

# **2007 6th International Conference on Information, Communications & Signal Processing**

**Singapore  
10-13 December 2007**

**Pages 1-438**



**IEEE Catalog Number: CFP07435-PRT**  
**ISBN 10: 1-4244-0982-9**  
**ISBN 13: 978-1-4244-0982-2**

# Table of Contents

<b>Singapore Rain Rate Distributions.....</b>	<b>1</b>
<i>See Chuan Leong, Yu Chiann Foo</i>	
<b>Prediction Based Handover for Multiclass Traffic in Wireless Mobile Networks : An Agent Based Approach .....</b>	<b>6</b>
<i>M.N.Birje, S.S.Manvi, M.S.Kakkasageri, S.V.Saboji</i>	
<b>Design and Implementation of a UWB Peer-to-Peer Communication Network.....</b>	<b>11</b>
<i>Xue Jun Li, Peter Han Joo Chong, Kok Shyang Chin, Yee Hui Lee, Ping Shum</i>	
<b>An Improved Feedback Neural Network for the Design of All-Pass Phase Equalizers.....</b>	<b>16</b>
<i>Yue-Dar Jou, Lo-Chyuan Su, Fu-Kun Chen</i>	
<b>MRF-Based Adaptive Approach for Foreground Segmentation under Sudden Illumination Change.....</b>	<b>21</b>
<i>Xiaolin Zhao, Si Luo, Li Zhang</i>	
<b>A Generic Interface Methodology for Bridging Application Systems and Speech Recognizers.....</b>	<b>25</b>
<i>Shih-Jung Peng, Deng-Jyi Chen</i>	
<b>Internetworking Security Model Based On Intelligent System .....</b>	<b>30</b>
<i>Surat Srinoy, Witcha Chimphlee</i>	
<b>Detection of Ventricular Arrhythmias Using Roots Location in AR-Modelling .....</b>	<b>35</b>
<i>Rahele Kafieh, Alireza Mehri, Rassoul Amirfattahi</i>	
<b>Comparison of Spectral Subtraction Methods used in Noise Suppression Algorithms.....</b>	<b>39</b>
<i>Mehdi Yektaeian, Rassul Amirfattahi</i>	
<b>Nonstationary Power Signal Processing and Pattern Recognition using Genetic Algorithm .....</b>	<b>43</b>
<i>B.Biswal, T.K Panda</i>	
<b>High Level Area Estimation of Custom Instructions for FPGA-based Reconfigurable Processors.....</b>	<b>48</b>
<i>Siew-Kei Lam, Wen Li, Thambipillai Srikanthan</i>	
<b>Engineering Polymeric Optical Fibers with Desired Properties.....</b>	<b>53</b>
<i>Xi Chen, Les Sztandera, Hugh Cartwright</i>	
<b>41-Channel Arrayed Waveguide Grating Multiplexer using UV Curable Polymer Operating around 1550nm.....</b>	<b>58</b>
<i>D.M. Zhang, C.M. Chen, H.M. Zhang, X.Z. Zhang, D. Zhang, S.K. Mu, X.L. Zhang, L. Li, J.F.Song</i>	
<b>Data and Decision Fusion for Distributed Spectrum Sensing in Cognitive Radio Networks.....</b>	<b>62</b>
<i>Ajay K K attepur, Anh Tuan Hoang, Ying-Chang Liang, Meng Joo Er</i>	
<b>Comparative Study of Input-Balanced Realization-Based Digital Filter Structures.....</b>	<b>67</b>
<i>Gang Li, Jingyu Hua, Chunru Wan</i>	
<b>Design of Stable Adaptive Recursive Filters Using a New Parametrization of 2nd Order Balanced Realizations .....</b>	<b>72</b>
<i>Gang Li, Chunru Wan, Guoan Bi</i>	
<b>Extension to Shannon's Channel Capacity ,,,The Theoretical Proof .....</b>	<b>77</b>
<i>Feng Man, Wu Lenan</i>	
<b>Performance Evaluation of Decision-Feedback Equalization in Terrestrial Microwave Radio.....</b>	<b>81</b>
<i>Sheng-Chou Lin, Yuan-Hong Luo, Yuan-Po Hsu</i>	
<b>Multi Frame Guided Local Search for Semiautomatic Endocardial Contour Estimation in Echocardiography Sequences .....</b>	<b>86</b>
<i>Prashant Bansod, U.B. Desai, Nitin Burkule</i>	
<b>A New Way to Encode and Exchange Information in Free-space.....</b>	<b>91</b>
<i>Bharat K. Yadav, R. Mehrotra, H. C. Kandpal, S.A.M. Rizvi</i>	

# Table of Contents

<b>Improvement in the Grade-of-Service in a Cooperative Overlay Heterogeneous Network.....</b>	<b>96</b>
<i>Pak Kay Tang, Yong Huat Chew, Ling Chuen Ong Michael</i>	
<b>Broadband Suspended Plate Antenna for WiFi/WiMAX Applications.....</b>	<b>101</b>
<i>Xue Ni Low, Wee Kian Toh, Zhi Ning Chen</i>	
<b>Performance of Dual Switch-and-Stay Diversity NCFSK Systems over Two-Wave with Diffuse PowerFading Channels.....</b>	<b>106</b>
<i>W.S. Lee, S.H. Oh</i>	
<b>Transformation Matrix for Odd-Order Lagrange-Type Variable Fractional-Delay Filters.....</b>	<b>111</b>
<i>Tian-Bo Deng</i>	
<b>Arbitrary-Order Non-Causal Lagrange-Type Variable Fractional-Delay Digital Filters .....</b>	<b>116</b>
<i>Tian-Bo Deng</i>	
<b>Weighted-Least-Squares Design of Odd-Order Variable Fractional-Delay Filters Using Coefficient-Symmetry .....</b>	<b>121</b>
<i>Tian-Bo Deng</i>	
<b>High-Throughput Hardware-Efficient Digit-Serial Architecture for Field Multiplication over GF(2<sup>m</sup>) .....</b>	<b>126</b>
<i>P.K. Meher</i>	
<b>Weighting Multi-Block Two-Dimensional Linear Discriminant Features for Face Verification .....</b>	<b>131</b>
<i>Jian-Gang Wang, Eric Sung, Wei-Yun Yau</i>	
<b>Queue Based Scheduling for IEEE 802.16 Wireless Broadband.....</b>	<b>136</b>
<i>K.R. Raghu, Sanjay K. Bose, Maode Ma</i>	
<b>A New Approach for Secure Wireless Transmission of Images .....</b>	<b>141</b>
<i>K.Deergha Rao</i>	
<b>A Multimodal Augmented Reality DJ Music System .....</b>	<b>146</b>
<i>Farzam Farbiz, Ka Yin Tang, Kejian Wang, Waqas Ahmad, Corey Manders, Chong Jyh Herng, Yeow Kee Tan</i>	
<b>A New Embedding Method for Robust ISS-Watermarking .....</b>	<b>151</b>
<i>Yousof Erfani, Mohammad Adeli</i>	
<b>A Wavelet-based Image Interpolation Approach For Vertical Pixel Mixture CCD.....</b>	<b>156</b>
<i>Wei-Yu Yu, Sheng-Li Xie, Guo-Hua Li</i>	
<b>A Decentralized Incentive Mechanism for P2P File Sharing Systems .....</b>	<b>160</b>
<i>Jie Zhang, Zheng Zhao, Yi Gong</i>	
<b>Adaptive Antenna System using Cascaded Butler Matrices.....</b>	<b>165</b>
<i>Sharul Kamal Abdul Rahim, Peter Gardner</i>	
<b>Edge-Adaptive Super-Resolution Image Reconstruction Using A Markov Chain Monte Carlo Approach.....</b>	<b>169</b>
<i>Jing Tian, Kai-Kuang Ma</i>	
<b>Fast Progressive Image Retrieval Schemes Based on Updating Enhanced Equal-average Equal-variance K-Nearest Neighbour Search in Vector Quantised Feature Database.....</b>	<b>174</b>
<i>Wei-Min Zheng, Zhe-Ming Lu, Hans Burkhardt</i>	
<b>Precise Clock Distribution in Beacon Enabled, Meshed IEEE 802.15.4/ZigBee Networks.....</b>	<b>179</b>
<i>Ralf Burda, Andreas Lewandowski, Christian Wietfeld</i>	
<b>Effect of Filtering and Turbo Coding on the Performance of Clipped MB-OFDM UWB Signals.....</b>	<b>184</b>
<i>K. Deergha Rao, T.S.N. Murthy</i>	
<b>Blind Channel Estimation using Linear Predictive Techniques with Turbo Decoding in a SIMO FIR Channel.....</b>	<b>189</b>
<i>Manjeet Singh, Y.S. Kwok</i>	

