

2015 International Conference on Information and Communication Technology Research

(ICTRC 2015)

**Abu Dhabi, United Arab Emirates
17-19 May 2015**



**IEEE Catalog Number: CFP15A32-POD
ISBN: 978-1-4799-8967-6**

MO1: Next Generation Wireless Communications

MO1.1 Low Complexity V-BLAST for Massive MIMO with Adaptive Modulation and Power Control

Khawla Alnajjar (University of Canterbury, New Zealand); Peter J Smith (Victoria University of Wellington, New Zealand); Graeme K Woodward (University of Canterbury, New Zealand)
pp. 1-4

MO1.2 28/38-GHz Dual-Band Millimeter Wave SIW Array Antenna with EBG Structures for 5G Applications

Nadeem Ashraf (King Saud University, Saudi Arabia); Osama Haraz (Assiut University, Egypt); Saleh A Alshebeili (King Saud University, Saudi Arabia); Muhammad Ashraf (College of Engineering, King Saud University, Saudi Arabia)
pp. 5-8

MO1.3 Single Layer Polarization Independent Reflectarray Antenna for Future 5G Cellular Applications

Osama Haraz (Assiut University, Egypt); Abdel R. Sebak (Concordia University, Canada)
pp. 9-12

MO1.4 High Performance 60 GHz Antenna for Electromagnetic Energy Harvesting

Khaled Issa (KACST Technology Innovation Center in Radio Frequency and Photonics & King Saud University, Saudi Arabia)
pp. 13-15

MO2: Modulation and Coding Techniques

MO2.1 An Improved Space-Time Block Code for Two Transmit Antennas and Three Time Slots

Sindhu P (Govt. Engineering College, Kozhikode, Calicut University, India); Abdul Hameed (Govt. Engineering College Kozhikode, India)
pp. 16-19

MO2.2 Differential On-On Keying: A Robust Non-Coherent Digital Modulation Scheme

Georges Kaddoum (ETS Engineering School, University of Québec, Canada); Mohammed F. A. Ahmed (Assiut University, Egypt); Tareq Y. Al-Naffouri (King Abdullah University of Science and Technology, USA)
pp. 20-23

MO2.3 On the Comparison Between Code-Index Modulation and Spatial Modulation Techniques

Georges Kaddoum (ETS Engineering School, University of Québec, Canada); Ebrahim A. Soujery (Concordia University, Canada)
pp. 24-27

MO2.4 Hybrid ARQ with Partial Retransmission Using Turbo Product Codes

Husameldin Mukhtar (Khalifa University of Science, Technology and Research, UAE); Arafat Al-Dweik (Khalifa University, UAE); Mohammed Al-Mualla (Khalifa University of Science, Technology and Research, UAE)
pp. 28-31

Coffee Break

MO3: Signal Processing, Circuits, and Systems I

MO3.1 Effect of Fading Channels on the Performance of Distributed Networks with Cyclic Cooperation

Azam Khalili and Amir Rastegarnia (Malayer University, Iran); Wael M. Bazzi (American University in Dubai, UAE)
pp. 32-35

MO3.2 Sample and Hold Circuits for Low-Frequency Signals in Analog-to-Digital Converters

Tasnim Nazzal (University of Sharjah, UAE)
pp. 36-39

MO3.3 Face Detection using Viola and Jones Method and Neural Networks

Mohammad Da'san and Amin Alqudah (Yarmouk University, Jordan); Olivier Debeir (ULB, Bruxelles, Belgium)
pp. 40-43

MO3.4 Online Adaptive Seizure Prediction Algorithm for Scalp EEG

Muhammad Imran Khalid, Saeed Aldosari and Saleh A Alshebeili (King Saud University, Saudi Arabia); Turky Al Otaiby (King ABDULAZIZ CITY for Science and Technology, Saudi Arabia); Fathi Abdelsamie (King Saud University, Saudi Arabia)
pp. 44-47

MO4: Signal Processing, Circuits, and Systems II

MO4.1 Superresolution Algorithm for Satellite Still Images

Abdullah Al-Shabili, Bilal Taha and Hussain Al-Ahmad (Khalifa University, UAE)
pp. 48-51

