

2017 IEEE 4th International Conference on Knowledge-Based Engineering and Innovation (KBEI 2017)

**Tehran, Iran
22 December 2017**

Pages 1-515



**IEEE Catalog Number: CFP17ZUW-POD
ISBN: 978-1-5386-2641-2**

**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:	CFP17ZUW-POD
ISBN (Print-On-Demand):	978-1-5386-2641-2
ISBN (Online):	978-1-5386-2640-5

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

Table of Contents

1-Efficient Design and Implement an Electrically Small HF Antenna	1
2- Identification using iris Image Analysis in Frequency Domain.....	5
3-Music Emotion Recognition based on Wigner-Ville Distribution Feature Extraction	12
4-Facial Emotion Recognition using Deep Convolutional Networks	17
5-License Plate Detection in Complex Scenes based on Fusion of Gaussian Filtering and Bayesian Network	22
6-Anti-DDoS Firewall; A Zero-Sum Mitigation GameModel for Distributed Denial of Service Attack Using Linear Programming.....	27
7-DNC-SMASH structure improvement for highresolution wideband applications	37
8-Sentence Matrix Normalization using Most Likely n-grams Vector	40
9-Online and Coverage Aware Charging Method in Wireless Rechargeable Sensor Networks	46
10-A New Approach to the Restart Genetic Algorithm to Solve Zero-One Knapsack Problem	50
11-An Overview on Extractive Text Summarization.....	54
12-Predicting Serious Diabetic Complications using Hidden Pattern Detection.....	63
13-A Compact UWB Ring Resonator BPF with Double Notched Bands.....	69
14-UWB Circularly Polarized Coax-Fed Spiral Slot Antenna	72
15- Decentralized Multivariable PID Controller with Pre compensator for Gas Turbine System	74
16-Optimization of LEACH Method Using Distribute Nodes and Cell Clustering	83
17-Dynamic feedback linearizing controller for a wheeled vehicle	88
18-Modeling and backstepping control of a wheeled robot	95
19- Environment mapping with stereo vision and Belief Propagation algorithm.....	101
20-A Control Strategy for DFIG Wind Turbine Using SLS-TLBO and Fuzzy Logic	108
21-A comparison of implementation of solar and diesel power generation for a case study in Kaloo	114
22- Proposing an Interleaved Boost Converter with Novel Soft Switching Approach in Photovoltaic Applications	120
23-Thermal Analysis of Inverters and High Frequency Transformers in the DC-DC Converters	125
24-A L-Band LH Spiral Slot Monopole Antenna.....	131
25-Polarization Insensitive Dual-Band Absorber	133
26-Gain Enhancement of Conical Horn with QCTO	136
27-Compact HMSIW Hexagonal Cavity Patch Antenna	139
28-Meta-Scheduling Techniques for Energy-Efficient Robust and Adaptive Time-Triggered Systems.....	143
29-A PID for Needle Valve Output Pressure Control Based on Servo Motor & LabVIEW	151
30-Dynamic Balance of a NAO H25 Humanoid Robot Based on Model Predictive Control	156
31-A New Hybrid Method Based on Fuzzy AHP and Fuzzy TOPSIS for Employee Performance Evaluation	165
32-The Maintenance Scheduling in Deregulated Power Systems with Operational and Practical Constraints	172

