

2017 International Conference on Promising Electronic Technologies (ICPET 2017)

**Deir El-Balah, Palestine
16 – 17 October 2017**



**IEEE Catalog Number: CFP17M90-POD
ISBN: 978-1-5386-2270-4**

**Copyright © 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:	CFP17M90-POD
ISBN (Print-On-Demand):	978-1-5386-2270-4
ISBN (Online):	978-1-5386-2269-8

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

CURRAN ASSOCIATES INC.
proceedings
.com

2017 International Conference on Promising Electronic Technologies

ICPET 2017

Table of Contents

Message from the General and Program Chairs.....	viii
Conference Committees.....	ix

Session 1: Computer and Control Systems

Execution Environment for Mixed-Criticality Train Applications Based on an Integrated Architecture	1
<i>Hongjie Fang and Roman Obermaisser</i>	
Sizing and Simulation of an Energy Sufficient Stand-alone PV Pumping System	8
<i>Wael Said, Hossam A. Gaber, and Abdelkader Mami</i>	
Mobile Educational Workbench for Classical and Programmable Control Applications	14
<i>Ahmad A. M. Elkronz, Murad M. Abumansi, Fathi M. Abuqaoud, and Mohammed Abu Hatab</i>	
Fuzzy Gain Scheduling Control for a Special Case of 2nd Order Non-linear Systems	20
<i>Mohamed Salem AbuNasr and Hatem Ali Elaydi</i>	

Session 2: Web and Mobile Applications

Detection and Removing Cross Site Scripting Vulnerability in PHP Web Application	26
<i>Abdalla Wasef Marashdih and Zarul Fitri Zaaba</i>	
Mobile-Computing Based Rationalization for Energy Consumption	32
<i>Salaheddin Odeh and Daniel Voskergian</i>	

Session 3: Wireless/Mobile Communication

PAPR Reduction of FBMC/OQAM Systems Based on Combination of DST Precoding and A-law Nonlinear Companding Technique	38
<i>Imad A. Shaheen, Abdelhalim Zekry, Fatma Newagy, and Reem Ibrahim</i>	
Design of Efficient Microstrip Linear Antenna Array for 5G Communications Systems	43
<i>Mohammed Abu Saada, Talal Skaik, and Ramadan Alhalabi</i>	

Session 4: Computer Vision and Robotics

Intelligent Maze Solving Robot Based on Image Processing and Graph Theory Algorithms	48
<i>Mohammad O. A. Aqel, Ahmed Issa, Mohammed Khdair, Majde ElHabbash, Mohammed AbuBaker, and Mohammed Massoud</i>	
Vision Assisted SCARA Manipulator Design and Control Using Arduino and LabVIEW	54
<i>Ahmed Issa, Mohammad O. A. Aqel, Ali Tubail, Yaser Alkayyali, Abdelkareem Alay, and Mosab Ferwana</i>	
Palletizing Manipulator Design and Control Using Arduino and MATLAB	60
<i>Ahmed Issa, Mohammad O. A. Aqel, Mahmoud M. Albelbeisi, Majd O. Elaila, and Malek A. Mortaja</i>	

Session 5: Image Processing

Image Encryption Using Double Chaotic Logistic Map	66
<i>Haifaa W. Safi and Ashraf Y. Maghari</i>	
Medical Image Retrieval Based on Gray Cluster Co-occurrence Matrix and Edge Strength Levels	71
<i>Ashraf Alattar and Alaa Abu Mezied</i>	
A Comparative Study on Handwriting Digit Recognition Using Neural Networks	77
<i>Mahmoud M. Abu Ghosh and Ashraf Y. Maghari</i>	

Session 6: Analog Circuits & Signal Processing

A Quad-band Rectifier Design with Improved Matching Bandwidth for RF Energy Harvesting Applications	82
<i>Talal Skaik</i>	
Fault Diagnosis in Transmission Lines Based on Leakage Current and Qualitative Trend Analysis	87
<i>P. R. N. Silva, A. P. Carvalho, H. A. Gabbar, P. Vieira Jr., and C. T. Costa Jr.</i>	
Power Generation Using Hydraulic and Double Crank Shaft Speed Breaker: Gaza Strip as a Case Study	93
<i>Jamal Al Zebda, Mohammed Msallam, Mohammed Al Yazouri, Tareq Shaheen, and Abdulsalam Radi</i>	
Characteristics of Si-Solar Cell (PV) Waveguide Structure Using Transfer Matrix Method	99
<i>Mohammed M. Shabat, Ahmed N. AlShembari, and H. J. El-Khozondar</i>	

Session 7: Sensing, Sensor Networks and Networking

Validation Framework for Time-Triggered System-of-Systems	103
<i>Ayman Murshed, Mohammed Abuteir, and Roman Obermaisser</i>	
Smart Irrigation Decision Support Based on Fuzzy Logic Using Wireless Sensor Network	109
<i>Yousef E. M. Hamouda</i>	
Analysis of the Different Acquisition Schemes in an Optical Feedback Interferometry Sensor	114
<i>Jalal Al Roumy</i>	
Hotspot Detection for Wall-Mounted Air-Conditioner System	118
<i>Mohd Shawal Jadin, Ng Boon Khai, Norizam Sulaiman, and Wael A. Salah</i>	

Session 8: Data Mining and Knowledge Extraction

Power Curve Monitoring with Flexible EWMA Control Charts	124
<i>Georg Helbing and Matthias Ritter</i>	
Candidate Teacher Performance Prediction Using Classification Techniques: A Case Study of High Schools in Gaza-Strip	129
<i>Mohammed KH. Zoroub and Ashraf Y. Maghari</i>	
Towards Rules Induction Optimization for Cerebral Palsy Diagnosis: An Empirical Study	135
<i>Wael F. Al Sarraj and Mohammad S. Zurob</i>	
Author Index	141