MO4.2 An Optimum VLSI Design Of A 16-BIT ALU

Mary Lourde Regeena (BPDC, Dubai & BPDC, UAE); Navnith Ravindran (BITS Pilani, Dubai Campus, UAE)
pp. 52-55

MO4.3 Column-Wise ROIC Design for Uncooled Microbolometer Array

Syed Irtaza Haider, Sohaib Majzoub, Mohammed Alturaigi and Mohamed Ramy Abdel-Rahman (King Saud University, Saudi Arabia)
pp. 56-59

MO4.4 Incremental Augmented Affine Projection Algorithm for Collaborative Processing of Complex Signals

Azam Khalili and Amir Rastegarnia (Malayer University, Iran); Wael M. Bazzi (American University in Dubai, UAE)
pp. 60-63

Lunch Break

MO5: Computer Networks

MO5.1 Queuing Theory Algorithm to find the minimumal number of VMs to satisfy SLO response time

Fatima Mohammed Alqaydi (Khalifa University of Science, Technology and Research, UAE); Khaled Salah (Khalifa University of Science, Technology and Research (KUSTAR), UAE); Jamal Zemerly (Khalifa University, UAE)
pp. 64-67

MO5.2 An Evaluation of Authorship Attribution Using Random Forests

Mahmoud Khonji (KUSTAR, UAE); Youssef Iraqi (Khalifa University, UAE); Andrew Jones (Edith Cowan University, UAE)
pp. 68-71

MO5.3 A Native Arabic eLearning Mobile application to Transpose Arabic Text to Illustrations

AbdelGhani Karkar and Jihad Mohamad Aljaam (Qatar University, Qatar)
pp. 72-75

MO5.4 A Multi-variate Weighted Interpolation Technique with Local Polling for Bayer CFA Demosaicking

Kinyua Wachira and Elijah Mwangi (University of Nairobi, Kenya)
pp. 76-79

MO6: Data/Network Security

MO6.1 Parsing Modern Standard Arabic using Treebank Resources

Mostafa Al-Emran (Al Buraimi University College & The British University in Dubai, Oman); Sarween Zaza (The British University, UAE); Khaled F. Shaalan (The British University in Dubai & Cairo University, UAE)
pp. 80-83

MO6.2 Vision and Inertial-Based Image Mapping for Capsule Endoscopy

Yasmeen Abu-Kheil (Khalifa University, UAE); Gastone Ciuti and Marco Mura (Scuola Superiore Sant'Anna, Italy); Jorge Dias (Khalifa University, UAE); Paolo Dario (Scuola Superiore Sant'Anna, Italy); Lakmal Seneviratne (KURI, UAE)
pp. 84-87

MO6.3 A Game Theoretic approach to Vulnerability Patching

Gabriele Gianini (Università degli Studi di Milano, Italy); Marco Cremonini (University of Milan, Italy); Andrea Rainini, Guido Lena Cota and Leopold Ghemmogne Fossi (Università degli Studi di Milano, Italy)
pp. 88-91

MO6.4 Topic Identification of Arabic Noisy Texts Based on KNN

Kheireddine Abainia, Siham Ouamour and Halim Sayoud (USTHB, Algeria)
pp. 92-95

Coffee Break

MO7: Signal Processing for Communications

MO7.1 Logo embedding in Grayscale Images Using Turbo Product Codes

Sara Ahmed Al Maeeni (Khalifa University, UAE); Fatma Kalbat (Khalifa University of Science, Technology and Research, UAE); Hussain Al-Ahmad (Khalifa University, UAE)
pp. 96-99

MO7.2 CAMbulance: A Live Video Streaming System For Ambulance Services

Andrea Corradini (Kolding School of Design, Denmark); Constantin Alexandru Gheorghiasi (Copenhagen School of Design and Technology, Denmark)
pp. 100-103

MO7.3 Time to Digital Conversion Zero Crossing DPLL (TDC-ZCDPLL)

Qassim MH Nasir (University Of Sharjah, UAE); Kahtan Mezher (Khalifa University, UAE)
pp. 104-107

