

2012 Fourth International Conference on Ubiquitous and Future Networks

(ICUFN 2012)

**Puket, Thailand
4 – 6 July 2012**



IEEE Catalog Number: CFP1287G-PRT
ISBN: 978-1-4673-1377-3

TABLE OF CONTENTS

Analysis Of VLC Channel Based On The Shapes Of White-Light LED Lighting	1
<i>S. Choi</i>	
Received Power And SNR Optimization For Visible Light Communication System	6
<i>T. Do, M. Yoo</i>	
Bi-directional Visible Light Communication Using Performance-Based Selection Of IR-LEDs In Upstream Transmission	8
<i>Y. Jang, K. Choi, F. Rawshan, S. Dan, M. Ju, Y. Park</i>	
Visible Light Communications With Color And Dimming Control By Employing VPPM Coding	10
<i>K. Choi, Y. Jang, J. Noh, M. Ju, Y. Park</i>	
Multi-Parameters Based CSMA/CA For Priority In Visible Light Communication	13
<i>V. Van Huynh, Y. Jang</i>	
Designing Adaptive RTS For MadWifi-Based WLAN Device	15
<i>S. Byeon, H. Lee, J. Kim, W. Cho, S. Choi</i>	
An Energy-Efficient Routing Protocol In Wireless Sensor Networks With Holes	17
<i>S. Hwang, H. Lin, C. Dow</i>	
Iterative Path-Loss Exponent Estimation-Based Positioning Scheme In WSNs	23
<i>J. Choi, J. Choi, S. Yoo</i>	
Performance Evaluation Of 802.15.4 Medium Access Control During Network Association And Synchronization For Sensor Networks	27
<i>M. Meghji, D. Habibi, I. Ahmad</i>	
Joint Energy-Balanced And Full-Coverage Mechanism Using Sensing Range Control For Maximizing Network Lifetime In WSNs.....	34
<i>C. Chang, G. Yu, C. Lin, T. Wang</i>	
An Efficient Dispatching Mechanism For Monitoring Disconnected Targets In Wireless Mobile Sensor Networks	40
<i>L. Hung, C. Chang, C. Chang, C. Hsiao</i>	
Using Tabu-Voronoi Clustering Heuristics With Key Management Scheme For Heterogeneous Sensor Networks.....	46
<i>K. Gagneja, K. Nygard, N. Singh</i>	
ECU-MAC: A Multi-Channel MAC Protocol For Enhancing Channel Utilization In Wireless Networks.....	52
<i>C. Chang, Y. Lu, C. Own</i>	
An Analytical Model For Performance Evaluation Of Multi-Hop Paths In Mobile Ad-Hoc Wireless Networks.....	58
<i>L. Dung, B. An, N. Kim, D. Kim</i>	
Performance Of An Incremental Best Relay Selection With Outdated CSI In Rayleigh Fading Channels	63
<i>N. Kim, B. An, D. Kim</i>	
Collaborative Watchdogs: A Fast And Efficient Approach To Deal With Selfish Nodes In MANETs	68
<i>E. Hernandez-Orallo, M. Olnos, J. Cano, C. Calafate, P. Manzoni</i>	
Distributed Transmit Power Control For Maximizing End-To-End Throughput In Wireless Multi-Hop Networks	74
<i>H. Choi, J. Lee</i>	
Joint Scheduling And Power Control For Inter-Hop Interference Mitigation In Wireless Multihop Networks.....	80
<i>H. Choi, E. Son, E. Paik, J. Lee</i>	
An Adaptive Cost Function For Routing Protocols In Wireless Networks	86
<i>S. Lee, D. Shin, S. Rhee</i>	
Association Rules Application To Identify Customer Purchase Intention In A Real-Time Marketing Communication Tool	88
<i>J. Kim, S. Han, D. Kim</i>	
Analysis Of Effective Online Service Determinant Of Korean Professional-Baseball Teams SNS.....	91
<i>S. Park, J. Lee, E. Cha</i>	
HEDS: Hybrid Deduplication Approach for Email Servers	97
<i>D. Kim, B. Choi</i>	
Next Generation Data Center Design Under Smart Grid	103
<i>M. Wiboonrat</i>	