# Table of Contents

<b>Automatic Phonetic Segmentation of Malay Speech Database</b> .....	194
<i>Chee-Ming Ting, Sh-Hussain Salleh, Tian-Swee Tan, A. K. Ariff</i>	
<b>Improved ISAR Imaging Based on Local Polynomial Fourier Transform</b> .....	198
<i>Xiumei Li, Guoan Bi, Yingtuo Ju</i>	
<b>Fano Detection Algorithm for MIMO Systems</b> .....	203
<i>Vu Toan Pham, Zhongding Lei, T. T. Tjhung</i>	
<b>A Novel Quality Measure for Time-scale Modified Speech</b> .....	208
<i>Fu-Kun Chen, Yue-Dar Jou</i>	
<b>Minimum Sum-Power Design of a Cooperative System using the Decode and Forward Protocol</b> .....	213
<i>Daniele Veronesi, Nevio Benvenuto</i>	
<b>Pricing-based Service and Network Selection in Overlaid Access Networks</b> .....	218
<i>Shamik Sengupta, Mainak Chatterjee, Kevin Kwiat</i>	
<b>Conjugate Gradient Algorithm Design with RLS Normal Equation</b> .....	223
<i>Zhao Shengkui, Man Zhihong, Khoo Suiyang</i>	
<b>Properties and Hardware Implementation of New Fastest Linearly Independent Ternary Arithmetic Transforms</b> .....	228
<i>Cicilia C. Lozano, Bogdan J. Falkowski</i>	
<b>Delay Computation for Real-Time Synchronization of Speech and its Converted Text</b> .....	233
<i>Hamida Qumber Ali, Jameel Ahmed, Mohammed Yakoob Siyal</i>	
<b>Intrusive Speech Transmission Quality Measurement in Chinese Environment</b> .....	238
<i>Jan Holub, Liu Jianjun</i>	
<b>A Family of Flexible NLMS-type Adaptive Filter Algorithms</b> .....	241
<i>John Hakon Husøy, Mohammad Shams Esfand Abadi</i>	
<b>Signal Strength Based Positioning of Wireless Ad Hoc Network Sensors</b> .....	246
<i>Lay Ying Tan, Choi Look Law, Sanjay Kumar Bose</i>	
<b>Low-Quality Fingerprint Recognition Using Three-Rate Hybrid Kohonen Neural Network</b> .....	251
<i>Igor Astrov, Svetlana Tatarly, Sergei Tatarly, Ennu Rüstern</i>	
<b>A New Convolutional Formulation of Discrete Cosine Transform for Systolic Implementation</b> .....	256
<i>P.K. Meher, J.C. Patra</i>	
<b>Throughput Improvement of Adaptive Modulation System with Optimal Turbo Coded V-BLAST Technique using a STD Scheme</b> .....	260
<i>Kyunghwan Lee, Sangjin Ryoo, Gilsang Yoon, Insik Cho, Intae Hwang, Daeki Hong, Cheolwoo Yoo</i>	
<b>Channel Capacity Enhancement Scheme for Satellite Communication System</b> .....	264
<i>Seung Hyun Choi, Cheon Sig Sin, Sang Uk Lee, Jae Hoon Kim</i>	
<b>Iterative Receiver Based on Local Search Algorithms for Coded Multiuser MIMO Channels</b> .....	268
<i>Zhiliang Qin, Xiaoxin Zou, Kui Cai</i>	
<b>Robust Modulation Classification for PSK/QAM/ASK Using Higher-order Cumulants</b> .....	273
<i>M.R. Mirarab, M.A. Sobhani</i>	
<b>Diversity Exploiting MIMO-OFDMA Ranging</b> .....	277
<i>Jianqiang Zeng, Hlaing Minn</i>	
<b>Development of an Algorithm for Media Conversion between Music and Color Combination based on Impressions</b> .....	282
<i>Makoto KAWANOBE, Masashi KAMEDA</i>	
<b>An Adaptive Decomposition Method for Video</b> .....	288
<i>Ranjit Kumar Tulabandu, Ashwin A.C., K.R.Ramakrishnan</i>	

# Table of Contents

<b>Comparison of Retrieval Effectiveness of Different Region Based Image Representations.....</b>	<b>293</b>
<i>Md Monirul Islam, Dengsheng Zhang, Guojun Lu</i>	
<b>On the Capacity of Frequency Division Gaussian MIMO Relay Channels.....</b>	<b>297</b>
<i>Yong Xiao, Guoan Bi</i>	
<b>Building an Automated Trust Negotiation System .....</b>	<b>302</b>
<i>Hai Jin, Zhensong Liao, Deqing Zou, Chisong Li</i>	
<b>Semi-Data-Aided Carrier Synchronization for QPSK Burst Transmissions .....</b>	<b>307</b>
<i>Yunpeng Hu, Hongyi Yu, Bo Liu, Hanying Hu</i>	
<b>Wireless Data Gloves Malay Sign Language Recognition System.....</b>	<b>312</b>
<i>Tan Tian Swee, A.K. Ariff, Sh-Hussain. Salleh, Siew Kean Seng, Leong Seng Huat</i>	
<b>Audio Watermarking Technique using Binary Image in Wavelet Domain.....</b>	<b>316</b>
<i>B. Charmchamras, S. Kaengin, S. Airphaiboon, M. Sangworasil</i>	
<b>An Improved Distributed Dynamic Channel Assignment Scheme for Dense WLANs .....</b>	<b>319</b>
<i>Micheal Drieberg, Fu-Chun Zheng, Rizwan Ahmad, Sverrir Olafsson</i>	
<b>Terminal Sliding Mode Control for MIMO T-S Fuzzy Systems .....</b>	<b>324</b>
<i>Khoo Suiyang, Man Zhihong, Zhao Shengkui</i>	
<b>Efficient Image Compression Using Directionlets .....</b>	<b>329</b>
<i>Vladan Velisavljevic, Baltasar Beferull-Lozano, Martin Vetterli</i>	
<b>Security Analysis and Improvement of an Anonymous DoS-Resistant Access Control Protocol.....</b>	<b>334</b>
<i>Joseph Chee Ming Teo, Chik How Tan</i>	
<b>A Novel Error Resilience using Reversible Data Embedding in H.264/AVC.....</b>	<b>339</b>
<i>SHINFENG D. LIN, HSIANG-CHENG MENG, YU-LUNG SU</i>	
<b>On Some Applications of the Distribution of Ordered Eigenvalues of Wishart Matrices.....</b>	<b>344</b>
<i>Raymond Kwan, Cyril Leung, Paul Ho</i>	
<b>A Novel MMSE Detection Technique for DS-CDMA .....</b>	<b>349</b>
<i>Tao Luo, Gang Wu, Shaoqian Li, Yong Liang Guan, Choi Look Law</i>	
<b>Filter Requirements for Wideband Mobile Radio Systems .....</b>	<b>353</b>
<i>Cornelis Jan Kikkert</i>	
<b>Towards Building an Experiential Music Visualizer .....</b>	<b>358</b>
<i>Suranga Chandima Nanayakkara, Elizabeth Taylor, Lonce Wyse, S.H. Ong</i>	
<b>A QR Decomposition based Mixture Model Algorithm for Background Modeling .....</b>	<b>363</b>
<i>Mahmood Amintoosi, Farzam Farbiz, Mahmood Fathy</i>	
<b>Controllable Mappings: Analysis and Implementation in Systems with Additive Independent Discrete Time Gaussian source.....</b>	<b>368</b>
<i>Horace L. KING</i>	
<b>Improved Turbo SICMMSE Equalization for Coded Intersymbol Interference Channels .....</b>	<b>372</b>
<i>Xiaoxin Zou, Zhiliang Qin, Kui Cai</i>	
<b>Robust Supergain Array in Noise Fields.....</b>	<b>377</b>
<i>Lei Lei, Henry Lew</i>	
<b>Implementation and Applications of Consistent Resampling .....</b>	<b>381</b>
<i>Beilei Huang, Edmund M-K. Lai, A.P. Vinod</i>	
<b>Progressive Compression and Surface Analysis for 3D Animation Objects using Temporal Discrete.....</b>	<b>386</b>
<i>Juin-Ling Tseng</i>	
<b>A Skeletonization Technique Based on Delaunay Triangulation and Piecewise Bezier Interpolation.....</b>	<b>391</b>
<i>Josh H.M. Lam, Y. Yam</i>	