MO7.4 Initialization for time delay digital tanlock loop

Omar Al-Kharji Al-Ali (Telecommunication Regulatory Authority, UAE); Nader Anani (Sheffield Hallam University, Sheffield, UK., United Kingdom); Mahmoud Al-Qutayri (Khalifa University, UAE); Saleh Al-Araji (Khalifa University of Science, Technology and Research, UAE)
pp. 108-111

MO8: Intelligent Communication Systems and Networks

MO8.1 Online Nonstationary Time Series Prediction using Sparse Coding with Dictionary Update

Mohamed Waleed Fakhr (Arab Academy for Science and Technology & AAST, Egypt)
pp. 112-115

MO8.2 An HMM-Based Spectrum Access Algorithm for Cognitive Radio Systems

Menatalla Shehab El Din, Mohamed El-Tarhuni and Khaled Assaleh (American University of Sharjah, UAE); Serkan Kiranyaz (Qatar University, Finland)
pp. 116-119

MO8.3 Resource Allocation in a Heterogeneous Wireless Network Using Fuzzy Logic

Mehrdad Taki and Milad Heshmati (University of Isfahan, Iran)
pp. 120-123

MO8.4 Differential Distributed Space-Time Coding for Vehicle-to-Vehicle Networks

Sara Ahmed Al Maeeni (Khalifa University, UAE); Vasileios M. Kapinas (Aristotle University of Thessaloniki, Greece); Sami Muhaidat (Khalifa University, UAE); George K. Karagiannidis (Aristotle University of Thessaloniki, Greece); Saleh Al-Araji (Khalifa University of Science, Technology and Research, UAE)
pp. 124-127

TO1: Communication Systems and Devices

TO1.1 Automation of FTTH Network Design with different types of network elements

Kaltham Al Romaithi (Khalifa University of Science, Technology and Research, UAE); Kin Fai Poon and Anis Ouali (Khalifa University, UAE); Peng-Yong Kong (Khalifa University of Science, Technology & Research, UAE)
pp. 128-131

TO1.2 Dielectric Resonator Nanoantenna at Optical Frequencies

Waleed Tariq Sethi, Hamsakutty Vettikalladi and Habib Fathallah (King Saud University, Saudi Arabia)
pp. 132-135

TO1.3 Design and Implementation of a Vehicle to Vehicle Communication System Using Li-Fi Technology

Mohammed Bait-Suwailam, Raya Al Hajri, Zainab Al-Lawati, Zahra Al-Abri and Noof Al Abdulsalam (Sultan Qaboos University, Oman)
pp. 136-139

TO2: ICT Convergence & Emerging Trends

TO2.1 A New Watermarking Algorithm for Scanned Colored PDF Files Using DWT and Hash Function

Abdulqader Nael Mahmoud, Hamza Al Maharmeh and Hussain Al-Ahmad (Khalifa University, UAE)
pp. 140-143

TO2.2 Mesh LBP Features For 3D Constrained Local Model

Marwa Chendeb (Khalifa University of Science, Technology & Research, United Arab Emirates, UAE); Naoufel Werghi and Claudio Tortorici (Khalifa University, UAE); Hassan Al-Muhairi (Khalifa University (KUSTAR), UAE); Habiba Al Safar (Khalifa University, UAE)
pp. 144-147

TO2.3 An Efficient Power Management Unit for μ Watt Thermoelectric Generators

Mohammad Alhawari (Khalifa University of Science, Technology and Research, UAE); Dima Kilani and Baker Mohammad (Khalifa University, UAE); Hani Saleh (Khalifa University of Science, Technology & Research, UAE); Mohammed Elnaggar (Khalifa University, UAE)
pp. 148-151

TO2.4 Seizure Detection with Common Spatial Pattern and Support Vector Machines

Turky Al Otaibi (King ABDULAZIZ CITY for Science and Technology, Saudi Arabia); Fathi Abdelsamie and Saleh A Alshebeili (King Saud University, Saudi Arabia); Khaled Aljibreem and Emaan Alkhanen (KACST, Saudi Arabia)
pp. 152-155

Coffee Break

TO3: Optical Communication Systems and Devices

TO3.1 Modal dispersion and impacts of mode filtering on visible light communications over standard fibers