33-Effect of Electrical Vehicles on Long-Term Forecasting of Energy Consumption in Iran	179
34-A X-Band Linear to Circular Polarization Convertor	186
35-An Ultra-Thin Sinusoidal Polarization Conversion	189
36-A Dual-Band Rejection UWB Antenna Using EBG	192
37-A Novel Triple-Broadband Dual-Polarized Antenna	194
38-A UML Profile for Modeling the Conflicts in Model Merging	197
39-Optimization of Model Transformation Output Using Genetic Algorithm.....	203
40-Spring Search Algorithm: A new meta-heuristic optimization algorithm inspired by Hooke's law.....	210
41-Line loss reduction and voltage profile improvement in radial distribution networks using battery energy storage system	215
42-BSSA: Binary Spring Search Algorithm	220
43-DC-Contact, Wide Band, Electrostatically Actuated Lateral RF MEMS Switch for Efficient Signal Switching	225
44-A Study of the Internet of Things in the Oil and Gas Industry	230
45-A New 13-bit 100MS/s Full Differential Successive Approximation Register Analog to Digital Converter (SAR ADC) Using a Novel Compound R-2R/C Structure.....	237
46-Optimal and Suboptimal Linear Regulator Design of AGC for Two Area Interconnected Power System	243
47-Analysis Simulation and Comparison Different Types of the Sigma Delta ADC Modulators Based on Ideal Model System Level and behavioral Model Using MATLAB	252
48-An Ultra High-Resolution Low Propagation Delay Time and Low Power with 1.25GS/s CMOS Dynamic Latched Comparator For High-Speed SAR ADCs in 180nm Technology	260
49-The Effect of Cyber Attacks on the Demand Dispatch Application and Identify Them by OPTICS	266
50-Fault Injection Framework for Fault Diagnosis based on Machine Learning in Heating and Demand-Controlled Ventilation Systems	273
51-Impact of Multi-Output controller to Consider Wide Area Measurement and Control System on the Power System Stability..	280
52-Face Image Quality Assessment Based on Photometric Features and Classification Techniques	289
53-Dynamics modeling of a Stewart platform in Simulink MSC ADAMS	294
54-Optimization of Virtual Machines Placement Based on Microeconomics Theory in Cloud Network.....	299
55-Vision Based Control and Simulation of a Spherical Rolling Robot based on ROS and Gazebo	304
56-Control of a Four-Mecanum wheeled Robot With a Soft-robotic Glove	310
57-Simulation, Control and Construction of a Four Mecanum-Wheeled robot	315
58-Web Pages Classification: An Effective Approach Based on Text Mining Techniques	320
59-An Effective Cipher Block Scheme Based on Cellular Automata	324
60-Microstrip Compact antenna with Reconfigurable Characteristic and Circular Polarization for WLAN Application	330
61-A Novel Circular Polarization MIMO Antenna in 60 GHz Technology	335
62-Classification of Eye Movement Signals Using Electrooculography in order to Device Controlling	339
63-Optimizing Text Detachment from the Document Image Using Block-Based Segmentation and Wavelet Transform	343

64-Output Feedback Nonlinear Control of Double-rod Hydraulic Actuator Using Extended Kalman Filter	349
65-Community Detection in Social Networks using a Novel Algorithm Without Parameter	355
66-A Configurable Simulation Model for Mixed-Criticality Multi-Processor Systems-on-Chips	360
67-Knowledge Based Dynamic Password	367
68-A Survey on Underwater Wireless Sensor Networks Routing Algorithms	373
69- Using Data Mining Techniques for Classification of Essential Oils According to Yield	379
70- State Feedback Exact Linearization for Two POESLL Converter Schemes	384
71- Sliding Mode Control of Single Phase Grid Connected PV System Using Sign Function	391
72- Two-stage Throttled-aware Deterministic Routing for Non-stationary Irregular Mesh in Network On-chip	398
73- Investigating the Features of Research Environments on Cloud Computing	404
74- Life Time Maximization in the Wireless Sensor Network with Energy Harvesting	412
75 High Speed Low Power Voltage Comparator in 0.18 μ m CMOS Process for Flash ADCs	418
76- Evaluation and Modeling of Saturated Core Fault Current Limiters	422
77- Unsupervised Learning of Target Attraction for Robots through Spike Timing Dependent Plasticity	428
78- Real-Time Optimal Trajectory Planning of Mobile Robot in Presence of Obstacle through Generalized Regression Neural Network	434
79- A Novel Metric for Digital Image Quality Assessment using Entropy-Based Image Complexity*	440
80- Edge Detection Using Determinant-Variance Trace Algorithm Based on Roots- Dimensional Mapping Method*	446
81- Secure Northbound Interface for SDN Applications with NTRU Public Key Infrastructure	452
82- Fuzzy Sliding Mode Control of a Bio-Inspired Exoskeleton Robot in Pick and Place Task with Obstacle Avoidance	459
83- Detecting Fault Location in Wireless Sensor Networks Using an Exploratory Method Based on Fuzzy Logic	465
84- Adaptive S-Grid: A New Adaptive Quorum-based Power Saving Protocol for Multi-hop Ad Hoc Networks	470
85- Free Chattering and Finite Time in a High Order System by Terminal Back-Stepping and Terminal Sliding Mode Control Techniques	476
86- Software Requirements Interaction Management Using Search-Based Software Engineering Methods: A Survey	481
87- How unseen communities of Instagram users are revealed using the real-valued collocations of hashtags	487
88- Distribution of Virtual Devices on the Fog for Delay And Traffic Reduction	492
89- Implementation of Multiple Routing Tables in Software Routers	497
90- Real time multimodal system based on electrooculography and image processing	503
91- Fault Detection and Diagnosis in Voltage Source Inverters Using Principle Component Analysis	509
92- Design of Fully Digital 3-Bit Flash ADC Based on Logic Gates	516
93- A Shared Transfer Gate 2T Pixel	522
94- Phase and Amplitude Coupling Feature Extraction and Recognition of Ictal EEG using VMD	526
95- Detection of Underground Power Cable Route Using Magnetic Field	533

