IEEE

PROCEEDINGS
The 2004 IEEE Asia-Pacific Conference on
Circuits and Systems

SoC Design for Ubiquitous Information Technology

December 6-9, 2004
Tayih Landis Hotel, Tainan, Taiwan

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In Cooperation with
IEEE Taipei Section
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IEEE Circuits and Systems Society—Tainan Chapter
P2.23: A Novel Predict Hexagon Search Algorithm for Fast Block Motion Estimation on H.264 Video Coding
Tsung-Han Tsai, Yu-Nan Pan, National Central University, Taiwan

P2.24: Low Complexity Variable-Size Block-Matching Motion Estimation for Adaptive Motion Compensation Block Size in H.264
Shen-Chuan Tai, Ying-Ru Chen, Sheng-Jia Li, National Cheng Kung University, Taiwan

P2.25: VLSI Architecture Design for Variable-Size Block Motion Estimation in MPEG-4 AVC/H.264
Cao Wei, Zhang Yan, Mao Zhi Gang, Lv Zhi Qiang, Harbin Institute of Technology, China

5A: Analog Circuits (I)
08:30am – 10:10am, December 9
Room: Athens

5A.1: A 10-bit 350-MSample/s Nyquist CMOS D/A Converter
Jeng-Dau Chang, Hsin-Hung Ou, Bin-Da Liu, National Cheng Kung University, Taiwan

5A.2: Design of High-Resolution Pipelined Analog-to-Digital Converters Using Multiple-Phase Capacitor-Splitting Feedback Interchange Technique
Chih-Haur Huang, Soon-Jyh Chang, Kuen-Jong Lee, National Cheng Kung University, Taiwan

5A.3: Filter Design with Voltage Conveyors
Vit Novotny, Vaclav Zeman, Brno University of Technology, Czech Republic

5A.4: A Portable and Wireless Data Transmission Potentiostat
Chun-Yueh Huang, Huan-Yu Lin, Yu-Chien Wang, Kun Shan University of Technology, Taiwan; Wei-Yin Liao, Tse-Chuan Chou, National Cheng Kung University, Taiwan

5A.5: Automated Phase Compensation for Multi-Stage Amplifiers
Naoyuki Unno, Naoto Kusakawa, Shigetaka Takagi, Nobuo Fujii, Tokyo Institute of Technology, Japan

5B: Power Conversion and Power Electronics
08:30am – 10:10am, December 9
Room: Berlin

5B.1: Application of Maximum-Efficiency Tracking Control for Backlight Module Based on Phase-Locked Loop Technique
Chang-Hua Lin, Ying Lu, St. John’s & St. Mary’s Institute of Technology, Taiwan; Yu-Kang Lo, Kai-Jun Pai, National Taiwan University of Science & Technology, Taiwan

5B.2: High Performance PMLSM Drives Using TMS320F2812
Ying-Shieh Kung, Southern Taiwan University of Technology, Taiwan
5B.3: Self-Oscillating Push-Pull Class-E/F Converters 649
Ray-Lee Lin, Feng-Yin Chen, National Cheng Kung University, Taiwan

Ray-Lee Lin, Feng-Yin Chen, National Cheng Kung University, Taiwan

5B.4: Effective Power System Communication Requirements for Deregulated Power Industry
Amanullah Maung Than Oo, A. Kalam, A. Zayegh, Victoria University of Technology, Australia

5B.5: A Novel ZCZVT Soft-Switching Single-Stage High Power Factor Correction Converter 657
Jong-Lick Lin, Jen-Cheng Hsieh, I-Chun Yeh, National Cheng Kung University, Taiwan

5C: Transform and Entropy Coding
08:30am – 10:10am, December 9
Room: London

5C.1: A High Efficient Non-Recursive DPWT for Extracting the Transformed Coefficients of Coarser Resolution Levels 661
Chin-Feng Tsai, Huan-Sheng Wang, King-Chu Hung, National Kaohsiung First university of Science and Technology, Taiwan.

