio Gambardella (Xilinx Inc., Ireland)	547
	A Study of the Cocktail Party Problem Poorva Parande (Birla Institute of Technology, Dubai Campus, United Arab Emirates), Thompil Thomas (BITS Pilani, Dubai Campus, United Arab Emirates)	552
	Effect of Inorganic Filler on Electrical, Mechanical and Physical Properties of Silicone Rubber High Voltage Insulators	
	Haitham Aziz (University of Arab Academy For Science and Technology, Kuwait)	557
	The Sociocultural Role in Perceptions and Appraisals for the use of Online Reporting Functions on Social Networking Sites in Saudi Arabia	
	Elham Alhodaib (King Saud University, Saudi Arabia), Omer Alrwais (King Saud University,	F04

	Estimation of Black Powder Concentration in a Short Natural Gas Pipeline Network using Optimization Techniques	
	Mahdi Debouza (Khalifa University of Science and Technology, United Arab Emirates), Ahmed Musleh (Khalifa University of Science and Technology, The Petroleum Institute, United Arab Emirates), Imad Matraji (Khalifa University of Science and Technology, United Arab Emirates), Ahmed Al-Durra (Petrolum Institute, United Arab Emirates), Mohamed A Abou-Khousa (Khalifa University of Science and Technology & Petroleum Institute, United Arab Emirates), Khaled Al-Wahedi (The Petrolum Institute, United Arab Emirates)	566
	Hepta-Band CPW Bow-Tie Aperture Antenna for Wi-Fi (2.4 GHz and 5.5 GHz) and Other Bands Abdul-Kadir Hamid (University of Sharjah, United Arab Emirates), Walid Obaid (UOS, United Arab Emirates)	570
	Investigation and Demonstration of 5G Signal Transmission over Fiber/FSO/Wireless Links Omar Rabiah (King Saud University, Saudi Arabia), Omar AlKhalifah (King Saud University, Saudi Arabia), Amr Mohamed Ragheb (King Saud University, Saudi Arabia), Maged Abdullah Esmail (King Saud University, Saudi Arabia), Saleh A Alshebeili (King Saud University, Saudi Arabia)	575
Electronics	and VLSI Systems Design and Applications	
	Enabling Test/Diagnosis of Automotive Semiconductor Chips Through FlexRay Network Muhammad Adil Ansari (Quaid-e-Awam University College of Engineering, Science & Technology, Pakistan), Abdul Rahim Ansari (Hanyang University, Korea), Sungju Park (Hanyang University, Korea), Jinuk Kim (Hanyang University, Korea)	579
	An Efficient Multi-Objective Thermal Aware Routing Algorithm 3D Network-on-Chips Amartya Majumdar (National Institute of Technology Rourkela, India), Ranjita Dash (National Institute of Technology Rourkela, India), Vinod Pangracious (American University in Dubai, United Arab Emirates), Ashok Turuk (National Institute of Technology, Rourkela, India)	584
	Sensitivity of Reliability of Logic Gates Azam Beg (UAE University, United Arab Emirates), Ifrah Jaffri (University of Waterloo, Canada)	588
	On Designing of a Broadband GaN Low-Noise Amplifier for WiMax Applications Anwar Hasan Jarndal (University of Sharjah, United Arab Emirates), Amer Bassal (University of Sharjah, United Arab Emirates)	593
	Hallbach Array-based Linear Generator for Human Motion Energy Harvesting Mahmoud Meribout (Petroleum Institute, United Arab Emirates)	598
Renewable	Energy, PVs and Control Systems	
	Comparison Study Between PV Inverters Available In The Palestinian Market Primary Results Raed Amro (Lecturer at PPU, Palestine)	604

	Efficiency analysis of Polycrystalline PV panels after ten years of exposure in UAE conditions Waqarullah Kazim (American University of ras Al Khaimah, United Arab Emirates), Uday Kumar (American University of Ras Al Khaimah, RAK Research and Innovation Center Ras Al Khainah, UAE, United Arab Emirates)	609
Circuits an	d Systems	
	Online Multi-parameters Electronic Monitoring System for Solar Photovoltaic Panel Applications Ahmad Amhani (American University of Ras Al Khaimah, United Arab Emirates), Hussain Attia (American University of Ras Al Khaimah, United Arab Emirates)	614
	Femto-Farad Capacitive Sensor for MEMS Thermal Actuators Mariam Al-Sagban (American University of Sharjah, United Arab Emirates), Rached Dhaouadi (American University of Sharjah, United Arab Emirates), Maher Bakri-Kassem (American	014
	University of Sharjah, United Arab Emirates) Neurogenetic Small-Signal Modeling Approach for Microwave Active Devices Anwar Hasan Jarndal (University of Sharjah, United Arab Emirates)	618 624
	Factors Deterring Students from Majoring in ICT Related Fields in the UAE Sahar Idwan (American University of Ras Al Khaimah, United Arab Emirates), Abdul Halim	024
	Jallad (American University of Ras Al Khaimah, United Arab Emirates), Zakaria Al-Qudah (American University of Ras Al Khaimah, United Arab Emirates), Mohammed Awad (American University of Ras Al Khaimah, United Arab Emirates), Said Elnaffar (American University of Ras al Khaimah, United Arab Emirates), Shereen Ismail (American University of Ras Al Khaimah, United Arab Emirates), Izzeddin Matar (University of Petra, United Arab Emirates)	629
	Design and Implementation of Wireless Diagnostic System for Street Light Dimming Applications	
	Hussain Attia (American University of Ras Al Khaimah, United Arab Emirates), Amjad Omar (American University of Ras Al Khaimah, United Arab Emirates), Maen Takruri (American University of Ras Al Khaimah, United Arab Emirates)	633
Sensing De	evices and Systems	
	Design of Enhanced Vehicle Safety System Based on The Evaluation of Driving Errors Hussain Attia (American University of Ras Al Khaimah, United Arab Emirates), Shereen Subhi (American University of Ras Al Khaimah, United Arab Emirates), Halah Ali (American University of Ras Al Khaimah, United Arab Emirates)	638
	Enhanced Energy Aware Multi-Hop Hierarchical Routing Algorithm for Wireless Sensor Networks Fathima Shemim (University of Bolton, United Arab Emirates), Alavikunhu Panthakkan (University of Dubai, United Arab Emirates), Shahanas Shajahan (Cochin University of Science and Technology, India)	642
	Motion Capturing of Biomechanical Systems in Traditional Dance using IMU Sensors Lanka Udawatta (HCT, United Arab Emirates), Josefa Wivou (Deakin University, Australia), Bryan Daniels (HCT, United Arab Emirates), Simon Hissem (HCT, United Arab Emirates), Pubudu Pathirana (Deakin University, Australia)	646