96- Energy Carriers Management Based on Energy Consumption	539
97- Modeling, Verification and Evaluation of Multiprocessor Scheduling using Extended CBR LA Algorithm	544
98- Trajectory Tracking Control for a Quadrotor Using Fuzzy PID control Scheme	553
99- Optimum Dimensional Synthesis of the Gough Parallel Manipulator for a Desired Workspace	559
100- Digital LDO Regulator with a current efficiency of 99.9% and low chip area	565
101- An Intelligent Model for Prediction of Brucellosis	570
102- Modeling of Resource Monitoring in FederatedCloud using Colored Petri Net	577
103- Skeleton-based action recognition using spatiotemporal features with convolutional neural networks.....	583
104- An Assessment of a Similarity between the Right and Left Hand Photoplethysmography Signals,using Time and Frequency Features of Heart-rate-variability Signal	588
105- Switching Controller Design to Swing-up a Two-link Underactuated Robot	595
106- Classification of big Satellite Images using Hadoop Clusters for Land Cover recognition	600
107- Analysis of mechanical behavior of two parameters, collagen fiber direction and increased concentration of mineral in direct insertion tendon to bone	604
108- ConsciousCache: Improving SDN Controller Scalability Using flows Similarities.....	609
109- Low-Cost Hardware-In-the-Loop test of a Spacecraft Attitude Control System	615
110- Energy Efficiency Maximization in Ultra Dense Heterogeneous Cellular Network, Considering BothDownlink and Uplink	624
111- Using deep networks for fraud detection in the credit card transactions	630
112- LoBIAG: A Location-Based Collaborative Image Annotation Game	634
113- Karatsuba Ofman Multiplication Implementation on SystemC for Diffie-Hellman Key Exchange Algorithm	641
114- Considering Shunt and Fixed Series Compensations in Dynamic Transmission Network Expansion Planning Using Real Coded Genetic Algorithm	646
115- A Grasshopper Optimization Algorithm to solve Optimal Distribution System Reconfiguration and Distributed Generation Placement Problem	659
116- Robust Control of Translational Cable-driven Robots	667
117- A New Metaheuristic Approach to Task Assignment Problem in Distributed Systems	673
118- Design of the MIMO-UWB Antenna for Used in Multi-Frequency in Wireless Communication Systems with the Application of Marine & aerial Devices	678
119- Antenna Design Using Photonic Crystal Technology for the Application of Wireless Microcomputer Systems	683
120- Toward Improving Coding-aware Routing in Multihop Wireless Networks.....	689
121- Fusion of several preprocessing approaches for improving the accuracy of face recognition systems in poor lighting conditions	695
122- Identifying Contributing Factors to Sustainability Awareness in the Norwegian Software Industry	700
123- Asymptotic Close To Optimal Joint Resource Allocation and Power Control in the Uplink of Two-cell Networks	706
124- Representation of Map model for mobile robot based on hippocampus place cell functionality	712
125- Particle Representation Based on Considering Adaptive Particle Swarm Optimization's Parameters in Search Space.....	718

