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Giovanni De Micheli, *Ecole Polytechnique Fédérale de Lausanne*

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		Dongwon Kwon, <i>Georgia Institute of Technology</i> ; Gabriel A. Rincón-Mora, <i>Georgia Institute of Technology</i> ; Erick O. Torres, <i>Georgia Institute of Technology</i>	
12:32	A2L-A.5	Circuit Design Advances to Enable Ubiquitous Sensing Environments	285
		Mingoo Seok, <i>University of Michigan</i> ; Scott Hanson, <i>University of Michigan</i> ; Michael Wieckowski, <i>University of Michigan</i> ; Gregory K. Chen, <i>University of Michigan</i> ; Yu-Shiang Lin, <i>University of Michigan</i> ; David Blaauw, <i>University of Michigan</i> ; Dennis Sylvester, <i>University of Michigan</i>	
	A2L-B	Sigma-Delta: Filters & DACs (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 11:20 - 12:50	
	<i>Place:</i>	Grand Ballroom F	
	<i>Chair(s):</i>	Robert Sobot, <i>University of Western Ontario</i>	
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		L. Hernandez, <i>Carlos III University</i> ; J. Fernandez, <i>Carlos III University</i> ; E. Prefasi, <i>Carlos III University</i> ; S. Paton, <i>Carlos III University</i>	
11:38	A2L-B.2	A Digital Background Correction Technique Combined with DWA for DAC Mismatch Errors in Multibit $\Sigma\Delta$ ADCs	293
		Hossein Pakniat, <i>Amirkabir University of Technology</i> ; Mohammad Yavari, <i>Amirkabir University of Technology</i> ; Reza Lotfi, <i>Ferdowsi University of Mashhad</i>	
11:56	A2L-B.3	Precise Area-Controlled Return-to-Zero Current Steering DAC with Reduced Sensitivity to Clock Jitter	297
		Nima Maghari, <i>Oregon State University</i> ; Un-Ku Moon, <i>Oregon State University</i>	
12:14	A2L-B.4	Efficient Determination of Feedback DAC Errors for Digital Correction in $\Delta\Sigma$ A/D Converters	301
		Nagendra Krishnapura, <i>Indian Institute of Technology Madras</i>	
12:32	A2L-B.5	A Sixth-Order 4-2 SMASH CIFF Complex Bandpass $\Delta\Sigma$ Modulator with Delaying Digital Input Feedforward	305
		Chien-Hung Kuo, <i>National Taiwan Normal University</i> ; Hung-Jing Lai, <i>National Taiwan Normal University</i> ; Deng-Yao Shi, <i>National Taiwan Normal University</i>	
	A2L-C	Low Power Design II (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 11:20 - 12:50	
	<i>Place:</i>	Grand Ballroom G	
	<i>Chair(s):</i>	Massimo Alioto, <i>University of Siena</i> Paul Ampadu, <i>University of Rochester</i>	
11:20	A2L-C.1	A Compact and Low Power Logic Design for Multi-Pillar Vertical MOSFETs	309
		Koji Sakui, <i>Tohoku University</i> ; Tetsuo Endoh, <i>Tohoku University</i>	