Bakari Silima (University of Essex, United Kingdom)
pp. 156-159

TO3.2 Performance Investigation of CMA and RLS based Equalization for Next generation Long Reach Passive Optical Networks

Ziyad Almatroudi (Zain SA & KSU, Saudi Arabia); Amr Ragheb, Abdelouhab Bentrcia and Habib Fathallah (King Saud University, Saudi Arabia)
pp. 160-163

TO3.3 Performance Investigation of under/over-Sampling for Arbitrary DP-MQAM Optical Transmitter

Amr Ragheb, Habib Fathallah and Saleh A Alshebeili (King Saud University, Saudi Arabia); Hussein E. Seleem (King Saud University & College of Engineering, Saudi Arabia)
pp. 164-167

TO3.4 Experimental Investigation of the Laser Phase Noise Effect on Next Generation High Order MQAM Optical Transmission

Amr Ragheb and Habib Fathallah (King Saud University, Saudi Arabia)
pp. 168-170

TO4: Wireless Communication and Networks

TO4.1 On Fairness in LTE Downlink MAC Scheduling Algorithms

Ismael Al-Shiab and Rana Ahmed (American University of Sharjah, UAE)
pp. 171-174

TO4.2 A Fault-Tolerant, Energy-Efficient Routing Protocol for Wireless Sensor Networks

Rana Ahmed (American University of Sharjah, UAE)
pp. 175-178

TO4.3 Exact Expression for General Average BER Over Nakagami-m Fading Channels

Taimour Aldalgamouni and Amer M Magableh (Jordan University of Science and Technology, Jordan); Nemah Jafreh (Tafila Technical University, Jordan)
pp. 179-181

TO4.4 Throughput Optimized Error-Free Transmission Using Optimum Combination of AMC and ARQ based on Imperfect CSI

Mehrdad Taki, Reza Mahin Zaeem and Milad Heshmati (University of Isfahan, Iran)
pp. 182-185

Lunch Break

TO5: Software Development

TO5.1 The Proportionate APL-I algorithm

Felix Albu (Valahia University of Targoviste, Romania)
pp. 186-189

TO5.2 Formal Validation of QRS Wave within ECG

Hussam Al-Hamadi (Khalifa University for Science, Technology and Research, UAE);
Amjad Gawanmeh and Mahmoud Al-Qutayri (Khalifa University, UAE)
pp. 190-193

TO5.3 Impact of iPad technology on learning in high school education: An analysis of critical factors that influence efficient learning process

Manju Vishnu Sankar (Institute of Applied Technology, UAE)
pp. 194-197

TO5.4 Scalable Detection of Web Malware on Smart phones

Sachin Shetty (Tennessee State University, USA); Husam Adas (Tenessee State University, USA); Waled Tayib (Tennessee State University, USA)
pp. 198-201

TO6: Big Data, & Data Analytics

TO6.1 Hardware Accelerators for Information Retrieval and Data Mining

Valery Sklyarov (University of Aveiro/IEETA, Portugal); Ioulia Skliarova (University of Aveiro & IEETA, Portugal); João Silva (University of Aveiro/IT, Portugal); Alexander Sudnitson and Artjom Rjabov (Tallinn University of Technology, Estonia)
pp. 202-205

TO6.2 A Harmonic Parameter Estimation Method Based on Particle Swarm Optimizer with Natural Selection

Ya Chen (South China University of Technology, P.R. China); Mengshi Li (South China University of Technology & The University of Liverpool, P.R. China)
pp. 206-209

TO6.3 Decentralized Multi-agent POMDPs Framework for Humans-Robots Teamwork Coordination in Search and Rescue

Hend Al Tair (Khalifa University for Science, Technology and Research, UAE); Tarek Taha, Mahmoud Al-Qutayri and Jorge Dias (Khalifa University, UAE)
pp. 210-213

TO6.4 Interface Development for a Gaze-Controlled Reading Support Application

Jim Morey, John Gammack and Erik Thornquist (Zayed University, UAE)
pp. 214-217

Coffee Break

TP7: Posters - All Tracks

TP7.1 Knowledge Acquisition in Process Intelligence

Paolo Ceravolo (University of Milan, Italy); Francesco Zavatarelli (Università degli Studi di Milano, Italy)
pp. 218-221