5C.2: A Novel Wavelet Coefficients Coding Scheme and Its FPGA Realization 665
Yin-Tsung Hwang, Kuei-Hung Cheng, Li-Chun Liang, Cheng-Chen Lin, National Yunlin University of Science and Technology, Taiwan

5C.3: An Efficient 2-D DWT Processor Architecture Based on State Space Implementation Technique 669
Gab Cheon Jung, Seong Mo Park, Chonnam National University, South Korea; Jung Hyoun Kim, North Carolina A&T State University, USA

5C.4: Memory Efficient and Low Complexity Scalable Soft VLC Decoding for the Video Transmission 673
Tsu-Ming Liu, Sheng-Zen Wang, Wen-Hsiao Peng, Chen-Yi Lee, National Chiao Tung University, Taiwan

5C.5: Gray Prediction Decoding Algorithm for VLC Decoder 677
Che-Hong Chen, Ying-Hong Lu, Bin-Da Liu, National Cheng Kung University, Taiwan

5D: OFDM
08:30am – 10:10am, December 9
Room: New York

5D.1: Multiwavelet Packet Based OFDM System 681
Xiaohong Yan, Guizhong Liu, Xi'an Jiaotong University, China

5D.2: On-Line Step-Size Calculation Using Signal Power Estimation-Tone 685
Grouping for Frequency-Domain Equalizer of DMT-Based Systems
Chih-Feng Wu, Chorng-Kuang Wang, National Taiwan University, Taiwan; Muh-Tian Shiue, National Central University, Taiwan

5D.3: A Low-Complexity LMMSE Channel Estimator for OFDM Systems
Wen-Rong Wu, Chao-Yuan Hsu, National Chiao-Tung University, Taiwan

5D.4: Transmitter Architecture for Pulsed OFDM
Kai-Chuan Chang, Gerald E. Sobelman, Ebrahim Saberinia, Ahmed H. Tewfik, University of Minnesota, USA

5D.5: Design and Simulation of a Baseband Transceiver for IEEE 802.16a OFDM-Mode Subscriber Stations
Sang-Jung Yang, Yi-Ching Lei, Tzi-Dar Chiueh, National Taiwan University, Taiwan

5E: Filter Design for Applications
08:30am – 10:10am, December 9
Room: Paris

5E.1: A New Common-Subexpression-Sharing Method for the Synthesis of FIR Filters
Chia-Yu Yao, Hsin-Horng Chen, Tsuan-Fan Lin, Chiang-Ju Chien, Chun-Te Hsu, Huafan University, Taiwan

5E.2: A Modified Reduced Adder Graph Algorithm for Multiplier Block Minimization in Digital Filters
Fei Xu, Jiajia Chen, Chip-Hong Chang, Ching-Chuen Jong, Nanyang Technological University, Singapore

5E.3: Filter Design of a Servomotor Encoder
Ming-Shyan Wang, Jian-Hao Chen, Shih-Hao Wang, Southern Taiwan University of Technology, Taiwan

5E.4: Equaripple Digital Filters in Quadrature Mirror Filter Banks for Nuclear Magnetic Tomography
Eva Gescheidtova, Zdenek Smekal, Radek Kubasek, Karel Bartusek, Brno University of Technology, Czech Republic

5E.5: A Robust Equalizer Based on Weighted Constant Magnitude Algorithm
Junibakti Sanubari, Satya Wacana University, Indonesia

6A: Analog Circuits (II)
10:30am – 12:10pm, December 9
Room: Athens

6A.1: A Field Programmable Analog Array Using Current Mode Transconductor-Capacitor (Gm-C) Technique
Lon-Kou Chang, Li-Shen Liu, Chih-Huei Hu, National Chiao Tung University,
6A.2: Realization of Multiphase Sinusoidal Oscillator using CDBAs
K. Klahan, W. Tangsrirat, W. Surakampontorn, King Mongkut’s Institute of Technology Ladkrabang, Thailand

6A.3: Voltage to Current Converter for OFDM Current-Mode FFT LSI
Seong-Kweon Kim, MokPo National Maritime University, Korea; Akira Minegishi, Yong-Woon Park, Suguru Kameda, Hiroyuki Nakase, Yoji Isota, Kazuo Tsubouchi, Tohoku University, Japan