Malicious Users Detection In Collaborative Spectrum Sensing Using Statistical Tests	109
<i>K. Arshad</i>	
A Cooperative Communications Architecture For Multimedia Quality Enhancement	114
<i>A. Kim, S. Jeong</i>	
Dynamic Addition And Deletion Of Device In N-Screen Environment	118
<i>J. Kim, F. Ulah, S. Lee, S. Jo, H. Lee, W. Ryu</i>	
Lagrange Multiplier Based Power Minimization Algorithm with Relay Selection in Cooperative System	123
<i>J. Jia, Z. Bai, X. Yang, J. Cui, K. Kwak</i>	
Outage Performance Of Incremental Relaying Scheme With Multiple Relays Over Cooperative Network	128
<i>K. Hwang</i>	
Space-Time Cooperative Diversity Relaying Strategy Using Partner Selection	130
<i>E. Kim, N. Park, Y. Kim</i>	
Field Measurements of IEEE 802.11p Based Vehicular Networking Entity	135
<i>T. Sukuvaara</i>	
Mobile-Based Vehicle Supplies Check Management System	140
<i>D. Jeong, J. Jang</i>	
Intelligent GPS-less Speed Detection and Clustering in VANET	145
<i>T. Chung, W. Cheng, F. Yuan</i>	
An Adaptive Antenna Switching Method For Energy Saving Based On Self Organizing Network In Tactical Mobile Communication System	151
<i>J. Cho</i>	
Transmission Mode Selection And Communication Establishment In The Hybrid Device-To-Device And Cellular Networks	156
<i>S. Xu, H. Wang</i>	
Group Handover Management In Mobile Femtocellular Network Deployment	162
<i>M. Chowdhury, S. Chae, Y. Jang</i>	
Airtime-based Resource Control in Wireless LANs for Wireless Network Virtualization	166
<i>K. Nakuchi, Y. Shoji, N. Nishinaga</i>	
Semi-Active Handover Algorithm Assisted On Location For Heterogeneous Wireless Networks	170
<i>J. Yiheng, S. Yong, W. Xiangming</i>	
Fair Admission Control Policies For Femtocell Operation	175
<i>M. Khan</i>	
A Window-Based Overload Control Considering The Number Of Confirmation Massages For SIP Server	180
<i>D. Hwang, J. Park, S. Yoo, K. Kim</i>	
Data Regeneration In Communication Networks	186
<i>S. Abdollahi, H. Al-Raweshidy, T. Owens</i>	
M8NoC: An 8-Degree Mesh-Based NoC Architecture	192
<i>N. Alzeidi, K. Day, A. Touzene, B. Arafeh</i>	
Considerations On Locator Selection By Multihomed Hosts In Future Internet	198
<i>V. Kafle, H. Harai</i>	
A Novel Routing And Wavelength Assignment In Virtual Network Mapping Based On The Minimum Path Algorithm	204
<i>V. Abedifar, M. Eshghi</i>	
A Context-Aware Data Replication Method For SNS	209
<i>J. Baek, B. Park, B. Lee, N. Kim</i>	
Web-Based Refractive Index Sensing By Using Enhanced Sensitivity Range Of LPG For Biological Solution	211
<i>Y. Katsuyama, T. Kanamori, K. Kawanishi, O. Koyama</i>	
Social Network Analysis Algorithm On A Many-Core GPU	217
<i>S. Seo, J. Kyong, E. Im</i>	
A Recent Popularity Based Dynamic Cache Management for Content Centric Networking	219
<i>S. Kang, S. Lee, Y. Ko</i>	
Comparative Study Of Push Schemes In Online Social Networking Services	225
<i>H. Ko, S. Pack, W. Lee</i>	
Dynamically Clustering Based Cooperative Spectrum Sensing with STBC Scheme	227
<i>X. Liang, Z. Bai, L. Wang, K. Kwak</i>	
Modified Proportional Fair Scheduling For Cognitive Radio Networks	232
<i>J. Lee, H. Park, N. Kim, Y. Yu</i>	