# Table of Contents

<b>A Novel Robust Beamformer Based on Linear Optimization.....</b>	<b>396</b>
<i>Zhu Liang YU, Wee SER, Meng Hwa ER</i>	
<b>Unsupervised Classification of Events: A Semantic Rule Based on Color Moments of Background and Foreground Method.....</b>	<b>400</b>
<i>P. Shivakumara, G. S. V. S Sivaram, Basavaraj S. Anam</i>	
<b>A Downlink Data Region Allocation Algorithm for IEEE 802.16e OFDMA .....</b>	<b>405</b>
<i>A. Bacioccola, C. Cicconetti, L. Lenzi, E. Mingozzi, A. Ertu</i>	
<b>Robust Connected Digit Recognition using Speech Enhancement and an Auditory Model Front-End .....</b>	<b>410</b>
<i>Ronan Flynn, Edward Jones</i>	
<b>Connectivity and Route Analysis for a Maritime Communication Network .....</b>	<b>414</b>
<i>Yu Ge, Peng-Yong Kong, Chen-Khong Tham, Jaya Shankar Pathmasuntharam</i>	
<b>Dynamic Subcarrier Sharing Algorithms for Uplink OFDMA Resource Allocation .....</b>	<b>419</b>
<i>Bin Da, C.C.Ko</i>	
<b>Adaptive Power Allocation for Multi-hop OFDM Relaying Systems .....</b>	<b>424</b>
<i>Xiaojuan Zhang, Yi Gong</i>	
<b>Radial Basis Function Implementation of Intelligent Pressure Sensor on Field Programmable Gate Array .....</b>	<b>429</b>
<i>Jagdish C. Patra, Theodora A. Devi, Pramod K. Meher</i>	
<b>Equalized Orthogonal Map-based DNA Microarray Data Analysis for Cancer Diagnosis .....</b>	<b>434</b>
<i>Jagdish C. Patra, Sineepong Detpongsante, Pramod K. Meher, Ee Luang Ang</i>	
<b>A Complex-Envelope Based Digital Phase Locked Loop with an arctan Phase Detector Implemented on FPGA and Performance Analysis.....</b>	<b>439</b>
<i>Sithampanathan Kandeepan, Omar Hashmi, Qian Zheng</i>	
<b>20 GHz Specific Attenuation Calculations using Drop Size Distributions and Drop Shape Measurements from 2D Video Disdrometer Data in Different Rain Climates.....</b>	<b>444</b>
<i>M Thurai, V N Bringi, T Shimomai</i>	
<b>A Novel Weighting Technique for Combining Likelihood Scores in Language Identification Systems .....</b>	<b>448</b>
<i>Bo Yin, Eliathamby Ambikairajah, Fang Chen</i>	
<b>A Cross-layer Design of Packet Scheduling and Resource Allocation for Multiuser MIMO-OFDM Systems .....</b>	<b>453</b>
<i>Jiang Yu, Yueming Cai, Yuehuai Ma, Dongmei Zhang, Youyun Xu"</i>	
<b>GPS and UWB Integration for Indoor Positioning.....</b>	<b>458</b>
<i>Kian Meng Tan, Choi Look Law</i>	
<b>Machine Learning for Tongue Diagnosis.....</b>	<b>463</b>
<i>Siu Cheung Hui</i>	
<b>Noise Robust AM_FM Demodulation using Least-Squares Truncated Power Series Approximation .....</b>	<b>468</b>
<i>Wooi-Boon Goh</i>	
<b>Examining the Criminology of Bot Zoo .....</b>	<b>473</b>
<i>Jivika</i>	
<b>Causes of Degradation of C/N and Its Mitigation in Satcom .....</b>	<b>479</b>
<i>Avadh Nandra, Jivesh Govil, Jivika Govil</i>	
<b>Audio Protection with Removable Watermarking .....</b>	<b>485</b>
<i>Mikko Löytynoja, Nedeljko Cvejic, Tapio Seppänen</i>	
<b>BER Performance of Transmitted-Reference UWB Systems with Notch Filter in the Presence of Inter-Pulse Interference and Partial-Band Interference.....</b>	<b>489</b>
<i>S. Cui, K. C. Teh, K. H. Li, Y. L. Guan, C. L. Law</i>	

# Table of Contents

<b>Wyner-Ziv Video Coding Based on Perception Analysis .....</b>	<b>494</b>
<i>Z. Gu, W. Lin</i>	
<b>On the Integration of Resource Sharing and Relaying Paradigms to Improve the Efficiency of B3G Systems .....</b>	<b>499</b>
<i>Mehdi Bennis, Jorma Lilleberg</i>	
<b>Design of WLS FIR Filters with Group Delay Constraint .....</b>	<b>504</b>
<i>Yongzhi Liu, Zhiping Lin</i>	
<b>Optimal Filtering for Continuous-Time Linear Systems with Time-Varying Delay .....</b>	<b>508</b>
<i>Wei Wang, Huanshui Zhang, Lihua Xie</i>	
<b>A Novel Parametric Estimation Algorithm for Non-Gaussian Processes Experiencing Impulsive.....</b>	<b>514</b>
<i>Preston D. Frazier, M. F. Chouikha</i>	
<b>Detecting Network Events via T-Entropy.....</b>	<b>518</b>
<i>Ulrich Speidel, Raimund Eimann, Nevil Brownlee</i>	
<b>A Routing Protocol with Energy and Traffic Balance Awareness in Wireless Ad Hoc Networks .....</b>	<b>523</b>
<i>Yang Qin, Y.Y. Wen, H.Y. Ang, Choon Lim Gwee</i>	
<b>Radial Krawtchouk Moments for Rotational Invariant Pattern Recognition.....</b>	<b>528</b>
<i>P. Ananthraj, A. Venkataramana</i>	
<b>Multiuser MIMO-TDMA With Statistical Feedback .....</b>	<b>533</b>
<i>Jia Chen, Kai-Kit Wong</i>	
<b>Human Detection in Non-Urban Environment Using Infrared Images.....</b>	<b>538</b>
<i>Jianchao Zeng, Aya Sayedelahl, M. F. Chouikha, E. Thomas Gilmore, Preston D. Frazier</i>	
<b>Sign Language Phoneme Transcription with PCA-based Representation .....</b>	<b>542</b>
<i>W.W.Kong, Surendra Ranganath</i>	
<b>Accelerated Euclidean Direction Search Algorithm and Related Relaxation Schemes for Solving Adaptive Filtering Problem.....</b>	<b>547</b>
<i>Noor Atinah Ahmad</i>	
<b>A Fast Converging Multi-user Detection for IDMA Based on Time-Reversal.....</b>	<b>552</b>
<i>Xingzhong Xiong, Jianhao Hu, Lan Tian</i>	
<b>Implementation of a 20Mbps High-Speed Base-Band Processing unit with Synchronisation: A Communications Test-Bed .....</b>	<b>556</b>
<i>Sithamparanathan Kandeepan, Bijan Rohani, Manora Caldera</i>	
<b>Energy-Efficient Time-Bounded Wireless Sensing Networks.....</b>	<b>561</b>
<i>Y. F. Wong, L. H. Ngoh, W. C. Wong</i>	
<b>Connecting Sensor Networks with IP using A Configurable Tiny TCP/IP Protocol Stack .....</b>	<b>566</b>
<i>Guangjie Han, Maode Ma</i>	
<b>Energy Detection Under Narrowband Interference In UWB Systems .....</b>	<b>571</b>
<i>Yohannes D. Alemseged, Klaus Witrisal</i>	
<b>A Secure, Fault-Tolerant and Progressive Image Transmission Method Using Embedded Shadows .....</b>	<b>576</b>
<i>Chin-Pan Huang, Ching-Chung Li</i>	
<b>BER Analysis of Decouple-and-Forward Relaying for Dual-Hop Alamouti Transmissions over Rayleigh Fading Channels .....</b>	<b>581</b>
<i>In-Ho Lee, Dongwoo Kim</i>	
<b>An Adaptive Frequency and Time Hopping PPM UWB for Multiple Access Communication .....</b>	<b>586</b>
<i>G.S. Biradar, S.N. Merchant, U. B. Desai</i>	

# Table of Contents

<b>A Competitive Clustering Scheme for Prolonging the Lifetime of Wireless Sensor Networks.....</b>	<b>591</b>
<i>Mohsen Tolou Honary, Jalil Chitizadeh, Farzad Tashtarian</i>	
<b>Statistical Evaluation of the Effect of Gender on Prosodic Parameters and their Influence on Gender-Dependent Speech Recognition.....</b>	<b>596</b>
<i>D. Gharavian, S.M. Ahadi</i>	
<b>Quantifiers for Data Warehouse Operations .....</b>	<b>601</b>
<i>Bhawna, Parimala N.</i>	
<b>LDA Enhanced Moments.....</b>	<b>606</b>
<i>Pew-Thian Yap, Xudong Jiang, Alex Chichung Kot</i>	
<b>Performance of Diffused Indoor Optical Wireless Links Employing Neural and Adaptive Linear Equalizers .....</b>	<b>611</b>
<i>Z. Ghassemlooy, Sujan Rajbhandari</i>	
<b>Efficient Significant Point Generation Technique for Shape Descriptor.....</b>	<b>617</b>
<i>M. R. Rahman, M. A. Ali , M. S. Islam, G. Sorwar</i>	
<b>Maintaining Track Continuity in GMPHD Filter.....</b>	<b>622</b>
<i>Nam Trung Pham, Weimin Huang, S.H. Ong</i>	
<b>A Mechanism for Detection of Gray Hole Attack in Mobile Ad Hoc Networks.....</b>	<b>627</b>
<i>Jaydip Sen, M. Girish Chandra, Harihara S.G., Harish Reddy, P. Balamuralidhar</i>	
<b>Performance Analysis of Asynchronous Band-limited DS-CDMA Systems in Generalized-K Fading with Multitone Jamming .....</b>	<b>632</b>
<i>Haider Mehdi, Kah C. Teh, Kwok H. Li</i>	
<b>Effect of Chip Waveforms on the Performance of DS-SS in the presence of Multitone Jamming over Generalized-K Fading Channels .....</b>	<b>637</b>
<i>Haider Mehdi, Kah C. Teh, Kwok H. Li</i>	
<b>MIMO-OFDM Systems Based on Space-Time Coding and OFDM Carrier Block Spreading.....</b>	<b>642</b>
<i>Qian Li, Kwok H. Li, Kah C. Teh</i>	
<b>Fast Search Algorithm for High Dimensional Pattern Analysis.....</b>	<b>647</b>
<i>Zhu Jiaqi, Sirajudeen Gulam Razul</i>	
<b>Packet Detection Scheme using Cross Correlation and Complex Multiplication in MB-OFDM UWB System .....</b>	<b>651</b>
<i>Byoung-Hak KIM, Cheol-Ho SHIN, Sangsung CHOI</i>	
<b>Discrimination of Respiratory Sounds Based on a New Adaptive Function .....</b>	<b>656</b>
<i>F.Jin, F.Sattar, S.G.Razul, D.Y.T. Goh</i>	
<b>Image Demosaicking based on Chrominance Regularization with Region-Adaptive Weights.....</b>	<b>660</b>
<i>Osama A. Omer, Toshihisa Tanaka</i>	
<b>Diversity and Decision-Feedback Equalization in Cellular Mobile Radio with Cochannel Interference.....</b>	<b>665</b>
<i>Sheng-Chou Lin, Yuan-Po Hsu</i>	
<b>A Secure and Robust Audio Watermarking Scheme Using Multiple Scrambling and Adaptive Synchronization .....</b>	<b>671</b>
<i>Yiqing Lin, Waleed H. Abdulla</i>	
<b>Independent Component Analysis: An Application for Muscular Contraction Classification.....</b>	<b>676</b>
<i>S. Daochai, D. Sueaseanak, T. Chanwimalueang, N. Laoopugsin, C. Pintavirooj</i>	
<b>An Empirical Study of Filesystem Activity Following a SSH Compromise.....</b>	<b>680</b>
<i>Jesus Molina, Joe Gordon, Xavier Chorin, Michel Cukier</i>	
<b>High-Order Current-Mode Low-Pass, High-Pass and Band-Pass Filter Responses Employing CCCIs.....</b>	<b>685</b>
<i>Shahram Minaei, Erkan Yuce</i>	