6A.4: A Realization of Simple Current-mode CMOS Based True RMS-to-DC Converter
Khanittha Kaewdang, Kiattisak Kumwachara, Wanlop Surakampontorn, King Mongkut’s Institute of Technology Ladkrabang, Thailand

6A.5: Simulation of a Mutually Coupled Circuit Using Plus-type CCII
Muhammad Tahir Abuelma’atti, Sa’ad Muhammad Al-Shahrani, King Fahd University of Petroleum and Minerals, Saudi Arabia

6B: Energy Conversion
10:30am – 12:10pm, December 9
Room: Berlin

6B.1: Averaged Modeling of A ZVT Soft Switching PFC Converter
Jong-Lick Lin, Sung-Pei Yang, Chih-Hsiung Yu, National Cheng Kung University, Taiwan

6B.2: Design and Implementation of FPGA-Based Single Stage Photovoltaic Energy Conversion System
F. S. Lin, J. F. Chen, T. J. Liang, R. L. Lin, National Chen Kung University, Taiwan; Y. C. Kuo, Dayeh University, Taiwan

6B.3: New Concept of Damper on Multimachine Power System
Imam Robandi, Institut Teknologi Sepuluh Nopember, Indonesia

6B.4: Adaptive Backstepping Control with Integral Action for PWM Buck DC-DC Converters
Shui-Chun Lin, Ching-Chih Tsai, National Chung Hsing University, Taiwan

6B.5: Power System Stabilizers Design Using Equivalent Disturbance Rejection Method
Chen-Ling Ying, China Institute of Technology, Taiwan

6C: Video Technology
10:30am – 12:10pm, December 9
Room: London

6C.1: No Bit Overhead MPEG Video Scrambling Based on Event Shuffle in Frequency Domain
6C.2: High-PSR NTSC Video Sync Separator
Chua-Chin Wang, Tzung-Je Lee, Chien-Chih Hung, Ron Hu, National Sun Yat-Sen University, Taiwan

6C.3: Modification of Context-Based Arithmetic Coding for SPIHT
Yung-Chiang Wei, Jar-Ferr Yang, Yi-Ting Jiang, National Cheng Kung University, Taiwan

6C.4: An MPEG-4 Shape-Adaptive Inverse DCT with Zero Skipping and Auto-Aligned Transpose Memory
Hui-Cheng Hsu, Kun-Bin Lee, Nelson Yen-Chung Chang, Tian-Sheuan Chang, National Chiao-Tung University, Taiwan

6C.5: Design and Implementation of an End-to-End System Importing DTV from Broadcasting Network to Broadband IP Network
Luo ChuanFei, Sun Jun, Xiong HongKai, Zhou Jun, Shanghai Jiao Tong University, China

6D: Spread Spectrum
10:30am – 12:10pm, December 9
Room: New York

6D.1: Downlink Base Transmit Station Modulator in WCDMA System
Kai-Hao Bai, Shih-Hsu Huang, Chung Yuan Christian University, Taiwan

6D.2: Blind Multiuser Receiver for DS-CDMA Systems Based on Sequential Monte Carlo Estimation
Qian Yu, Guoan Bi, Nanyang Technological University, Singapore

6D.3: Effect of Non-Uniform Traffic Distributions on Load Balancing in Cellular CDMA Systems
Kuo-Chung Chu, National Taiwan University & Jin-Wen Institute of Technology, Taiwan; Frank Yeong-Sung Lin, Jin-Wen Institute of Technology, Taiwan

6D.4: LA Code Construction and Performance Analysis for LAS-2000
Chen-Yan Lai, Hsiao-Chiu Chu, Shry-Sann Liao, Chung-Min Huang, Feng Chia University, Taiwan

6D.5: Wide-Band Interference Suppression Receiver in a Hybrid OCDMA/WDMA System
Po-Hao Chang, Chi-Yi Liao, Jun-Ren Chen, National Dong Hwa University, Taiwan

6E: Fast Transforms and Recognition
10:30am – 12:10pm, December 9
Room: Paris
6E.1: Quantum Circuit Design of $8 \times 8$ Discrete Fourier Transform Using Its Fast Computation Flow Graph
Chien-Cheng Tseng, Tsung-Ming Hwang, National Kaohsiung First University of Science and Technology, Taiwan

