

Contents

The 12th International Conference on Broad-Band Wireless Computing, Communication and Applications (BWCCA-2017)

Real Time Pricing Based Appliance Scheduling in Home Energy Management Using Optimization Techniques	3
Basit Amin, Adia Khalid, Muhammad Azeem Sarwar, Asad Ghaffar, Adnan Satti, Nasir Ayub, and Nadeem Javaid	
Pigeon Inspired Optimization and Bacterial Foraging Optimization for Home Energy Management	14
Saadia Batool, Adia Khalid, Zunaira Amjad, Hafsa Arshad, Syeda Aimal, Mashab Farooqi, and Nadeem Javaid	
GreyWolf Optimization Technique for HEMS Using Day Ahead Pricing Scheme	25
Asad Ghafar, Rabiya Khalid, Mudabbir Ali, CH Anwar ul Hassan, Adnan Ishaq, Basit Amin, and Nadeem Javaid	
Efficient Energy Management System Using Firefly and Harmony Search Algorithm	37
Anwar Ur Rehman, Sheraz Aslam, Zain Ul Abideen, Asma Zahra, Waqar Ali, Muhammad Junaid, and Nadeem Javaid	
Demand Side Management Using Meta-Heuristic Optimization Techniques	50
Sidra Razzaq, Adia Khalid, Sughra Razzaq, Zain Ul Abideen, Asma Zahra, Mahnoor Khan, and Nadeem Javaid	
Scheduling of Appliances in HEMS Using Elephant Herding Optimization and Harmony Search Algorithm	62
Komal Parvez, Sheraz Aslam, Arje Saba, Syeda Aimal, Zunaira Amjad, Sikandar Asif, and Nadeem Javaid	

**Enhanced Differential Evolution and Crow Search Algorithm
Based Home Energy Management in Smart Grid** 73
Pamir, Sakeena Javaid, Ishtiaq Ali, Noreen Mushtaq, Zafar Faiz,
Hazrat Abubakar Sadiq, and Nadeem Javaid

**Selection of Actor Nodes in Wireless Sensor and Actor Networks
Considering Actor-Sensor Coordination Quality Parameter** 87
Donald Elmazi, Miralda Cuka, Kevin Bylykbashi, Evjola Spaho,
Makoto Ikeda, and Leonard Barolli

**Effect of Storage Size on IoT Device Selection in Opportunistic
Networks: A Comparison Study of Two Fuzzy-Based Systems** 100
Miralda Cuka, Donald Elmazi, Tetsuya Oda, Elis Kulla, Makoto Ikeda,
and Leonard Barolli

**Performance Evaluation of WMNs by WMN-PSOSA Simulation
System Considering Random Inertia Weight Method
and Linearly Decreasing Vmax Method** 114
Shinji Sakamoto, Kosuke Ozero, Admir Barolli, Makoto Ikeda,
Leonard Barolli, and Makoto Takizawa

**A Fuzzy-Based Approach for Task Accomplishment
in MobilePeerDroid Mobile System** 125
Yi Liu, Kosuke Ozero, Keita Matsuo, Makoto Ikeda, and Leonard Barolli

**A Flexible Synchronization Protocol for Hidden Topics
to Prevent Illegal Information Flow in P2PPS Systems** 138
Shigenari Nakamura, Lidia Ogiela, Tomoya Enokido,
and Makoto Takizawa

**A Simple Migration Algorithm of Virtual Machine
in a Server Cluster** 149
Ryo Watanabe, Dilawaer Duolikun, Cuiqin Qin, Tomoya Enokido,
and Makoto Takizawa

**Energy-Aware Dynamic Migration of Virtual Machines
in a Server Cluster** 161
Dilawaer Duolikun, Ryo Watanabe, Tomoya Enokido,
and Makoto Takizawa

**A Low-Energy Unicast Ad-Hoc Routing Protocol
in Wireless Networks** 173
Emi Ogawa, Shigenari Nakamura, Tomoya Enokido,
and Makoto Takizawa

**An Energy Efficient Load Balancing Algorithm Based
on the Active Time of Cores.** 185
Tomoya Enokido, Dilawaer Duolikun, and Makoto Takizawa