# Table of Contents

<b>A Novel Rate-Quality Model based H.264/AVC Frame Layer Rate Control Method.....</b>	<b>689</b>
<i>Li Zhuo, Xuejuan Gao, Zhiyong Wang, David Dagan Feng, Lansun Shen</i>	
<b>Mitigation of Simultaneous Switching Noise in High Speed Circuit Using Electromagnetic Bandgap Structures with Interdigital Meander Bridge.....</b>	<b>694</b>
<i>Kuo-Chiang Hung, Ding-Bing Lin, Chun-Te Wu, Leon Wu</i>	
<b>Joint Design of Concatenated SPC Codes and QAM Modulation.....</b>	<b>699</b>
<i>Dengsheng Lin, Shaoqian Li</i>	
<b>Performance Analysis of Cyclic Delay Diversity on UWB OFDM Systems .....</b>	<b>703</b>
<i>Poramate Tarasak, Khiam-Boon Png, Xiaoming Peng</i>	
<b>Overlay and Tiered Multicast IP/ASON Testbed in Yangtze River Delta Region.....</b>	<b>708</b>
<i>Weisheng Hu, Yaohui Jin, Weiqiang Sun, Wei Guo, Jun Sun, Jun Zhou</i>	
<b>Distraction in GVF-based Segmentation .....</b>	<b>713</b>
<i>Jierong Cheng, Say-Wei Foo</i>	
<b>Soft Decision Histogram-Based Image Binarization for Enhanced ID Recognition .....</b>	<b>717</b>
<i>Taekyung Kim, Joonki Paik</i>	
<b>Skeleton Based 3D Mesh Deformation.....</b>	<b>721</b>
<i>Ma Zhanguo, Liu Bo, Zhang Hongbin</i>	
<b>The Time Domain-Based Interpolation and Decimation Processing for N-tone Sigma-Delta Circuit in UWB-OFDM Transceiver .....</b>	<b>726</b>
<i>Jeich Mar, You-Rong Lin</i>	
<b>An Adaptive Smoothing Technique for Random Noise Suppression in fMRI Data .....</b>	<b>731</b>
<i>Mohammed Yakoob Siyal, Syed Muhammad Monir</i>	
<b>Limited Feedback Grassmann Precoding for Threaded Algebraic Space-Time Codes .....</b>	<b>735</b>
<i>Haiyang Huang, Shaoqian Li</i>	
<b>Detection and Localization of the Scatterers via DORT method.....</b>	<b>740</b>
<i>Dinh-Quy Nguyen, Woon-Seng Gan, Yong-Kim Chong</i>	
<b>The Design of a Ka band Satellite Beacon Receiver .....</b>	<b>745</b>
<i>Cornelis Jan Kikkert</i>	
<b>Joint MS-GSC Combining and Multi-User High Speed Data Scheduling.....</b>	<b>750</b>
<i>Slim Ben Halima, Mohamed-Slim Alouini, Khalid A. Qaraqe</i>	
<b>Polarization of Wall Currents for a Planar Helix Enclosed in a Rectangular Waveguide.....</b>	<b>755</b>
<i>Koustuban Ravi, Sheel Aditya</i>	
<b>Speech Recognition Engine Adaptions For Smart Home Dialogues .....</b>	<b>760</b>
<i>Ian Vince McLoughlin, Hamid Reza Sharifzadeh</i>	
<b>A Scheduling Algorithm with Minimum Message Loss Rate in WDM Optical Networks.....</b>	<b>765</b>
<i>Xiaohong Huang, Maode Ma, Yan Ma</i>	
<b>Leasing Cost Optimizations for Networks with On-Demand Leased Lines .....</b>	<b>770</b>
<i>Robert G. Prinz</i>	
<b>Feedback-Aided Selective Subspace Retransmission for Outage-Free Spatial Multiplexing .....</b>	<b>775</b>
<i>Thomas Hunziker, Thomas Edlich, Dirk Dahlhaus</i>	
<b>Incremental Association Rule Mining Using Promising Frequent Itemset Algorithm.....</b>	<b>780</b>
<i>Ratchadaporn Amornchewin, Worapoj Kreesuradej</i>	
<b>Analysis and Simulation of Traffic Control Algorithm for Packet Switching Networks .....</b>	<b>785</b>
<i>Ushadevi M B, H M Mahesh, H M Ravikumar</i>	

# Table of Contents

<b>Robust Baud Rate Blind Equalization for ATSC DTV Receivers</b> .....	789
<i>Thomas G. B. Wilson</i>	
<b>Mobility Estimation for Wireless Networks using Round Trip Time (RTT)</b> .....	794
<i>Asad Saeed, Syed Faraz Naseem, Zainab R. Zaidi</i>	
<b>Overlap Cut Frequency Domain Equalization for Two-Layer Spreading CDMA Uplink System</b> .....	799
<i>Khiam-Boon Png, Xiaoming Peng, Farn-Wei Khong, A. S. Madhukumar</i>	
<b>Scalable Image Coder for Mobile Device</b> .....	803
<i>Yang Yang, Ee-Leng Tan, Woon-Seng Gan, Yong-Kim Chong</i>	
<b>On Local Link Repairing in Complex Communication Networks under Intentional Attack</b> .....	808
<i>Shi Xiao, Gaoxi Xiao</i>	
<b>Bias of Higher Order Predictive Interpolation for Sub-pixel Registration</b> .....	813
<i>Donald G Bailey, Andrew Gilman</i>	
<b>A Novel Antenna Based On Confined Planar Helix</b> .....	818
<i>A. Khurrrum Rashid, Zoebir, K. Tan, S. Aditya, D. Lim</i>	
<b>Optical Transmission Performance of a Radio-over-Fiber System for Wireless LAN</b> .....	821
<i>Gurprakash Singh, Arokiaswami Alphones</i>	
<b>Joint Scheduling of Computation and Network Resource in Optical Grid</b> .....	826
<i>Yaohui Jin, Yan Wang, Wei Guo, Weiqiang Sun, Weisheng Hu</i>	
<b>Infrared Facial Recognition Using Modified Blood Perfusion</b> .....	831
<i>Shiqian Wu, Zhenghui Gu, Kia Ai Chia, Sim Heng Ong</i>	
<b>Theory and Lattice Structures for Multichannel FIR Filter Banks with Customized Filter Lengths</b> .....	836
<i>Zhiming Xu, Anamitra Makur</i>	
<b>Cascadable Current-mode Multifunction Filter with Two Inputs and Three Outputs Using CDTAs</b> .....	841
<i>Teerasilapa DUMAWIPATA, Worapong TANGSRIRAT, Wanlop SURAKAMPONTORN</i>	
<b>A Multi-Sample Single-Source Model Using Spectrographic Features For Biometric Authentication</b> .....	845
<i>Salina Abdul Samad, Dzati Athiar Ramli, Aini Hussain</i>	
<b>Current-mode Universal Biquad with Orthogonal <math>\epsilon</math>-Q Tuning Using OTAs</b> .....	850
<i>Pratya Mongkolwai, Tattaya Pukkalanun, Worapong Tangsrirat</i>	
<b>A Note on the Performance of TCP over HSDPA</b> .....	854
<i>Aun Haider, Richard Harris</i>	
<b>On the Generalization of Incremental Learning RBF Neural Networks trained with Significant Patterns</b> .....	859
<i>T N Nagabhushan, S K Padma</i>	
<b>Score Weighting in Speaker Verification Systems</b> .....	864
<i>Mohaddeseh Nosratighods, Eliathamby Ambikairajah, Julien Epps, Michael Carey</i>	
<b>Measurement and Characterization of a Forested Channel with SIMO System</b> .....	868
<i>Yu Song Meng, Yee Hui Lee, Boon Chong Ng, Jin Teong Ong</i>	
<b>A Novel approach to Fetal ECG Extraction and Enhancement Using Blind Source Separation (BSS-ICA) and Adaptive Fetal ECG Enhancer (AFE)</b> .....	872
<i>Abhinav Gupta, M.C.Srivastava, Vineet Khandelwal, Abhilekh Gupta</i>	
<b>A Practical Path Loss Model For Indoor WiFi Positioning Enhancement</b> .....	876
<i>Atreyi Bose, Chuan Heng Foh</i>	
<b>Multi-Polarity Complex Hadamard Transforms for Phase Watermarking Algorithm</b> .....	881
<i>Bogdan J. Falkowski</i>	
<b>Two-Channel Time-Frequency Audio Watermarking</b> .....	886
<i>Richard Nathaniel Hertanto, Say-Wei Foo</i>	