6E.2: A Low Power and Memory Efficient Distributed Arithmetic Design and Its DCT Application
Hun-Chen Chen, Tian-Sheuan Chang, Chein-Wei Jen, National Chiao Tung University, Taiwan

6E.3: Error Analysis and Optimal Parameter Evaluation in FFT-Based 2D-NILT Method
Lubomir Brancik, Brno University of Technology, Czech Republic

6E.4: Implementation of IMDCT for MPEG2/4 AAC on 16-Bit Fixed-Point Digital Signal Processors
Yo-Cheng Hou, Shingchern D. You, National Taipei University of Technology, Taiwan

6E.5: A Novel Approach for Radar Emitter Signal Recognition
Gexiang Zhang, National EW Laboratory & Southwest Jiaotong University, China; Laizhao Hu, National EW Laboratory, China; Weidong Jin, Southwest Jiaotong University, China

P3: POSTER SESSION
08:30am – 10:30am, December 9
Room: Victory

VLSI Arithmetic
P3.1: High-Speed and Reduced-Area RNS Forward Converter Based on $(2^{n-1}, 2^n, 2^{n+1})$ Moduli Set
Ming-Hwa Sheu, Su-Hon Lin, Yung-Tai Chen, Yu-Chun Chang, National Yunlin University of Science & Technology, Taiwan

P3.2: Design of Reconfigurable Carry Select Adders
Jin-Fu Li, Yao-Chang Kuo, Chao-Da Huang, Tsu-Wei Tseng, Chin-Long Wey, National Central University, Taiwan

P3.3: Efficient VLSI Architecture Design for Complex Linear Convolution Using Conjugate-Polynomial-Channel Residue Arithmetic System
Su-Hon Lin, Ming-Hwa Sheu, Shyue-Wen Yang, National Yunlin University of Science & Technology, Taiwan

P3.4: The Low Latency Massey-Omura Multiplier Over $\mathbb{GF}(2^n)$
M. H. Jing, T. K. Truong, Z. H. Chen, I-Shou University, Taiwan

P3.5: Design of a Novel Radix-4 Booth Multiplier
Hsin-Lei Lin, Robert C. Chang, Ming-Tsai Chan, National Chung Hsing University,
VLSI Circuits (ESD & Analog Circuits)

P3.6: New Design Concept for on-Chip ESD Protection Circuits with Already-on Device in Nanoscale CMOS Technology
Ming-Dou Ker, Kuo-Chun Hsu, National Chiao-Tung University, Taiwan

P3.7: Circuit Design To Achieve Whole-Chip ESD Protection for UXGA/HDTV LCoS IC Product
Ming-Dou Ker, National Chiao-Tung University, Taiwan; Shih-Hung Chen, Tang-Kui Tseng, Industrial Technology Research Institute, Taiwan

P3.8: SPICE Model 1 Parameters from BSIM3v3 for Fast Manual Circuit Design
Luis Henrique de Carvalho Ferreira, Tales Cleber Pimenta, Universidade Federal de Itajubá, Brazil

P3.9: All in One 315 MHz ASK UHF Receiver
Yang-Han Lee, Chao-Chung Huang, Cheng-Ming Shih, Hsuan-Fan Chen, Tamkang University, Taiwan; Jiann-Jong Chen, National Taipei University of Technology, Taiwan

P3.10: The 1:12 Phased Demultiplexer Circuit
Serafim Poriazis, Phasetronic Laboratories, Greece

VLSI Circuits (Digital Circuits and Systems)

P3.11: Clock Recovery and Data Recovery Design for LVDS Transceiver Used in LCD Panels
Chua-Chin Wang, Ching-Li Lee, Chun-Yang Hsiao, Jih-Fon Huang, National Sun Yat-Sen University, Taiwan

P3.12: The SoC Design of a Highly Secure and Reliable Storage Using a Conceptual Environment
M. H. Jing, S. Y. Ko, W. C. Wu, I-Shou University, Taiwan