TP7.2 L1-Regularized Least Squares Sparse Extreme Learning Machine for Classification

Mohamed Waleed Fakhr (Arab Academy for Science and Technology & AAST, Egypt); El-Nasser Youssef (Arab Academy for Science & Technology & Maritime Transport & College of Engineering and Technology, Egypt); Mohamed El-Mahallawy (Arab Academy for Science and Technology and Maritime Transport, Egypt)
pp. 222-225

TP7.3 Evaluation Of The Quality Of E-Government Services: Quality Trend Analysis

Saqib Ali (Sultan Qaboos University, Oman); Taisira AlBalushi (Sultan Qaboos University, Oman)
pp. 226-229

TP7.4 Inverse Approximation of Linear receivers for Massive MIMO

Khawla Alnajjar (University of Canterbury, New Zealand)
pp. 230-233

TP7.5 Software Defined Radio Implementing GPS Parallel Frequency Space Search Acquisition Algorithm in Real Time Environment

Rana Ramadan (AlAhliyya Amman University, Jordan); Ali Aboud (Al-Ahliyya Amman University, Jordan); Taher AlSharabati (Al Ahliyya Amman, Jordan)
pp. 234-237

TP7.6 Hybrid RSS-DOA Technique for Enhanced WSN Localization in a Correlated Environment

Mohamed Ibrahim AlHajri (Khalifa University, UAE); Abdulrahman Goian, Muna Darweesh, Rashid AlMemari and Raed Shubair (Khalifa University, UAE); Luis Weruaga (Khalifa University of Science, Technology & Research, UAE); Ahmed Kulaib (Khalifa University, UAE)
pp. 238-241

TP7.7 A Spectrum-Efficient Routing Protocol for Multi-hop 802.11 Networks

Mohammed Ba-Hutair and Mohamed Saad (University of Sharjah, UAE)
pp. 242-245

TP7.8 A Hybrid Representation Model for Service Contracts

Gloria Elena Jaramillo (Université de Pau et Pays de l'Adour, France); Marco Anisetti and Claudio A Ardagna (Università degli Studi di Milano, Italy)
pp. 246-249

TP7.9 A Cluster Based Routing Approach in LTE Ad-hoc Networks

Alper Karahan and Adnan Kavak (Kocaeli University, Turkey); Sedat Atmaca (University of Kocaeli, Turkey)
pp. 250-253

TP7.10 Entropy Analysis to Study the Effects of Mobile Phone Radiation on Brain

C K Smitha (College of Engineering, Vadakara, Kozhikode, Kerala & Kannur University, Kerala, India); N K Narayanan (Kannur University, India)
pp. 254-257

TP7.11 8x8 Patch Antenna Array with Polarization and Space Diversity for Future 5G Cellular Applications

Osama Haraz (Assiut University, Egypt); Muhammad Ashraf (College of Engineering, King Saud University, Saudi Arabia); Saleh A Alshebeili (King Saud University, Saudi Arabia)
pp. 258-261

TP7.12 Design Tradeoffs of Few-Mode Step Index Fiber for Next Generation Mode Division Multiplexing Optical Networks

Saleh Chebaane (Electronics and Micro-Electronics Laboratory, Tunisia); Hussein E. Seleem (King Saud University & College of Engineering, Saudi Arabia); Habib Fathallah (King Saud University, Saudi Arabia); Machhout Mohsen (Electronics and Micro-Electronics Laboratory, Tunisia)
pp. 262-265

TP7.13 Mobile Virtual Network Operator Strategy for Migration towards 4G

Yacouba Coulibaly (École de Technologie Supérieure - Université du Québec, Canada); Georges Kaddoum (ETS Engineering School, University of Québec, Canada); Mohammed F. A. Ahmed (Assiut University, Egypt)
pp. 266-269

TP7.14 Compressive Sensing for improved MIMO Radar performance - A Review

Muhammad Hadi (King Saud University & PSATRI, Saudi Arabia); Saleh A Alshebeili and Fathi Abdelsamie (King Saud University, Saudi Arabia); Khalid Jamil (PSATRI - KSU, Saudi Arabia)
pp. 270-273