	Motion Segmentation of the Greenside Bunker Shot for Training and Coaching Purposes Lanka Udawatta (HCT, United Arab Emirates), Josefa Wivou (Deakin University, Australia), Pubudu Pathirana (Deakin University, Australia), Ian Gibson (Deakin University, Australia)	651
Optical Co	mmunications and Optoelectronics	
	Confined beam-bending for Direct connections between different multicore fibers Ehab Awad (King Saud University, KSA, Saudi Arabia)	657
	Evaluations of Quantum Bit Error Rate Using the Three Stage Multiphoton Protocol Majed Khodr (American University of Ras Al Khaimah, United Arab Emirates)	662
	Intelligent Phishing Website Detection using Random Forest Classifier Abdulhamit Subasi (Effat University, Saudi Arabia), Esra Molah (Effat University, Saudi Arabia), Fatin Almakallawi (Effat University, Saudi Arabia), Touseef Chaudhery (Effat University, Saudi	222
A 4.5	Arabia)	666
Artificiai in	telligence and Machine Learning -1	
	Exploring the Language Modeling Toolkits for Arabic Text Fawaz Al-Anzi (Kuwait University, Kuwait), Dia AbuZeina (Kuwait University, Kuwait)	671
	Android Mobile App for Real-Time Bilateral Arabic Sign Language Translation Using Leap Motion Controller Tamer Shanableh (American University of Sharjah, United Arab Emirates), Abdulla Eqab	
	(American University of Sharjah, United Arab Emirates)	675
	Diagnosis of Breast Cancer using secured classifiers Kareem Kamal A. Ghany (Beni Suef University, Egypt), Heba Ayeldeen (Akhbar ElYom Academy, Egypt), Olfat Shaker (Cairo University, Egypt), Hossam M. Zawbaa (Beni-Suef University, Romania & Babes-Bolyai University, Egypt), Ghada Ayeldeen (Faculty of Medicine Cairo University, Egypt)	680
	Information Security and Distributed Denial of Service Attacks: A Survey Abdulaziz Aldaej (Prince Sattam Bin Abdulaziz University, Saudi Arabia)	685
	LBFTFB Fault Tolerance Mechanism for Software Defined Networking Wael Hosny Fouad Aly (University of Quebec in Montreal, Canada)	691
Wireless C	ommunications, Wireless Networks & Antennas	
	Utilization of Unlicensed Spectrum in Cognitive Radio Networks: A Probability-based Approach Ala Eldin Omer (University of Waterloo, Canada), Raed Shubair (Massachusetts Institute of Technology (MIT), USA)	696

CMOS Cascode LNA with Post-Distortion Cancellation Linearizer for Wireless Communications	
Ziad El-Khatib (RIT, USA), Boutheina Tlili (Rochester Institute of Technology dubai, United Arab Emirates), Muhieddin Amer (Rochester Institute of Technology, United Arab Emirates), Lynn Fuller (RIT, USA)	702
Second Order Flamenco Fractal Antenna for Industrial Scientific and Medical Applications Omar Khan (Iqra University, Pakistan), Raed Shubair (Massachusetts Institute of Technology (MIT), USA), Qamar Islam (Institute of Space Technology, Pakistan)	706
Specific Absorption Ratio Evaluation of Penta Band Antenna for LTE/GSM Mobile Handset Applications	
Omar Khan (Iqra University, Pakistan), Syed Sheraz Mohani (Iqra University, Pakistan), Raed Shubair (Massachusetts Institute of Technology (MIT), USA), Zulifqar Ali Memon (Ajman University of Science and Technology, AJman, United Arab Emirates)	709
Design and Analysis of Millimeter Wave Double F Slot patch Antenna for future 5G Wireless Communication	
Farhan Ahmad (RIT Dubai, United Arab Emirates), Boutheina Tlili (Rochester Institute of Technology dubai, United Arab Emirates)	712
Pattern Reconfigurable Magnetic-Metamaterial-based Microstrip Antenna Mousa Al-Omari (King Fahd University of Petroleum and Minerals, Saudi Arabia), Sharif Iqbal Miru Sheikh (King Fahd University of Petroleum & Minerals (KFUPM), Saudi Arabia)	716