P3.13: An Energy-Delay Efficient Power Management Scheme for Embedded System in Multimedia Applications
Wei-Cheng Lin, Chung-Ho Chen, National Cheng Kung University, Taiwan

P3.14: An Efficient ASIC Implementation of SHA-1 Engine for TPM
Yu Ming-yan, Zhou Tong, Wang Jin-xiang, Ye Yi-zheng, Harbin Institute of Technology, China

P3.15: A Binary Tree Architecture for Application Specific Network on Chip (ASNOC) Design
Yuan-Long Jeang, Win-Hsien Huang, Wei-Feng Fang, National Kaohsiung University of Applied Sciences, Taiwan

P3.16: On the Design of Memory with Low Energy Consumption
Faris S. Al-Namiy, Caledonian College of Engineering, Oman; M. J. Nigam, Indian Institute of Technology Roorkee, India
Networking

P3.17: On the Applications of Mobility Estimation Mechanisms in Wireless Ad Hoc Networks
Chun-Hung Chen, Ho-Ting Wu, Kai-Wei Ke, Chen-Wei Kuan, National Taipei University of Technology, Taiwan

P3.18: Dynamic Load Balancing for Wired and Wireless Internet Access
L. H. Chang, C. F. Tai, Chao Yang University of Technology, Taiwan; D. J. Wang, K. C. Lai, Feng Chia University, Taiwan

P3.19: New Families of Triple-Loop Networks
Hsun-Wen Chang, San-Yu Chen, Tatung University, Taiwan

P3.20: A Parent Search Method in Peer-to-Peer Media Streaming Networks
Lei Zhang, Kwok-Tung Lo, the Hong Kong Polytechnic University, Hong Kong

P3.21: Performance Study of Multi-Channel Multicast Delivery for Scheduled Videos
Chow-Sing Lin, Tzong-Yao Chang, Fang-Zhi Yen, Southern Taiwan University of Technology, Taiwan

P3.22: Packet Analyzer for JPEG2000 Codestreams and Its VHDL Model
Masayuki Kurosaki, Khairul Munadi, Hitoshi Kiya, Tokyo Metropolitan University, Japan; Akemi Ikeda, Yokogawa Electric Corporation, Japan

P3.23: A Straightforward Proof of Network Transformations
I-Pin Lin, Chao-Hsiung Owe, Yuan-Long Jeang, National Kaohsiung University of Applied Sciences, Taiwan; Hung-Yu Wang, Chip Implementation Center, Taiwan

P3.24: Implementing FPGA-Based Reconfigurable Instruments
Guo-Ruey Tsai, Min-Chuan Lin, Guo-Shu Sun, Yo-Sum Lin, Kun-Shan University of Technology, Taiwan

P3.25: Kronecker Based Fixed Polarity Transforms over GF(3)
Cheng Fu, Bogdan J. Falkowski, Nanyang Technological University, Singapore

P3.26: Linearly Independent Helix Transforms over GF(3)
Cheng Fu, Bogdan J. Falkowski, Nanyang Technological University, Singapore

P3.27: Fast Algorithm to Calculate Fourier Transform
Teiji Ohta, Sojo University, Japan

P3.28: Water Quality Modeling for Environmental Information System
Yuliana Susilowati, Indonesian Institute of Sciences, Indonesia; Tati Richard Mengko, Jacub Rais, Bambang Edhi Leksono, Institute of Technology Bandung, Indonesia

P3.29: Low Power and Low Voltage Considerations in the Design of a High
Frequency Clock Generator
Hossein Shamsi, O. Shoaei, A. Zahabi, Y. Koolivand, R. Doost, University of Tehran, Iran

7B: VLSI Circuits (Mixed Circuits)
01:20pm – 03:00pm, December 9
Room: Berlin

7B.1: A 3-PS Dead-Zone Double-Edge-Checking Phase-Frequency-Detector with 4.78 GHz Operating Frequencies
Chien-Ping Chou, Zhi-Ming Lin, Jun-Da Chen, National Changhua University of Education, Taiwan