126- Providing a fuzzy logic control system to reduce the frequency deviation in independent hybrid power system	723
127- Receiver Design for Pulse Position Modulation Technique in Diffusion-Based Molecular Communication	729
128- An Algorithm for Weighted Positive Influence Dominating Set Based on Learning Automata	734
129- On Distance-Based Formation Control: A Nonlinear Mapping Approach and Its Applications	741
130- Hybrid driven based robust stabilization for networked control systems	747
131- Modeling and simulation of JetQuad aerial robot	753
132- Designing Fuzzy type II PID Controller for Synchronous Generator Excitation	763
133- Enhancement of the spikes attributes in the time-frequency representations of real EEG signals	768
134- Efficient Implementation of the Bellman-Ford Algorithm on GPU	773
135- Multilayer Design of Turbo Code Random Interleaver based on Quantum-Dot Cellular Automata.....	779
136- Intrusion Detection System Using an Optimized Framework Based on Datamining Techniques	785
137- Photovoltaic Parameter Estimation Using Heuristic Optimization	792
138- Diffusion adaptation through free space optical (FSO) wireless communication channels.....	798
139- A Novel System for Quantifying the Danger Degree of Computer Network Attacks.....	804
140- A Conceptual Framework for Clone Detection using Machine Learning.....	810
141- A Novel Approach for Offset Canceling in a High-Speed Four-Quadrant MTL Multiplier	818
142- A Novel Design for Adaptive Cruise Control Based on Extended Reference Model	822
143- Back Radiation Reduction of a Printed Yagi Antenna Backed by a Metalized Reflector for C-Band Applications at 3.7-4.2 GHz	828
144- A Comparative Study on Spatio-temporal Parameters of Walking Gait of Patients with Lumbar Spinal Stenosis and Lumbar Intervertebral Disc Degeneration.....	831
145- Kinematic and Dynamic Modeling of an Infrastructure Hybrid Climbing Robot	834
146- A Very Simple, High Speed Transmitter with 3- EdgesDTS Modulation	843
147- Evaluating The coordination Between Daily Curves of Probabilistic Wind DGs Output power and Load demand.....	849
148- Performance of HEVC Discrete Cosine and Sine transforms on GPU using CUDA	857
149- A new approach for solving fully fuzzy linear fractional programming problems	862
150- Inter-Area Power Oscillation Control in a Multi-Machine Power System by Coordinating the PSS and UPFC Operation	866
151-Segmentation of Breast Images to find the Lesions using the Decreased Neighborhood Graph algorithm	872
152- Improving the Efficiency of an EEG-based Brain Computer Interface using Filter Bank Common Spatial Pattern	878
153- A 20 ppm/C Voltage Reference Cell Using a Low-Power CTAT Voltage Generator	883
154- Multiband Low Profile Printed Monopole Antenna for Future 5G Wireless Application with DGS	887
155- A Built-In Self-Test Circuit for Measuring 1dB Gain Compression Point of Power Amplifiers.....	891
156- Sensitivity and Modeling Analysis Dynamic Behaviour Small Wind Turbine in Domestic Load	895
157- Face Recognition in Uncontrolled Conditions	902

158- Orientation control of a wheeled robot towing a trailer in backward motion.....	907
159- 3D Modeling and Control of Fuel Sloshing in A Spacecraft.....	913
160- Indirect Adaptive Fuzzy Sliding Mode Control of 3D Inverted Pendulum	919
161- A Model Free Approach To General Video Game Playing	925
162- Dynamic Analysis of a Planar Parallel Robot with the Purpose of Obtaining Optimal Inertial Parameters for Energy Consumption	931
163- Charging and discharging coordination of electric vehicles in a parking lot considering the limitation of power exchange with the distribution system	937
164- State-Based Models in Model-Based Testing: A Systematic Review	942
165- Integrated Adaptive Backstepping Attitude Control of Spacecraft	949
166- Time-Interleaved ADC Performance Analysis Considering Clock Skew Effects	955
167- Immersion and Invariance Based Adaptive Control of Aerial Robot in Presence of Inertia Uncertainty	959
168- Adaptive feedback linearization control of space robots	965
169- A Framework for Cognitive Recommender Systems in the Internet of Things (IoT).....	971
170- Search-Based Software Module Clustering Techniques: A Review Article	977
171- The Impact of Security Services on Fog-based WSNs Lifetime	984
172- ReFOCUS: A Hybrid Fog-Cloud based Intelligent Traffic Re-routing System	992
173- Model of Requirements Engineering for Information Technology Governance Based on the COBIT framework in public organizations using the REGIT method	999
174- An Experimental Study on the Development, Kinematics and Control of a 4-DOF Delta Parallel Manipulator	1006
175- Cardiovascular disease detection using a new ensemble classifier	1011
176- Analysis and Atomic Simulation of Electron Structures and Defects in ZnO Nano-Crystal for its Optimal Doping with Al	1015
177- Optimal design of a photovoltaic production unit with a capacity of 50 kW connected to the Distribution network	1020
178- A Comprehensive analysis on Control Plane Deployment in SDN: In-Band versus Out-of-Band solutions	1025