Development of an Adult Care System Based on Interactions with a Communication Robot 197
Akihito Yatsuda, Toshiyuki Haramaki, and Hiroaki Nishino

Development of Unified Model to Increase Coverage Area in 5G Networks Using Femtocells 206
M. Usman Younus and Rabia Shafi

Comparison of Spray and Wait and Epidemic Protocols in Different DTN Scenarios 218
Kevin Bylykbashi, Evjola Spaho, Leonard Barolli, and Makoto Takizawa

Interest Re-Route Control According to Degree of Similarity on Cached Contents Using Bloom Filter on NDN 230
Haruka Watano and Tetsuya Shigeyasu

A Mobility Network for Disaster and Emergent Information Systems in Challenged Network Environment 241
Yoshitaka Shibata, Kenta Ito, and Goshi Sato

Visual CAPTCHA for Data Understanding and Cognitive Management 249
Natalia Krzyworzeka and Lidia Ogiela

Swarm Intelligence Based Home Energy Management Controller Under Dynamic Pricing Scheme 256
Adnan Ahmed, Muhammad Hassan Rahim, Fozia Feroze, Ayesha Zafar, Itrat Fatima, Sheraz Aslam, and Nadeem Javaid

Home Energy Management System Using Ant Colony Optimization Technique in Microgrid 267
Itrat Fatima, Adia Khalid, Saman Zahoor, Anila Yasmeen, Shahan Arif, Umara Zafar, and Nadeem Javaid

An Object Management and Fuzzy Based Location Estimation Method Using Active RFID Tags 280
Kaiki Ohkoshi, Hiroyuki Suzuki, and Akio Koyama

Application of Cognitive Cryptography in Fog and Cloud Computing 293
Marek R. Ogiela and Lidia Ogiela

Energy Savings in Power Control for 5G Dense Femtocells 299
Christos Bouras, Georgios Diles, and Theodoros Moulis

Classification of Cognitive Service Management Systems in Cloud Computing 309
Urszula Ogiela, Makoto Takizawa, and Lidia Ogiela

Trust-Based Multi-stakeholder Decision Making in Water Allocation System 314
Lina Alfantoukh, Yefeng Ruan, and Arjan Durrese

Modeling and Performance Evaluation of Protocols in Mobile Wireless Sensor Networks 328
Manel Houimli and Laid Kahloul

LTE-LAA and Wi-Fi Physical Layer Performance and Coverage Comparison 340
Oudomsack Pierre Pasquero, Marie Le Bot, Marie-Hélène Hamon, and Christian Gallard

A Hybrid-Distributed Base Station Wake-up Algorithm in Dense Heterogeneous Cellular Networks 352
Li Da, Zhou Wen'an, Liu Jianlong, and Li Bingqian

Design of MIMO System with Individual Transmit Power Constraint and Improper Constellation 363
Raja Muthalagu

Implementation of 1:N Communication Model Using Serial Communication in an RF-Based Environment 376
Yeon-Ju Lee, Jeong-In Kim, Eun-Ji Lee, Tak-Eun Hong, and Pan-Koo Kim

Vulnerability Analysis of Secure Disk: Based on Backup Feature of Product A 386
MyoungSu Kim, Kyungroul Lee, and Kangbin Yim

Web Browser Tampering: Inspecting CPU Features from Side-Channel Information 392
Takamichi Saito, Koki Yasuda, Kazuhisa Tanabe, and Kazushi Takahashi

Mocov: Model Based Fuzzing Through Coverage Guided Technology . . . 404
Chen Chen, Zhouguo Chen, Yongle Hao, and Baojiang Cui

A Security Vulnerability Threat Classification Method 414
Yuanwei Hou, Xingzhang Ren, Yongle Hao, Tong Mo, and Weiping Li

A Malware Detection Method Based on Sandbox, Binary Instrumentation and Multidimensional Feature Extraction 427
Chong Wang, Jianwei Ding, Tao Guo, and Baojiang Cui

Embedded System Vulnerability Mining Technology Based on In-memory Fuzzing Test 439
Baojiang Cui, Xiangqian Zhang, Tianxin Zhang, and Qin Zhang