7B.2: A New OTA Design Methodology Based on Feedback Control Systems Theory
Luis Henrique de Carvalho Ferreira, Tales Cleber Pimenta, Universidade Federal de Itajuba, Brazil

7B.3: A CMOS Current-Voltage Feedback Transconductor with an 80-dB SFDR up to 100MHz
Ying-Zu Lin, Soon-Jyh Chang, National Cheng Kung University, Taiwan

7B.4: Control Unit Implementation for a Reduced Complexity Reconfigurable Data Acquisition Architecture
H. P. Le, A. Zayegh, J. Singh, Victoria University, Australia

7B.5: An Ultra Low-Voltage Ultra Low Power Rail-to-Rail CMOS OTA Miller
Luis Henrique de Carvalho Ferreira, Tales Cleber Pimenta, Universidade Federal de Itajuba, Brasil

7C: Application of Intelligent Scheme
01:20pm – 03:00pm, December 9
Room: London

7C.1: Improvement of Power Factor and Voltage for Renewable Energy Systems Using PLC’s New Fuzzy Module
Li Wang, Kuo-Hua Liu, National Cheng Kung University, Taiwan

7C.2: A High Speed Fuzzy Inference Processor with Dynamic Analysis and Scheduling Capabilities
Shih-Hsu Huang, Jian-Yuan Lai, Chung Yuan Christian University, Taiwan

7C.3: A Sliding-Mode Controller Based on Fuzzy Logic for PWM Inverters
En-Chih Chang, Tsorng-Juu Liang, Jiann-Fuh Chen, Ray-Lee Lin, National Cheng Kung University, Taiwan

7C.4: Error Backpropagation Neural Calibration and Kalman Filter Position Estimation for Touch Panels
Chih-Chang Lai, Ching-Chih Tsai, National Chung-Hsing University, Taiwan;
Han-Chang Lin, Wintek Corporation, Taiwan
7C.5: A Novel Genetic Algorithm with Diversity Reproduction
Shih-Yuan Huang, Chi-Wu Mao, Kuo-Sheng Cheng, National Cheng Kung University, Taiwan

7D: Synchronization
01:20pm – 03:00pm, December 9
Room: New York

7D.1: Chaotic Behaviour of First Order Zero Crossing Digital Phase Locked Loop
Qassim Nasir, University of Sharjah, UAE

7D.2: A 10Gb/s Clock and Data Recovery Circuit with Binary Phase/Frequency Detector Using TSMC 0.35 μm SiGe BiCMOS Process
Tun-Shih Chen, Yan-Bin Luo, Li-Ren Huang, Industrial Technology Research Institute, Taiwan

7D.3: A Joint Scheme of Decision-Directed Channel Estimation and Weighted-Average Phase Error Tracking for OFDM WLAN Systems
Yi-Hsin Yu, Hsu-Yu Liu, Terng-Yin Hsu, Chen-Yi Lee, National Chiao Tung University, Taiwan

7D.4: Residual Carrier Frequency Offset Tracking for OFDM-Based Systems
Chih-Peng Li, Po-Lin Chen, National Sun Yat-Sen University, Taiwan; Tsui-Tsai Lin, National United University, Taiwan

7D.5: Modified PN Code Tracking Loop with Multi-User Detection for Frequency Selective Fading Channels
Chih-Peng Li, Yu-Hui Lin, National Sun Yat-Sen University, Taiwan

7E: General Circuits and Systems (I)
01:20pm – 03:00pm, December 9
Room: Paris

7E.1: Stability Verification of Microwave Circuits Through Floquet Multiplier Analysis
J. M. Collantes, I. Lizarraga, A. Anakabe, J. Jugo, University of the Basque Country, Spain

7E.2: High-Speed Logic Circuitry Used Bootstrapped Technology and Low-Temperature Poly-Silicon Technology for TFT-LCD Panel
Keiko Matsunaga, Yasoji Suzuki, Kengo Umeda, Tokai University, Japan

7E.3: Novel Classes of Linearly Independent Transforms for Ternary Logic Functions
Bogdan J. Falkowski, Cheng Fu, Nanyang Technological University, Singapore