# Table of Contents

<b>The Multipath Delay Spread Model for the LOS Case in Urban Areas</b> .....	890
<i>Jong Ho Kim</i>	
<b>Joint Effect of Power Control, Access Control, and Multi-hop Transmission on Area Spectral Efficiency of Cognitive Radio System</b> .....	894
<i>Naotaka SHIBATA, Koji YAMAMOTO, Hidekazu MURATA, Susumu YOSHIDA</i>	
<b>Subspace based Algorithm for Error Localization of Complex DFT Codes</b> .....	899
<i>Anil Kumar A, Anamitra Makur</i>	
<b>Robust Eyeball Segmentation in Noisy Iris Images using Fourier Spectral Density</b> .....	904
<i>N. B. Puhan, N. Sudha, Xudong Jiang</i>	
<b>Design and Performance of LDPC Codes Extended with Parity-Check Symbols from a Larger Alphabet</b> .....	909
<i>Elisa Mo, Marc A. Armand</i>	
<b>Automatic Video Background Replacement Using Shape-Based Probabilistic Spatio-Temporal Object Segmentation</b> .....	914
<i>Rakib Ahmed, Gour C. Karmakar, Laurence S. Dooley</i>	
<b>Iris Recognition on Edge Maps</b> .....	918
<i>N. Sudha, N. B. Puhan, Hua Xia, Xudong Jiang</i>	
<b>A Web Service-Based Portal Framework for Distance Learning on Power Line Network</b> .....	922
<i>Khosro Bahrami, Mehrnoosh Abedi, Behzad Daemi</i>	
<b>Architecture of the Modified Block-Type Low-Density Parity-Check Code Decoding Design</b> .....	927
<i>Kuang-Hao Lin, Robert C. Chang, Sheng-Dong Wu</i>	
<b>A Simple and Bandwidth Efficient Staggered Broad-casting Protocol for Hot Videos in VoD Service</b> .....	931
<i>Yong-Hwan Shin, Seong-Min Joe, Sung-Kwon Park</i>	
<b>A Security Architecture Concept for Vehicular Network Nodes</b> .....	936
<i>Stephan Eichler</i>	
<b>Processing of Finite Length Signals using Unimodular Filterbanks without Boundary Filters</b> .....	941
<i>Asha Vijayakumar, Muthuvel Arigovindan, G. Abhilash</i>	
<b>Performance Analysis of a Cooperative Retransmission Scheme using Markov Models</b> .....	946
<i>Derek Leong, Peng-Yong Kong, Wai-Choong Wong</i>	
<b>A High Rate Open-Loop MIMO Multi-User Downlink Transmission System</b> .....	951
<i>Yang Han, See Ho Ting, Yong Liang Guan</i>	
<b>Improved Performance of APSK Modulation Scheme for Sattellite System</b> .....	956
<i>Jae-Hyun Kim, Cheon Sig Sin, Sang Uk Lee, Jae Hoon Kim</i>	
<b>Robust Speaker Identification in Noisy Environment using Cross Diagonal GTF-ICA Feature</b> .....	960
<i>Yushi Zhang, Waleed H. Abdulla</i>	
<b>Architecture Optimization of a Finite Impulse Response Filter using Toggle-based Power Estimation</b> .....	964
<i>Cristian M. Albina, Günther Hackl</i>	
<b>A Location-Adaptive Signal Detection Scheme for Dual-Antenna Terminals Using Maximal Ratio Combining and Spatial Demultiplexing</b> .....	968
<i>Jaewon Chang, Gwyun Jin, Seongmin Kim, Bin-Chul Ihm, Wonjin Sung</i>	
<b>The Role of Particular Rain Drop Size on Rain Attenuation at 11 GHz</b> .....	973
<i>S. Lakshmi, Y.H. Lee, J.T. Ong</i>	
<b>Introduction of Alien Wavelength into Cesnet DWDM Backbone</b> .....	977
<i>Karel Slavicek, Vaclav Novak</i>	
<b>Correlation Characteristics of Diversity Antennas in Mobile Environments</b> .....	982
<i>Mohamed A.H. Eleiwa</i>	

# Table of Contents

<b>Split-Iterative and Sequential Multicast Scheduling For IQ Switches.....</b>	<b>986</b>
<i>Mohammed Shoaib</i>	
<b>Wideband Low-Distortion Sigma-Delta ADC for WLAN.....</b>	<b>991</b>
<i>Babita R. Jose, Mythili P, Jimson Mathew, D.K. Pradhan</i>	
<b>Implementation of A CMOS Mixed-Signal Digital FLC Chip Using New Fuzzifier and Current Mode A/D .....</b>	<b>996</b>
<i>Gh. Yosefi, S. Aminifar</i>	
<b>Bone Mineral Density and Bone Mineral Content Estimation using Low-Cost X-ray Detector .....</b>	<b>1001</b>
<i>N.Chuaychunu, Y. Pitiitheapab, T. Chanwimalueang, P. Lertprasert, C. Pintavirooj</i>	
<b>Online Text Independent Writer Identification Using Character Prototypes Distribution.....</b>	<b>1005</b>
<i>Siew Keng Chan, Yong Haur Tay, Christian Viard-Gaudin</i>	
<b>Threshold-Based Power Allocation Algorithms for Down-Link Switched-based Parallel Scheduling .....</b>	<b>1010</b>
<i>Sung Sik Nam, Hong-Chuan Yang, Mohamed-Slim Alouini, Khalid A. Qaraqe</i>	
<b>Direction-of-Arrival Estimation for Closely Coupled Arrays with Impedance Matching .....</b>	<b>1015</b>
<i>Buon Kiong Lau, Jørgen Bach Andersen</i>	
<b>Robust Image Registration based on Local Standard Deviation and Image Intensity .....</b>	<b>1020</b>
<i>Osama A. Omer, Toshihisa Tanaka</i>	
<b>BER Minimized Power Allocation for Quasi-Orthogonal Space-Time Block Coded Signals with QR-Based Successive Detection .....</b>	<b>1025</b>
<i>Jwo-Yuh Wu, Sheng-Po Fan, Jie-Gang Kuang, Ta-Sung Lee</i>	
<b>Comprehensive Autoregressive Modeling for Classification of Genomic Sequences .....</b>	<b>1030</b>
<i>Mahmood Akhtar, Eliathamby Ambikairajah, Julien Epps</i>	
<b>QoS in Terminal-Assisted Mobility .....</b>	<b>1035</b>
<i>Juki Wirawan Tantra, Mai Ngoc Son, Teck Meng Lim, Bu-Sung Lee, Chai Kiat Yeo</i>	
<b>Deployment and Radio Resource Reuse in IEEE 802.16j Multi-hop Relay Network in Manhattan-like Environment.....</b>	<b>1040</b>
<i>I-Kang Fu, Wern-Ho Sheen, Fang-Ching Ren</i>	
<b>Processing of Multi-pattern Signature in Intrusion Detection System with Content Processor.....</b>	<b>1045</b>
<i>Young-Ho Kim, Bo-Heung Jung, Jae-Deok Lim, Ki-Young Kim</i>	
<b>Retrieval of Missing Frames in a Given Video Sequence.....</b>	<b>1049</b>
<i>Ankit Kumar Shrivastava, Sumana Gupta</i>	
<b>A Signal Boosting Technique for Gene Prediction.....</b>	<b>1053</b>
<i>Teddy Surya Gunawan, Eliathamby Ambikairajah, Julien Epps</i>	
<b>Dimensionality Reduction in Subspace Face Recognition.....</b>	<b>1057</b>
<i>Bappaditya Mandal, Xudong Jiang, Alex Kot</i>	
<b>Iterative Turbo MKL Multiuser Detection and Channel Estimation for DS-CDMA Signals .....</b>	<b>1062</b>
<i>Tuchsanai Ploysuwan, Sawat Tantiphanwadi, Prasit Teekaput</i>	
<b>Perceptually Motivated Pre-Filter for Speech Enhancement using Kalman Filtering.....</b>	<b>1067</b>
<i>Yao Wang, Jiong An, Vidhyasaharan Sethu, Eliathamby Ambikairajah</i>	
<b>Novel Technique of Developing Microstrip Low Pass Filter (LPF) .....</b>	<b>1071</b>
<i>Md. Nurunnabi Mollah, Md. Foisal Hossain, Jeffrey Shiang Fu, Dong-Hua Yang</i>	
<b>People Counting Using Iterative Mean-Shift Fitting with Symmetry Measure .....</b>	<b>1075</b>
<i>Li Chen, Ji Tao, Yap-Peng Tan, Kap-Luk Chan</i>	
<b>Radio Propagation Model for Long-Range Wireless Sensor Networks.....</b>	<b>1079</b>
<i>Simon Willis, Cornelis Jan Kikkert</i>	