A Study On Interference Analysis Between DVB-T2 Broadcasting Service And TV White Space Device	234
<i>J. Choi, H. Chang, H. Choi, W. Lee</i>	
Dynamic Spectrum Sharing For OFDMA-Based Multi-Hop Cognitive Radio Networks With Priority	236
<i>S. Kako, T. Fujii, O. Takyu</i>	
Two-Step Softened Decision for Cooperative Spectrum Sensing in Cognitive Radio Networks	242
<i>R. Paul, Y. Choi</i>	
Network Lifetime Improvement by Relaying Node Re-Selection in the IEEE 802.15.6 BAN	247
<i>S. Kim, J. Kwon, J. Lee, C. Park, Y. Kim, H. Hwang</i>	
Genetic Expression Programming: A New Approach For QoS Traffic Prediction In EPONs	249
<i>I. Hwang, J. Lee, A. Liem</i>	
Adaptive Resource Allocation In Multicast OFDMA Transmissions Using Scalable Amortize Factor	255
<i>R. Afolabi, K. Kim</i>	
Resource Allocation For OFDMA Downlink With QOS Consideration	261
<i>A. Sani, A. Abbasfar, M. Fozooni</i>	
Quality Of Service Concept For Smart Home Services	266
<i>M. Hager, P. Begerow, P. Krasovsky, K. Renhak, J. Seitz</i>	
Call Admission Control And Traffic Modeling For Integrated Macrocell/Femtocell Networks	272
<i>M. Chowdhury, Y. Jang</i>	
Application Of A Multi-OLT PON System And Its Dynamic Bandwidth Allocation Algorithm	276
<i>F. Rawshan, M. Ju, Y. Park</i>	
Secure And Efficient Key Management Technique In Quantum Cryptography Network	280
<i>M. Pattaranantakul, A. Janthong, K. Sanguanman</i>	
Maintenance And Privacy In Unstructured Geocast Overlays For Smart Traffic Applications	286
<i>B. Heep, I. Baumgart</i>	
Securing Home Networks Using Physically Unclonable Functions	288
<i>S. Ruj, A. Nayak, S. Naik</i>	
Digital Watermarking With Network Bandwidth Efficiency For Multimedia Security	294
<i>C. Pun, J. Jiang</i>	
SIPE-SAP: SIP Extension For Signaling Attacks Protection	296
<i>P. Rodnikorn, N. Elz, L. Preechaveerakul</i>	
Analysis Of Wormhole Attack On MANETs Using Different MANET Routing Protocols	301
<i>M. Sadeghi, S. Yahya</i>	
Wireless Sensor Networks For Integrated Search And Rescue Efforts For Disaster Hit Areas	306
<i>U. Mehmood, U. Mansoor, D. Hwang, K. Kim, T. Lee, S. Yoo</i>	
A Unicast Based Gradient Routing Protocol For Asynchronous Duty-Cycling UWSNs	310
<i>S. Lee, H. Jeong, D. Kim</i>	
Delay Bound And Reliable Data Forwarding For Wireless Sensor Networks	312
<i>P. Suriyachai</i>	
RFID Anti-Collision Protocol For Monitoring System Of Tags In Motion	318
<i>H. Han, J. Park, T. Lee</i>	
Statistical Wormhole Detection For Mobile Sensor Networks	322
<i>S. Song, H. Wu, B. Choi</i>	
Adaptive Jitter Estimation For Voice-Over IP Networks	328
<i>H. Kim, S. Ryu</i>	
A Novel Hybrid Dynamic Bandwidth Allocation And Scheduling Scheme For The Integrated EPON And Wimax Architecture	330
<i>Z. Shyu, J. Lee, I. Hwang</i>	
Video Quality Assessment Based On Fast Structural Similarity Index Algorithm	336
<i>L. Zhen, S. Yong, Z. Jingjing, W. Xiangming, S. Tao</i>	
QoS Provisioning In CSMA/iCA Based Medium Access Control Protocol For WLAN	340
<i>S. Pudasaini, S. Shin</i>	
Service Provisioning With Quality-Of-Experience Support In IMS-Based IPTV	346
<i>T. Truong, N. Hung, N. Thanh</i>	
A Generic Quantitative Relationship Between Quality Of Experience And Packet Loss In Video Streaming Services	352
<i>S. Khorsandroo, R. Noor</i>	
An Energy Efficient Scheduling Algorithm For Cluster-Based Mobile Wireless Networks	357
<i>S. Kim</i>	
Multi-Cell Shared Multi-User MIMO Relay With User Pairing Control	363
<i>T. Fujii, Y. Houmura</i>	