7E.4: Multi-Point Model Reductions of VLSI Interconnects Using the Rational Arnoldi Method with Adaptive Orders (RAMAO)
Herng-Jer Lee, Chia-Chi Chu, Wu-Shiung Feng, Chang Gung University, Taiwan
7E.5: Time-Domain Sensitivity Computation of Parabolic Lossless Nonuniform Transmission Line
Liang Guishu, Ren Yu, Dong Huaying, Xu Zhihong, Cui Xiang, North China Electric Power University, China

8B: VLSI Circuits (Memory & Interface)
03:20pm – 05:00pm, December 9
Room: Berlin

8B.1: Multistate Associative Memory with Parametrically Coupled Map Networks
Gouhei Tanakay, Kazuyuki Aiharaz, University of Tokyo, Japan

8B.2: A Low Supply Noise Content-Sensitive ROM Architecture for SOC
Meng-Fan Chang, Kuei-Ann Wen, National Chiao Tung University, Taiwan;
Lih-Yih Chiou, National Cheng Kung University, Taiwan

8B.3: Low Power Encoding Schemes for Run-Time on-Chip Bus
Po-Tsang Huang, Wei Hwang, National Chiao Tung University, Taiwan

8B.4: The Microarchitecture of a Low Power Clustered Register File for Parallel Processors
Chung-Hsien Hua, Wei Hwang, National Chiao-Tung University, Taiwan

8B.5: Design and Implementation of an IP Wrapper for an on-Chip Network
Hsin-Chou Chi, Yu-Seng Lin, Chia-Ming Wu, National Dong Hwa University, Taiwan

8C: Analog Circuits (III)
03:20pm – 05:00pm, December 9
Room: London

8C.1: New Universal Current-Mode Multiple-Input Multiple-Output OTA-C Filter
Muhammad Taher Abuelma'atti, Abdulwahab Bentricia, King Fahd University of Petroleum and Minerals, Saudi Arabia

8C.2: A 3V Robust High-speed Low Input Impedance CMOS Current Comparator
Surachet Khucharoensin, Varakorn Kasemsuwan, King Mongkut’s Institute of Technology Ladkrabang, Thailand

8C.3: A New Current Mirror Memory Cell to Improve the Power Efficiency of CMOS Current Mode Analog Circuits
Chi-Hong Chan, Cheong-Fat Chan, Chiu-Sing Choy, Kong-Pang Pun, the Chinese University of Hong Kong, Hong Kong
8C.4: Continuous-Time Low-Pass Filter Using an Active Distributed MOSFET Transistor
Virote Pirajnanchai, Kanok Janchitrapongvej, King Mongkut's Institute of Technology Ladkrabang, Thailand

8C.5: A Rapid Acquisition Phase-Locked Loop with Frequency-Double Circuit Operated in 2.4-GHz Band
Ming-Feng Wu, Zhi-Ming Lin, Jun-Da Chen, Kuan-Hung Liu, National Changhua University of Education, Taiwan

8D: Channel Coding
03:20pm – 05:00pm, December 9
Room: New York

8D.1: A Simplification of the Log-Map Algorithm for Turbo Decoding
Lou Xi-zhong, Mao Zhi-gang, Ye Yi-zheng, Chen Yan-min, Harbin Institute of Technology, China

8D.2: GA-Based Evolutionary Interleaver Design for Turbo Codes
Tan Ying, Sun Hong, Wuhan University, China

8D.3: Realization of a Systematic Bit-Wise Decomposition Metric
Chia-Wei Chang, Po-Ning Chen, National Chiao-Tung University, Taiwan; Yungshiang S. Han, National Chi Nan University, Taiwan

8D.4: The Design of RS Decoder with a Small Core for Portable Communication
M. H. Jing, T. K. Truong, Y. H. Chen, Y. C. Luo, I-Shou University, Taiwan

8D.5: Unified Convolutional/Turbo Decoder Architecture Design Based on Triple-Mode MAP/VA Kernel
Fan-Min Li, Pei-Ling Shen, An-Yeu Wu, National Taiwan University, Taiwan