# Table of Contents

<b>Channel Zapping in IP over Optical Two-Layer Multicasting for Large Scale Video Delivery</b> .....	1084
<i>Xuan Luo, Yaohui Jin, Qingji Zeng, Weiqiang Sun, Wei Guo, Weisheng Hu</i>	
<b>The Effect of Linearization of Range in Skin Detection</b> .....	1088
<i>Corey Manders, Farzam Farbiz, Chong Jyh Herng</i>	
<b>Low Power DCT Implementation using Differential Pixels for On-Board Satellite Image Processing</b> .....	1093
<i>Ankita Singla, A. P. Vinod, Deepu Rajan, Edmund M-K. Lai</i>	
<b>HRV Feature Selection based on Discriminant and Redundancy Analysis for Neonatal Seizure Detection</b> .....	1098
<i>M. B. Malarvili, M. Mesbah, B.Boashash</i>	
<b>Designing Hilbert-Pair of Wavelets: Recent Progress and Future Trends</b> .....	1103
<i>David B. H. Tay</i>	
<b>Deriving Configuration Knowledge and Evaluating Product Variants Through Intelligent Techniques</b> .....	1108
<i>Haifeng Liu, Youliang Huang, Wee-Keong Ng, Bin Song</i>	
<b>Group Delay Features for Speaker Recognition</b> .....	1113
<i>Tharmarajah Thiruvaran, Eliathamby Ambikairajah, Julien Epps</i>	
<b>Ternary Walsh Spectral Transform Decision Diagrams</b> .....	1118
<i>Bogdan J. Falkowski, Shixing Yan</i>	
<b>Biased Estimation of Rician K factor</b> .....	1122
<i>Nitesh Shroff, K.Giridhar</i>	
<b>HSDPA Design Space Exploration and Implementation Guidance with Design-Trotter</b> .....	1127
<i>Aleksandras Saramentovas, Paulius Ruzgys, Rasmus Abildgren, Yannick Le Moullec</i>	
<b>On Two-Channel Orthogonal Cyclic Filter Banks with Half-Sample Symmetric Filters</b> .....	1132
<i>Katsuhiko Ichiwara, Toshiyuki Uto, Tatsuya Morimoto, Kenji Ohue</i>	
<b>Pragmatic Two-Level Coded Modulation Using Reed-Solomon Product Codes</b> .....	1136
<i>Samar Changuel, Raphael Le Bidan, Ramesh Pyndiah</i>	
<b>A Novel Algorithm for Signal Subspace Tracking Based on a New Subspace Information Criterion</b> .....	1141
<i>Amir Valizadeh, Roozbeh Mohammadian, Ali Rafiei, Amirhossein Rafati</i>	
<b>Adaptive T-spline Surface Approximation of Triangular Meshes</b> .....	1145
<i>Yimin Wang, Jianmin Zheng</i>	
<b>An Adaptive E-learning Portal for DSP Learning</b> .....	1150
<i>YingPing Hu, Yong Lian</i>	
<b>Frequency Domain Receiver Design for IR-UWB</b> .....	1155
<i>Xiangshun Jiang, Feng Yang, Jianhao Hu, Shaoqian Li</i>	
<b>Statistical Data Based Low-complexity Mode Decision for P-frame Encoding in H.264/AVC</b> .....	1160
<i>Bin Zhan, Baochun Hou, Reza Sotudeh</i>	
<b>Performance Analysis of Pull-Type Packet Compensation Protocol with Perfect MCS/CDMA for the Broadcasting System</b> .....	1165
<i>Koichiro HASHIURA, Hiromasa HABUCHI</i>	
<b>A Linear Groupwise STBC Detector based on Strassen Algorithm</b> .....	1170
<i>Thomas Hardtke, Chin Keong Ho, Sun Sumei</i>	
<b>Target Tracking and Interception in Wireless Sensor Networks with Compensation of Communication Delay</b> .....	1175
<i>Khaled Alkharabsheh, Wendong Xiao, Frank Lewis, Michael Manry</i>	
<b>Performance Study of Weighted Relays in Cooperative Networks</b> .....	1180
<i>G.Y. Chua, W.H. Chin</i>	

# Table of Contents

<b>Efficient Blind equalization for OFDM Systems by RLS-based MERRY Algorithm .....</b>	<b>1184</b>
<i>Yuji Naya, Koichi Ichige</i>	
<b>QoS Scheduling Based on Acceptable BER in DS/CDMA Wireless Networks .....</b>	<b>1188</b>
<i>Bih-Hwang Lee, Chi-Ming Wong</i>	
<b>A Delayed Backoff Algorithm For IEEE 802.15.4 Beacon-Enabled LR-WPAN .....</b>	<b>1193</b>
<i>Bih-Hwang Lee, Huai-Kuei Wu</i>	
<b>Fingerprint Pre-Alignment for Hybrid Match-On-Card System.....</b>	<b>1197</b>
<i>H.K. Lam, W.Y. Yau, T.P. Chen, Z. Hou, H.L. Wang</i>	
<b>Theoretical Analysis of Atmospheric Optical DS/SS with On-Off Orthogonal M-sequence Pairs.....</b>	<b>1201</b>
<i>Yusuke Kozawa, Hiromasa HABUCHI</i>	
<b>Segmental Sinusoidal Model for Speech Coding.....</b>	<b>1206</b>
<i>Florentinus Budi Setiawan, Sugihartono, Soegijardjo Soegijoko, Suhartono Tjondronegoro</i>	
<b>Performance of Open Loop Transmit Diversity Schemes in the Downlink Multicell CDMA System .....</b>	<b>1211</b>
<i>Harya Wicaksana, Md Habibul Islam, Guan Yong Liang</i>	
<b>Impact of Channel Scheduling Designed for Singlehop Systems on Mulithop Radio Networks .....</b>	<b>1216</b>
<i>Yusuke TANAKA, Koji YAMAMOTO, Hidekazu MURATA, Susumu YOSHIDA</i>	
<b>Threshold Reduction for Improving Sparse Coding Shrinkage Performance in Speech Enhancement .....</b>	<b>1220</b>
<i>Neda Faraji, S. M. Ahadi, S. Saloomeh Shariati</i>	
<b>Suboptimal Prediction for Motion Compensated Temporal Filtering in Scalable Video Coding .....</b>	<b>1225</b>
<i>Naoki Yoshitomi, Koichi Ichige</i>	
<b>Eigenmode Tomlinson-Harashima Precoding for Multi-antenna Multi-user MIMO Broadcast Channel .....</b>	<b>1229</b>
<i>Masashi Noda, Masahiro Muraguchi, Tran Gia Khanh, Kei Sakaguchi, Kiyomichi Araki</i>	
<b>Adaptive Frame Structure for Mobile Multihop Relay (MMR) Networks .....</b>	<b>1234</b>
<i>Koon Hoo Teo, Zhifeng Tao, Jinyun Zhang, Anfei Li</i>	
<b>Smooth SVM Research: A Polynomial-based Approach .....</b>	<b>1239</b>
<i>FAN Yan-Feng, ZHANG De-Xian, HE Hua-Can</i>	
<b>Biometric Data-based Robust Watermarking Scheme of Video Streams.....</b>	<b>1244</b>
<i>Sooyeun Jung, Dongeun Lee, Seongwon Lee, Joonki Paik</i>	
<b>FPGA Design of a Real-Time Implementation of Dynamic Range Compression for Improving Television Picture.....</b>	<b>1249</b>
<i>Charayaphan Charoensak, Farook Sattar</i>	
<b>Low-Latency Hardware-Efficient Memory-Based Design for Large-Order FIR Digital Filters .....</b>	<b>1254</b>
<i>Pramod Kumar Meher</i>	
<b>A T Location-scale-based MMSE Estimator under a Combination of Stochastic and Deterministic Speech Model .....</b>	<b>1258</b>
<i>Behzad Kasiri, Vahid T. Vakily</i>	
<b>A New Low Complexity Reconfigurable Filter Bank Architecture for Software Radio Receivers based on Interpolation and Masking Technique.....</b>	<b>1263</b>
<i>R. Mahesh, A. P. Vinod</i>	
<b>A Dynamic Search Range Algorithm for Variable Block Size Motion Estimation in H.264/AVC.....</b>	<b>1268</b>
<i>ZhenXing CHEN, Yang SONG, Takeshi IKENAGA, Satoshi GOTO</i>	
<b>Tunnel-Accessed Remote NATs for Always-Best-Connected Service and Application Mobility .....</b>	<b>1272</b>
<i>Vasantha Kumar B. P</i>	
<b>Evaluation of a Feature Selection Scheme on ICA-based Filter-Bank for Speech Recognition .....</b>	<b>1277</b>
<i>Neda Faraji, S. M. Ahadi</i>	