A CP-SC-Based Two-Way Multiple-Relay System With Distributed Space-Frequency Block Coding	369
<i>H. Liu, K. Kim, K. Kwak</i>	
A Secure Cooperative Relay Transmission Using Chaos MIMO Scheme	374
<i>E. Okamoto</i>	
A Burst Overlapping And Scheduling Scheme (BOSS) In IEEE 802.16 OFDMA Systems	379
<i>C. Chiang, K. Shih</i>	
Network Storaging Service For Fragile Node Data	383
<i>B. Kim, H. Lee, B. Joo, J. Lee</i>	
Design Of Smart Driving Information Check System Using Smart Phone And Wireless Personal Area Network	389
<i>M. Kim, J. Jang, D. Jeong, S. Baek, M. Song</i>	
DDR-SSD And HDD Storage System Performance Evaluation In Unified Storage System For Cloud Computing	394
<i>S. Cheong, J. Jeong, Y. Jeong, S. Yang</i>	
A Ubiquitous, Infrastructure-Free Network For Interpersonal Communication	398
<i>E. Biagioni</i>	
Design For High Throughput SHA-1 Hash Function On FPGA	403
<i>J. Kim, H. Lee, Y. Won</i>	
FFS-FR: Flash File System For Fast Recovery	405
<i>S. Jung, J. Baek, D. Seo</i>	
Bandwidth Adaptation For Scalable Videos Over Wireless Networks	407
<i>M. Chowdhury, T. Nguyen, Y. Kim, W. Ryu, Y. Jang</i>	
Power Efficient Routing Algorithm For 3D Video Transmission In Bandwidth-Limited And Radio-Limited Wireless Networks	411
<i>H. Yen, F. Yap</i>	
Delay-Oriented Data Traffic Migration In Maritime Mobile Communication Environments	417
<i>L. Mu, A. Prinz</i>	
Enterprise Solution Of Bandwidth Optimization For Multimedia Transmission	423
<i>S. Amir, K. Kim, Y. Choi</i>	
Effective DDoS Attack Defense Scheme Using Web Service Performance Measurement	428
<i>N. Baik, S. Ahn, N. Kang</i>	
Optimizing Time Schedule Of Key Updates In ISA100.11a	434
<i>H. Jung, D. Hwang, W. Baig, K. Kim, S. Yoo</i>	
Packet Lost-Aware Handoff In Heterogeneous Wireless Networks	440
<i>T. Chung, K. Lee</i>	
Limited Feedback Design For Interference Alignment On MIMO Interference Networks With Asymmetric Path Loss And Spatial Correlations	446
<i>X. Rao, L. Ruan, V. Lau</i>	
Parameter Optimization Of Decode-And-Partial-Forward Scheme	452
<i>H. Joo, D. Shin</i>	
PAPR Reduction Using Tone Reservation For NC-OFDM Transmissions	454
<i>M. Yang, Y. Shin</i>	
CAAHR: Content Aware Adaptive HARQ Retransmission Scheme For 4G/LTE Network	456
<i>B. Tirouengadam, R. Radhakrishnan, A. Nayak</i>	
Segmented Content Delivery Scheme for Minimizing Server Cost in CDN	462
<i>J. Kim, J. Choi</i>	
Standardisation Policy Regarding Medical Device Interoperability - A proposal In France	464
<i>K. Bourquard, D. Bergognon, J. Schroeder, N. Noury</i>	
A Study On The Impact Of E-Sports Participation By Students With Mental Retardation On Their Self-Confidence And Social Skills	471
<i>Y. Kim, M. Choi, Y. Cha</i>	
Implementation Of Indoor Positioning Using LED And Dual PC Cameras	476
<i>B. Kim, J. Cho, Y. Park, K. Kim</i>	
System Verilog-Based Approach Of A Design Of Multiplication Server Farms	478
<i>S. Moon</i>	
Privacy-Preserving Web Search	480
<i>M. Kim, J. Kim</i>	
An Efficient Anti-Collision Protocol For Tag Identification In RFID Systems With Capture Effect	482
<i>S. Choi, J. Choi, J. Yoo</i>	
Performance Evaluation Of Mobile RFID Under Multiple BoMR Environments	484
<i>S. Ahn, J. Park, Y. Seong, H. Oh</i>	

An Implementation Of Laundry Management System Based On RFID Hanger And Wireless Sensor Network	490
<i>N. Van, S. Lee, C. Lee, K. Eom, K. Jung</i>	
Design And Implementation Of A Video Surveillance System For A Sensor Network Application Service.....	494
<i>H. Yu, S. Son, N. Kim, S. Oh, S. Ko, I. Park, S. Yoon, B. Lee</i>	
Cross -Layer QoS Routing Protocol For Multimedia Communications In Sensor Networks.....	498
<i>Z. Hamid, F. Bashir, J. Pyun</i>	
Data Dissemination Protocol With Hole Masking Algorithm In Grid-Based Wireless Sensor Networks.....	503
<i>S. Kim</i>	
Contention Resolution In OBS Using FDL_WA_WPREM In Hybrid Based Burst Assembly	509
<i>S. Sam, H. Sayuti, N. Fisal</i>	
EPP-IP: A Flexible And Automatic IP Address Registration Mechanism.....	515
<i>Y. Liu, Y. Tian, S. Shen, W. Mao</i>	
Correlated And Cascading Node Failures In Random Geometric Networks: A Percolation View	520
<i>Z. Kong, E. Yeh</i>	
Author Index	