8E: General Circuits and Systems (II)
03:20pm – 05:00pm, December 9
Room: Paris

8E.1: Two Classes of Recursive Fast Transforms Over Gf(3): Properties, Relations and Computational Costs
Cheng Fu, Bogdan J. Falkowski, Nanyang Technological University, Singapore

8E.2: Novel Recursive Discrete Fourier Transform with Compact Architecture
Chih-Peng Fan, Guo-An Su, National Chung Hsing University, Taiwan

8E.3: Error Estimations of Projection-Based Interconnect Model-Order Reduction Techniques
Chia-Chi Chu, Hering-Jer Lee, Wu-Shiung Feng, Chang Gung University, Taiwan

8E.4: Comparison of the Noise Immunity of a LED-Based Multi Band Optoelectronic Sensor When Using FDMA and CDMA to Code the Excitation

P4: POSTER SESSION
01:20pm – 03:20pm, December 9
Room: Victory

Signal Detection and Classification

P4.1: Self Organizing Topological Tree for Skin Color Detection
Xiaoyun Deng, Pengfei Xu, Chip-Hong Chang, Nanyang Technological University, Singapore

P4.2: Improved K Nearest Neighbor Classification Algorithm
Yu-Long Qiao, Sheng-He Sun, Harbin Institute of Technology, China; Jeng-Shyang Pan, Harbin Institute of Technology, China & National Kaohsiung University of Applied Sciences, Taiwan

P4.3: An Unsupervised Kalman Filter-Based Linear Mixing Approach to MRI Classification
Chuin-Mu Wang, Geng-Cheng Lin, Chi-Yuan Lin, Ruey-Maw Chen, National Chinyi Institute of Technology, Taiwan

P4.4: Character Recognition with CMAC on Field Programmable Gate Array
Shao-Han Liu, Jzau-Sheng Lin, Shih-Yuang Huang, National Chin-Yi Institute of Technology, Taiwan

P4.5: An Efficient Framework for MPEG-4 HVXC Encoder Based on the Multi-Stage V/UV Decision
Yi-Chan Huang, Jar-Ferr Yang, National Cheng Kung University, Taiwan

P4.6: A Heuristic Approach for Design of FIR Filters with SP2 Coefficients
Rika Ito, Tokyo University of Science, Japan; Tetsuya Fujie, University of Hyogo, Japan; Kenji Suyama, Tokyo Denki University, Japan; Ryuichi Hirabayashi, Mejiro University, Japan

Signal Processing for Watermark

P4.7: Image Encrypted System Using Scan Patterns and 2-D Cellular Automata
Rong-Jian Chen, Yi-Te Lai, Jui-Lin Lai, National United University, Taiwan

P4.8: A Novel Digital Watermark Algorithm Based on Bits Group
Yuan-Chen Liu, Chih-Bin Chou, National Taipei Teachers College, Taiwan
P4.9: Design of Directional Filter Banks Image Watermark  
Yuan-Peiir Chen, Yuan Ze University, Taiwan; Her-Chang Chao, Ming Chuan University, Taiwan; Po-Yi Sung, Vanung University, Taiwan

P4.10: Digital Image Watermarking Approach Based on Lapped Orthogonal Transform  
Feng-Hsing Wang, Lakhmi C. Jain, University of South Australia, Australia; Jeng-Shyang Pan, National Kaohsiung University of Applied Sciences, Taiwan; Hsiang-Cheh Huang, National Chiao Tung University, Taiwan

P4.11: A Robust Watermarking Scheme Using Filter and ROI  
Der-Chyuan Lou, Jiang-Lung Liu, Hao-Kuan Tso, National Defense University, Taiwan

Video Technology

P4.12: High Throughput 2-D Transform Architectures for H.264 Advanced Video Coders  
Zhan-Yuan Cheng, Che-Hong Chen, Bin-Da Liu, Jar-Ferr Yang, National Cheng Kung University, Taiwan

P4.13: Improved Rate Control Via Rate-Quantization Modeling with Kalman Filter  
Din-Yuen Chan, National Chaiyi University, Taiwan; Shou-Jen Lin, Chung-Wei Lin, I-Shou University, Taiwan

P4.14: H.264 Decoder Optimization Exploiting SIMD Instructions  
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