# Table of Contents

<b>Priority-Based EDF Scheduling Algorithm for Real-time Service</b> .....	1282
<i>TsungChi Lu, ChingYao Huang, Maw-Ching Lin</i>	
<b>Statistical UWB Range Error Model for the Threshold Leading Edge Detector</b> .....	1287
<i>Vedran Dizdarevic, Klaus Witrisal</i>	
<b>Throughput Evaluation of the nonorthogonal CSK ALOHA with the Received-Power Adaptive Access Control Scheme</b> .....	1292
<i>Nobuyoshi KOMURO, Hiromasa HABUCHI, Toshinori TSUBOI</i>	
<b>Memory-Based Hardware for Resource-Constraint Digital Signal Processing Systems</b> .....	1297
<i>Pramod Kumar Meher</i>	
<b>Chirp Based Multiple Access Technique using Fractional Fourier Transform</b> .....	1301
<i>Chirag Pujara, Prakshep Mehta, U. B. Desai</i>	
<b>Diversified Mixcolumn Transformation of AES</b> .....	1306
<i>Ming-Haw Jing, Jian-Hong Chen, Zih-Heng Chen</i>	
<b>Design of Multiplexer-Based Multi-Exponentiation on the Normal Bases</b> .....	1309
<i>Ming-Haw Jing, Zih-Heng Chen, Jian-Hong Chen</i>	
<b>A Framework for Ad Hoc Interactions of Wireless Devices</b> .....	1313
<i>Huaqun Guo, L. H. Ngoh, D. Q. Zhang, A. K. Venkatasubramanian, C.Y. Wu</i>	
<b>Jointly Iterative Channel Estimation and Data Detection for Cyclic-Prefixed Block Transmission over Time-Varying Channels</b> .....	1318
<i>Kun-Chien Hung, David W. Lin</i>	
<b>Throughput Performance Analysis and Experimental Evaluation of IEEE 802.11b Radio Link</b> .....	1323
<i>Churong Chen, Choi Look Law</i>	
<b>A Simulation Environment for Multi-Antenna Software Defined Radio</b> .....	1328
<i>Svante Signell, Jinliang Huang</i>	
<b>3D Map Generation for Biometric Applications using a Network of Multi-Static Radar Sensors</b> .....	1332
<i>Shubha Kadambe</i>	
<b>Research on Confusion Network Algorithm for Mandarin Large vocabulary Continuous Speech Recognition</b> .....	1337
<i>Bin Wu, Jun Guo, Gang Liu</i>	
<b>Recognition of Human Faces using Discrete Cosine Transform Filtered Trace Features</b> .....	1342
<i>Nan Liu, Han Wang</i>	
<b>FSP: Frequent Substructure Pattern Mining</b> .....	1347
<i>Shuguo Han, Wee Keong Ng, Yang Yu</i>	
<b>S/W based IF Signal Simulator Prototyping for L1 C/A, L2C, and E1(B&amp;C)</b> .....	1352
<i>Inone Joo, Jae-Eun Lee, Sanguk Lee, Jae-Hoon Kim, Duk-Won Lim, Sang Jeong Lee</i>	
<b>Adaptive Secure OFDM Schemes Over Power Line Communications</b> .....	1356
<i>Vahid T. Vakily, Dariush Abbasi Moghadam</i>	
<b>A New Energy-Efficient Level-based Clustering Algorithm for Wireless Sensor Networks</b> .....	1361
<i>Farzad Tashtarian, Mohsen Tolou Honary, A. T. Haghighat, Jalil Chitizadeh</i>	
<b>Color Quantization For Image Processing Using Self Information</b> .....	1366
<i>Alain Pujol, Liming Chen</i>	
<b>A New Direct Digital Transmitter Architecture for Constant Envelope Modulation</b> .....	1371
<i>Thomas Finateu, Didier Belot, Franck Badets, Jean Baptiste Bégueret, Yann Deval</i>	
<b>On Asymptotic Solutions of the Lloyd-Max Scalar Quantization</b> .....	1376
<i>Bormin Huang, Jing Ma</i>	

# Table of Contents

<b>Using Directional Antenna to Realize Multi-Relay MAC for Wireless Ad Hoc Networks.....</b>	<b>1382</b>
<i>Yong Wang, Hao Zhu, Kang K. Yen, Jinsong Zhang</i>	
<b>Dynamic Clustering and Analysis for Sensor Networks .....</b>	<b>1387</b>
<i>Veena K.N., Vijaya Kumar B.P.</i>	
<b>Analysis of the Phased Array Transducers for Surgical Applications.....</b>	<b>1391</b>
<i>Meng Tong Tan, Qiong Zhang, Jiabin Huang, Sunita Chauhan</i>	
<b>Shortening the Order of Paraunitary Matrices in SBR2 Algorithm.....</b>	<b>1396</b>
<i>Chi Hieu Ta, Stephan Weiss</i>	
<b>Proposal of an Iterative Channel Information Estimation Scheme on Multi-hop Networks.....</b>	<b>1401</b>
<i>Kouji Ohuchi, Tadahiro Wada, Hiraku Okada, Masato Saito</i>	
<b>Time Frequency Localization of Pulse Shaping Filters in OFDM/OQAM Systems .....</b>	<b>1406</b>
<i>Jinfeng Du, Svante Signell</i>	
<b>Polynomial Approximations for Average Error Rate Evaluations Over Slowly Fading Channels.....</b>	<b>1411</b>
<i>Pavel Loskot, Norman C. Beaulieu</i>	
<b>Image Authentication using Soft Hashing Technique .....</b>	<b>1416</b>
<i>Fawad Ahmed, M Y Siyal</i>	
<b>A New Polar Sphere Decoding Technique for Phase-Shift Based Layered Linear Space-Time Codes .....</b>	<b>1421</b>
<i>Mina Yazdanpanah, Yousef R. Shayan</i>	
<b>Analysis of Communication Systems Using Iterative Methods Based on Banach's Contraction Principle.....</b>	<b>1426</b>
<i>H. Azari Soufiani, M. J. Saberian, M. A. Akhaee, R. Nasiri Mahallati, F. Marvasti</i>	
<b>Information Quality Mapping in Resource-constrained Multi-modal Data Fusion System over Wireless Sensor network with Losses .....</b>	<b>1432</b>
<i>Andrei Tolstikov, Chen-Khong Tham, Wendong Xiao, Jit Biswas</i>	
<b>Analog Signal Processing For Ultra High Speed Data Communication .....</b>	<b>1437</b>
<i>Jie Sun, Dev V. Gupta, Patrick A. Kelly, Weibo Gong</i>	
<b>Rateless-Coded Hybrid ARQ.....</b>	<b>1442</b>
<i>Chia-han Lee, Wen Gao</i>	
<b>Robust Blockbased Watermarking Scheme in Curvelet Domain.....</b>	<b>1447</b>
<i>Peining Tao, Ahmet M. Eskicioglu</i>	
<b>Unsupervised Speech/Music Classification Using One-Class Support Vector Machines.....</b>	<b>1452</b>
<i>S. Omid Sadjadi, S.M. Ahadi, Oldoos Hazrati</i>	
<b>A Three-Tier Framework and Scheduling to Support QoS Service in WiMAX.....</b>	<b>1457</b>
<i>Maode Ma, Jinchang Lu, Sanjay Kumar Bose, Boon Chong Ng</i>	
<b>Construction of Discriminative Positive Time-frequency Distributions .....</b>	<b>1462</b>
<i>Karthikeyan Umapathy, Sridhar Krishnan</i>	
<b>State-Centric Multi-Sensor Scheduling for Target Tracking in Wireless Sensor Networks.....</b>	<b>1467</b>
<i>Jianyong Lin, Lihua Xie, Wendong Xiao</i>	
<b>Analysis of Amplitude and Phase Predistortion and Polynomial-Based Predistortion in OFDM Systems .....</b>	<b>1471</b>
<i>Li-Chung Chang, Ying-Lien Lan</i>	
<b>Theoretical Analysis of OFDM signals in Nonlinear Polynomial Models.....</b>	<b>1476</b>
<i>Vivek Ashok Bohara, See Ho Ting</i>	
<b>Predicting Performance of Software Systems during Feasibility Study of Software Project Management .....</b>	<b>1481</b>
<i>D Evangelin Geetha, T V Suresh Kumar, K Rajani Kanth</i>	
<b>Modeling of Effective Rainfall Rate and Rain Attenuation in Terrestrial Links in the Tropics .....</b>	<b>1486</b>
<i>M.S. Pontes, L.A.R. da Silva Mello, R.S.L. de Souza</i>	