Research on UPnP Protocol Security of Gateway Device	450
Baojiang Cui, Qin Zhang, Xiangqian Zhang, and Tao Guo	
Hinge Classification Algorithm Based on Asynchronous Gradient Descent	459
Xiaodan Yan, Tianxin Zhang, Baojiang Cui, and Jiangdong Deng	
Digital Communication System with High Security and High Noise Immunity: Security Analysis and Simulation	469
Ahmed S. Alshammari, Mohamed I. Sobhy, and Peter Lee	
Payload-Based Web Attack Detection Using Deep Neural Network	482
Xiaohui Jin, Baojiang Cui, Jun Yang, and Zishuai Cheng	
Directcha-maze: A Study of CAPTCHA Configuration with Machine Learning and Brute-Force Attack Defensibility Along with User Convenience Consideration	489
Ayane Sano, Masahiro Fujita, and Masakatsu Nishigaki	
Interference Aware Metric-Based Routing Protocol in Cognitive Radio Networks	502
Abhishek Kumar, Sanjay Kumar Dhurandher, Isaac Woungang, Vinesh Kumar, and Makoto Takizawa	
A Comparison of Fuzzy Control Schemes to Enhance Sustainability in Microgrid	516
Muhammad Shahid Laiq, Sheeraz Ahmed, Zahoor Ali Khan, M. Irfan Khattak, and Aatra Sadaf	
A Centralized Trust Management Mechanism for the Internet of Things (CTM-IoT)	533
Mohammad Dahman Alshehri and Farookh Khadeer Hussain	
The 19th International Symposium on Multimedia Network Systems and Applications (MNSA-2017)	
Home Energy Management in Smart Grid Using Bacterial Foraging and Strawberry Algorithm	547
Noreen Mushtaq, Muhammad Hassan Rahim, Rabiya Khalid, Samia Abid, Pamir, Sajawal ur Rehman Khan, and Nadeem Javaid	
Implementing Critical Peak Pricing in Home Energy Management Using Biography Based Optimization and Genetic Algorithm in Smart Grid	560
Khadija Ambreen, Rabiya Khalid, Rubab Maroof, Hasan Nasir Khan, Salma Asif, Hina Iftikhar, and Nadeem javaid	

Home Energy Management Using Fish Swarm Optimization Bacterial Foraging Algorithm and Genetic Algorithm in Smart Grid 570
Shahab Ali, Samia Abid, Zain Ul Abideen, Saman Zahoor, Itrat Fatima, Zunaira Nadeem, and Nadeem Javaid

Earth Worm Optimization for Home Energy Management System in Smart Grid. 583
Mudabbir Ali, Samia Abid, Asad Ghafar, Nasir Ayub, Hafsa Arshad, Sajawal Khan, and Nadeem Javaid

Hybrid Replication Schemes of Processes for Fault-Tolerance Systems in Energy-Efficient Server Clusters 597
Ryuji Oma, Shigenari Nakamura, Tomoya Enokido, and Makoto Takizawa

Coordinate Assignment: Self-outer-Recognition in OpenFlow Mesh 608
Minoru Uehara

A Survey of Optimization Techniques for Scheduling in Home Energy Management Systems in Smart Grid 616
Fozia Feroze, Asif Khan, Nabeeha Qayyum, Sakeena Javaid, Adnan Ahmed, Muhammad Hassan Rahim, and Nadeem Javaid

The Trends of Integrating Renewable Energy Sources: A Survey 627
Sardar Mehboob Hussain, Muhammad Hassan Rahim, Zunaira Nadeem, Iqra Fatima, Zafar Iqbal, Sikandar Asif, and Nadeem Javaid

Concept of the Cloud Type Virtual Policy Based Network Management Scheme for the Specific Domain 637
Kazuya Odagiri, Shogo Shimizu, Naohiro Ishii, and Makoto Takizawa

Towards a Collaborative Editing System on 3D Space 648
Tasuku Takahashi, Kengo Imae, and Naohiro Hayashibara

Sausage-Style One-Time Authentication Schemes 658
Yuji Suga

The 10th International Workshop on Next Generation of Wireless and Mobile Networks (NGWMN-2017)