TP7.15 Experimental Evaluation of Vehicle-to-Vehicle Based Data Transfer

Azam Memon (Mehran University of Engineering and Technology, Pakistan); Faisal Karim Shaikh (Mehran University of Engineering and Technology & Umm Al-Qura University, Pakistan); Emad Felemban (Umm Al Qura University, Saudi Arabia)
pp. 274-277

TP8: Posters - All Tracks

TP8.1 Improving the Accuracy of SSPA Device Behavioral Modeling

Paul Fisher (The University of Adelaide, Australia); Said Al-Sarawi (The University of Adelaide & Director of Centre for Biomedical Engineering, Australia)
pp. 278-281

TP8.2 Hierarchical multi-objective RFID network planning using firefly algorithm

Milan Tuba (Megatrend University Belgrade, Faculty of Computer Science & University of Belgrade, Serbia); Nebojsa Bacanin (Megatrend University, Serbia); Raka Jovanovic (Qatar Environment and Energy Research Institute & Institute of Physics Belgrade Serbia, Qatar)
pp. 282-285

TP8.3 Low Cost Bio-Electric Signal Acquisition System for Real Time Biomedical Applications

Mujeeb Rahman Kanhirakadavath and Mohamed Nasor Khalil (Ajman University of Science & Technology, UAE)
pp. 286-289

TP8.4 Individual's Informational Readiness towards Online Piracy Behavioral Act

Ali Zolait (University of Bahrain, Bahrain)
pp. 290-293

TP8.5 Investigating Bias in The Page Ranking Approach

Eshaa Mohamed Alkhailifa (University of Bahrain, Bahrain)
pp. 294-297

TP8.6 A Gesture Based Kinect for Quadrotor Control

Ahmed Mashood and Hassan Noura (United Arab Emirates University, UAE)
pp. 298-301

TP8.7 Performance evaluation of Cloud Service Providers

Bassem El Zant (Telecom ParisTech (Ecole Nationale Supérieure des
Telecommunications), France); Maurice Gagnaire (Telecom Paristech & Institut
Telecom, France)
pp. 302-305

**TP8.8 Colorization of gray scale natural still images by using ANN to predict the
low frequency DCT components of the RGB channels**

Muna Darweesh (Khalifa University, UAE); Mona AlZubaidi (Khalifa University of
Science, Technology and Research, UAE); Hussain Al-Ahmad and Fatma Taher
(Khalifa University, UAE)
pp. 306-309

TP8.9 Question Classification for Arabic Question Answering Systems

Hani Al Chalabi and Santosh Ray (Al Khawarizmi International College, UAE);
Khaled F. Shaalan (The British University in Dubai & Cairo University, UAE)
pp. 310-313

**TP8.10 Multimodal Biometrics Using Multiple Feature Representations to Speaker
Identification System**

Rami Al-Hmouz, Khaled Daqrouq and Ali Morfeq (King Abdulaziz University, Saudi
Arabia); Witold Pedrycz (Professional Engineer, Canada)
pp. 314-317

TP8.11 A Framework for Comparison of Trust Models for Multi Agent Systems

Dina Shehada, Jamal Zemerly, Chan Yeob Yeun and Mahmoud Al-Qutayri (Khalifa
University, UAE); Yousof Al-Hammadi (Khalifa University of Science Technology and
Research, UAE)
pp. 318-321

**TP8.12 Support Vector Machine based Exploratory Projection Pursuit
Optimization for User face identification**

Sanaa Ghouzali (King Saud University & College of Computer and Information
Sciences, Saudi Arabia); Souad Larabi Marie-Sainte (King Saud University, Saudi
Arabia)
pp. 322-325

TP8.13 Key Management for the MANET: A Survey

Bassant Selim and Chan Yeob Yeun (Khalifa University, UAE)
pp. 326-329

TP8.14 Digital Arabic Content: Challenges and Opportunities

Hanin Abubaker (Khalifa University of Science, Technology and Research, UAE);
Khaled Salah (Khalifa University of Science, Technology and Research (KUSTAR),
UAE); Hassan Al-Muhairi (Khalifa University (KUSTAR), UAE); Ahmed Bentiba
(Khalifa University of Science, Technology and Research, UAE)
pp. 330-333