# Table of Contents

<b>PAPR Reduction for Interleaved OFDMA with Low Complexity .....</b>	<b>1490</b>
<i>Yue Xiao, Yongrui Peng, Shaoqian Li</i>	
<b>Blind SIMO Channel Estimation via a Generalized MA Estimation by Spectral Error Minimization.....</b>	<b>1494</b>
<i>Saman S. Abeysekera</i>	
<b>Hardware Efficient Frequency Estimation and Tracking using Signal Autocorrelations .....</b>	<b>1499</b>
<i>Saman S. Abeysekera</i>	
<b>On the Input-Output Weight Distribution of Serial Concatenated Convolutional Codes .....</b>	<b>1504</b>
<i>Hideki Yoshikawa</i>	
<b>A Low-Complexity Iterative Symbol Timing Estimator for Turbo Receivers .....</b>	<b>1509</b>
<i>Hongyi Fu, Kai Yen, Yuen Sam Kwok, Sumei Sun</i>	
<b>Perceptually Tuned Subband Coder with Region of Interest.....</b>	<b>1514</b>
<i>Ee-Leng Tan, Woon-Seng Gan, Yong-Kim Chong, Meng-Tong Wong</i>	
<b>Reliable Symbol Channel Estimation for OFDM Systems.....</b>	<b>1519</b>
<i>Jui-Yuan Lin</i>	
<b>Bi-Directional Link Multiplexing for MIMO Mesh Network.....</b>	<b>1524</b>
<i>Fumie Ono, Kei Sakaguchi</i>	
<b>A PAPR Reduction of OFDM Signal Using Neural Networks with Tone Injection Scheme .....</b>	<b>1529</b>
<i>Keiichi Mizutani, Masaya Ohta, Yasuo Ueda, Katsumi Yamashita</i>	
<b>A Simulation System for Modeling and Analysis of Large Scale Sensor Networks.....</b>	<b>1534</b>
<i>Yupeng Hu, Yaping Lin, Yonghe Liu, Xiaolong Li, Mu Lin</i>	
<b>Adding SAML to Two-Factor Authentication and Single Sign-On Model for Dynamic Access Control .....</b>	<b>1539</b>
<i>Somchart Fugkeaw, Piyawit Manpanpanich, Sekpon Juntapremjitt</i>	
<b>A Modified Synchronization Scheme for Impulse-Based UWB .....</b>	<b>1544</b>
<i>Zhiming Chen, Yueping Zhang</i>	
<b>An Efficient Wavelength Assignment Method for Distributed Lightpath Restoration in Wavelength-Routed Networks .....</b>	<b>1549</b>
<i>Jian Liu, Gaoxi Xiao</i>	
<b>Understanding Driver Behavior Using Multi-Dimensional CMAC .....</b>	<b>1554</b>
<i>Abdul Wahab, Toh Guang Wen, Norhaslinda Kamaruddin</i>	
<b>System Performance Comparison of Fast-OFDM with Overlapping MC-DS-CDMA and MT-CDMA Systems .....</b>	<b>1559</b>
<i>K. Li, I. Darwazeh</i>	
<b>Solving the Correspondence Problem and 3D Reconstruction for Coded Structured-Light System.....</b>	<b>1563</b>
<i>Farhad Goodarzi, Shahriar B.Shokouhi</i>	
<b>Dimensionality Reduction Techniques for Data Exploration .....</b>	<b>1568</b>
<i>Flora S.Tsai, Kap Luk Chan</i>	
<b>Knowledge Propagation in Content-based Image Retrieval.....</b>	<b>1573</b>
<i>Kui Wu, Kim-Hui Yap</i>	
<b>Performance Evaluation on Polar Transmitters Using Delta and Delta-Sigma Modulations .....</b>	<b>1578</b>
<i>Jinghua Zhang, Bo Shi, Yong Lian</i>	
<b>SVM-Based Decision Fusion Model for Detecting Concepts in Films.....</b>	<b>1582</b>
<i>P. Muneesawang, L. Guan</i>	
<b>Filter-Free All-Optical UWB Monocycle Generation based on the Semiconductor Optical Amplifier (SOA) Nonlinearities .....</b>	<b>1587</b>
<i>Jianji Dong, Songnian Fu, P.Shum, Xinliang Zhang, Dexiu Huang</i>	

# Table of Contents

<b>Robust Fuzzy Co-clustering Algorithm .....</b>	<b>1591</b>
<i>William-Chandra Tjhi, Lihui Chen</i>	
<b>Learning in Content Based Image Retrieval ... A Brief Review .....</b>	<b>1596</b>
<i>Yan Gao, Kap Luk Chan, Wei-Yun Yau</i>	
<b>A Cooperative Learning Strategy for Interactive Video Search .....</b>	<b>1601</b>
<i>Shikui Wei, Zhenfeng Zhu, Yao Zhao, Nan Liu</i>	
<b>Position Detection Improvement of Position Sensitive Detector (PSD) by Using Analog and Digital Signal Processing .....</b>	<b>1605</b>
<i>Wang Guanghui, Ping Shum, Xu Guoliang, Zhang Xuping</i>	
<b>A Single Digit Triple Base Number System ... A New Concept for Implementing High Performance Multiplier Unit for DSP Applications .....</b>	<b>1609</b>
<i>Subhashis Maitra, Amitabha Sinha</i>	
<b>Beam Divergence Shaping Mechanism in Laser Intersatellite Crosslink System .....</b>	<b>1614</b>
<i>K.H. Heng, Y. He, N. Liu, W. D. Zhong, T. H. Cheng</i>	
<b>Novel Mitigation Technologies for Rain Attenuation in Broadband Satellite Communication System using from Ka- to W-band .....</b>	<b>1619</b>
<i>Hajime Fukuchi, Takayuki Saito</i>	
<b>Quantitative Quality Assessment of Video Sequences.....</b>	<b>1624</b>
<i>A. Al-Najdawi, R.S. Kalawsky</i>	
<b>Experimental Study on Fuzzy Word Memberships for Multi-Document Summarization .....</b>	<b>1629</b>
<i>William-Chandra TJHI, Lihui CHEN</i>	
<b>Multi-Channel 160-GHz Pulse Generator Using a 40-GHz Phase Modulator and Two Stages of PM Fiber.....</b>	<b>1634</b>
<i>Changyuan Yu, Jing Yang, Zhaohui Li, Yixin Wang</i>	
<b>Super-resolution Imaging: MCMC and State-space Methods.....</b>	<b>1638</b>
<i>Kai-Kuang Ma, Jing Tian</i>	
<b>MLSE Equalizers for Incoherent Optical MSK Systems based on Optical Frequency Discrimination Detection .....</b>	<b>1643</b>
<i>T.L. Huynh, L.N. Binh, T. Sivahumaran, K.K. Pang, N.D. Nguyen</i>	
<b>Temporal Imaging and Optical Repetition Multiplication via Quadratic Phase Modulation .....</b>	<b>1648</b>
<i>Nhan D. Nguyen, L.N. Binh, K.K.Pang, T. Vo, TL Huynh</i>	
<b>Modified Ocular Artifact Removal Technique from EEG by Adaptive Filtering .....</b>	<b>1653</b>
<i>P. T. Kavitha, C. T. Lau, A. B. Premkumar</i>	
<b>A Survey of Machine Learning in Wireless Sensor Networks .....</b>	<b>1658</b>
<i>Ma Di, Er Meng Joo</i>	
<b>Novelty Detection for Text Documents Using Named Entity Recognition.....</b>	<b>1663</b>
<i>Kok Wah Ng, Flora S. Tsai, Lihui Chen, Kiat Chong Goh</i>	
<b>Realization of Low Power High-Speed Channel Filters with Stringent Adjacent Channel Attenuation Specifications for Software Radio Receivers .....</b>	<b>1668</b>
<i>Jimson Mathew, R. Mahesh, A.P.Vinod, Edmund M-K.Lai</i>	
<b>An Area Efficient Modular Architecture for Real-Time Detection of Multiple Faces in Video Stream.....</b>	<b>1673</b>
<i>Hau T. Ngo, Richard Cortland Tompkins, Jacob Foytik, Vijayan K. Asari</i>	
<b>Key Slide-segments Annotation for Presentation Videos .....</b>	<b>1678</b>
<i>Jose A. Lay</i>	
<b>UWB Antennas: Design and Application .....</b>	<b>1682</b>
<i>Zhi Ning Chen</i>	

# Table of Contents

<b>Very Minimum Chirp Keying as a Novel Ultra Narrow Band Communication Scheme.....</b>	<b>1687</b>
<i>Zheng Guoxin, Feng Jinzhen, Jia Minghua</i>	
<b>Emerging Features for Speaker Recognition .....</b>	<b>1690</b>
<i>Eliathamby Ambikairajah</i>	
<b>Real-Time Physical Activity Classification and Tracking using Wearable Sensors .....</b>	<b>1697</b>
<i>Jian Kang Wu, Liang Dong, Wendong Xiao</i>	
<b>Adaptive Video Multicast Using The FDPS Algorithm.....</b>	<b>1703</b>
<i>Chee-Kheong Siew, Tony Cui, Moshe Zukerman</i>	
<b>On Modelling the Hybrid Video Coding for Analysis and Future Development.....</b>	<b>1708</b>
<i>Wan-Chi Siu, Ko-Cheung Hui</i>	
<b>Future Applications of Body Area Communications.....</b>	<b>1713</b>
<i>Shigeru Shimamoto, Adbullah M. Alsehab, Nao Kobayashi, Dagvadorj Dovchinbazar, Jordi Augud Ruiz</i>	
<b>A MAP-2 Based Quality of Experience Model for Voice and Multi-media Services in Next Generation Networks.....</b>	<b>1718</b>
<i>Richard J. Harris, Irena Atov, Aun Haider</i>	
<b>Performance and Bandwidth Efficient Interleave-Division Multiple Access Scheme with High-Spread Interleavers.....</b>	<b>1724</b>
<i>Yeon Ho Chung</i>	
<b>Optical Fibre CDMA for Access and Optical Networks .....</b>	<b>1729</b>
<i>Miguel N. Pimenta, Izzat Darwazeh</i>	