Performance Evaluation of an IoT-Based E-Learning Testbed Using Mean-Shift Clustering Approach Considering Gamma Type of Brain Waves 671
Masafumi Yamada, Miralda Cuka, Yi liu, Kevin Bylykbashi, Keita Matsuo, and Leonard Barolli

A Fuzzy-Based System for Actor Node in an Ambient Intelligence Testbed: Effects of Different Parameters on Human Sleeping Conditions	682
Ryoichiro Obukata, Kevin Bylykbashi, Kosuke Ozera, Yi Liu, Shinji Sakamoto, and Leonard Barolli	
A New Space-Time Coding Method Based on OCML	691
Zhao Chen and Jiang-Yan Wu	
Experimental Evaluation of a WLAN Triage Testbed Considering Relation of Connection Success Ratio and Connected Time Ratio with User Priority and RSSI Parameters	701
Kosuke Ozera, Takaaki Inaba, Kevin Bylykbashi, Shinji Sakamoto, and Leonard Barolli	
Circular Microstrip Patch Antenna Design for LTE, ISM, WIMAX, Satellite Communication and in Ultra WideBand Applications	718
Zain Ul Abedin	
The 8th International Workshop on Methods, Analysis and Protocols for Wireless Communication (MAPWC-2017)	
Optimal Base Station Planning Using Genetic Algorithm for LTE Network	731
Ouamri Med Amine, Zenadji Cilia, and Abdelkrim KHireddine	
Line of Sight Procedure for Dijkstra-Algorithm Based Ray-Tracing . . .	741
Kazunori Uchida and Leonard Barolli	
A Message Suppression Method Considering Priority for Inter-vehicle Communications	754
Yu Yoshino, Daichi Koga, Shogo Nakasaki, Makoto Ikeda, and Leonard Barolli	
Signal Routing by Dispersive Medium	764
Hiroshi Maeda, Keisuke Haari, Xiang Zheng Meng, and Naoki Higashinaka	
The 8th International Workshop on Cloud, Wireless and e-Commerce Security (CWECS-2017)	
A Critical Quality Measurement Model for Managing and Controlling Big Data Project Risks	777
Sen-Tarng Lai and Fang-Yie Leu	
A Light Weight Data Encryption Method for WSN Communication . . .	788
Kun-Lin Tsai, Fang-Yie Leu, Tung-Hung Su, and Yi-Chen Chang	

Predicting Video Stream Fragments in a Reactive Mode 796
Chien-Hsiang Kao and Fang-Yie Leu

Relay Base-Station Handover in a 5G Environment. 803
Zong-Ying Yang and Fang-Yie Leu

**Privacy-Preserving Multi-authority Ciphertext-Policy Attribute-Based
Encryption with Revocation** 811
Hua Ma, Enting Dong, Zhenhua Liu, and Linchao Zhang

**The 6th International Workshop on Robot Interaction, Control,
Communication and Cooperation (RI3C-2017)**

**Omnidirectional Wheelchair Vision with Small Reflect Mirrors
for Tennis Ball Tracking** 823
Keita Matsuo and Leonard Barolli

**Investigation Using Multi-Agent Simulation Environment
for Evacuation Guidance with Robots** 834
Ryuta Sugie, Takahiro Uchiya, and Ichi Takumi

**Design of Reminiscence Therapy System for Elderly People
with Dementia** 844
Takahiro Uchiya, Ryota Nishimura, Takahiro Hirano, and Masaru Sakurai

A Disaster Information Gathering System Design Using Fuzzy Logic . . . 854
Gaku Tsuchiya, Makoto Ikeda, Donald Elmazi, Leonard Barolli,
and Elis Kulla

Author Index. 863

Advances on Broad-Band Wireless Computing,
Communication and Applications
Proceedings of the 12th International Conference on
Broad-Band Wireless Computing, Communication and
Applications (BWCCA-2017)
Barolli, L.; Xhafa, F.; Conesa, J. (Eds.)
2018, XLVIII, 865 p. 457 illus., Softcover
ISBN: 978-3-319-69810-6