11:38	A2L-C.2	A Low-Power Cell-Based-Design Multi-Port Register File in 65nm CMOS Technology	313
		Johannes Uhlig, <i>Technische Universität Dresden</i> ; Sebastian Höppner, <i>Technische Universität Dresden</i> ; Georg Ellguth, <i>Technische Universität Dresden</i> ; René Schüffny, <i>Technische Universität Dresden</i>	
11:56	A2L-C.3	A New Low-Power High-Speed Single-Clock-Cycle Binary Comparator	317
		Fabio Frustaci, <i>Università della Calabria</i> ; Stefania Perri, <i>Università della Calabria</i> ; Marco Lanuzza, <i>Università della Calabria</i> ; Pasquale Corsonello, <i>Università della Calabria</i>	
12:14	A2L-C.4	Clock Distribution in Clock Domains with Dual-Edge-Triggered Flip-Flops to Improve Energy-Efficiency	321
		Massimo Alioto, <i>Università degli Studi di Siena</i> ; Elio Consoli, <i>Università di Catania</i> ; Gaetano Palumbo, <i>Università di Catania</i>	
	A2L-D	UWB Communications Systems (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 11:20 - 12:50	
	<i>Place:</i>	Grand Ballroom H	
	<i>Chair(s):</i>	Junyan Ren, <i>Fudan University</i> Michael Tse, <i>Hong Kong Polytechnic University</i>	
11:20	A2L-D.1	A 19μW, 100Kbps Impulse Radio Transceiver for Body-Area-Networks	325
		Rajeev Dokania, <i>Cornell University</i> ; Xiao Wang, <i>Cornell University</i> ; Siddharth Tallur, <i>Cornell University</i> ; Alyssa Apsel, <i>Cornell University</i>	
11:38	A2L-D.2	A Current-Mode 6-9GHz UWB Transmitter with Output Power Flattening Technique	329
		Yunfeng Chen, <i>Fudan University</i> ; Jinhan Fan, <i>Fudan University</i> ; Wei Li, <i>Fudan University</i> ; Ning Li, <i>Fudan University</i> ; Junyan Ren, <i>Fudan University</i>	
11:56	A2L-D.3	Low-Power UWB Transmitter using a Combined Mixer and Power Amplifier	333
		S. Solda', <i>Università degli Studi di Padova</i> ; M. Caruso, <i>Università degli Studi di Padova</i> ; D. Vogrig, <i>Università degli Studi di Padova</i> ; A. Bevilacqua, <i>Università degli Studi di Padova</i> ; A. Gerosa, <i>Università degli Studi di Padova</i> ; A. Neviani, <i>Università degli Studi di Padova</i>	
12:14	A2L-D.4	Derivation of Circuit Specification for the UWB Impulse Radio Transceivers	337
		Géza Kolumbán, <i>Pázmány Péter Catholic Univ.</i> ; Tamás Krébesz, <i>Budapest Univ. of Technology and Economics</i> ; Chi K. Tse, <i>Hong Kong Polytechnic Univ.</i> ; Francis C.M. Lau, <i>Hong Kong Polytechnic Univ.</i>	
12:32	A2L-D.5	A Transmitted-Reference Low-Power Reconfigurable Ultra-Wideband Transmitter	341
		Kamel Elkhenissi, <i>Université du Québec à Montréal</i> ; Maxim Cournoyer, <i>Université du Québec à Montréal</i> ; Dominic Deslandes, <i>Université du Québec à Montréal</i> ; Frederic Nabki, <i>Université du Québec à Montréal</i>	

A2L-E Vision Sensors & Circuits (Lecture)

Time: Monday, May 31, 2010, 11:20 - 12:50

Place: Salon A

Chair(s): Bernabe Linares-Barranco, *Institute of Microelectronics, Sevilla*
Christoph Posch, *Austrian Institute of Technology*

11:20

A2L-E.1 A Bio-Inspired Ultrasensitive Imaging Chip – Phase One: Design Paradigm 345

Konstantin Nikolic, *Imperial College London*; Chris Toumazou, *Imperial College London*

11:38

A2L-E.2 Event-Based Color Change Pixel in Standard CMOS 349

Raphael Berner, *University of Zürich and ETH Zürich*; Tobi Delbruck, *University of Zürich and ETH Zürich*

11:56

A2L-E.3 A Single Bit Memory per Pixel Time Domain DPS using Multi-Reset Integration Scheme 353

Sylvain Léomant, *Hong Kong University of Science and Technology*; Xiajun Wu, *Hong Kong University of Science and Technology*; Amine Bermak, *Hong Kong University of Science and Technology*

12:14

A2L-E.4 Compact Readout Circuits for SPAD Arrays 357

Danial Chitnis, *University of Oxford*; Steve Collins, *University of Oxford*

12:32

A2L-E.5 A Load-Balancing Readout Method for Large Event-Based PWM Imaging Arrays 361

Daniel Matolin, *Austrian Institute of Technology*; Rainer Wohlgenannt, *Austrian Institute of Technology*; Martin Litzenberger, *Austrian Institute of Technology*; Christoph Posch, *Austrian Institute of Technology*

A2L-F Neuronal Systems II (Lecture)

Time: Monday, May 31, 2010, 11:20 - 12:50

Place: Salon B

Chair(s): John Harris, *University of Florida*
Bert Shi, *Hong Kong University of Science & Technology*

11:20

A2L-F.1 Poisson Distributed Noise Generation for Spiking Neural Applications 365

Katherine Cameron, *University of Edinburgh*; Thomas Clayton, *University of Edinburgh*; Bruce Rae, *University of Edinburgh*; Alan Murray, *University of Edinburgh*; Robert Henderson, *University of Edinburgh*; Edoardo Charbon, *Delft University of Technology*

11:38

A2L-F.2 Floating Gate Synapses with Spike Time Dependent Plasticity 369

Shubha Ramakrishnan, *Georgia Institute of Technology*; Paul Hasler, *Georgia Institute of Technology*; Christal Gordon, *Georgia Institute of Technology*

11:56

A2L-F.3 GPU Implementation of Fast Gabor Filters 373

XinXin Wang, *Hong Kong University of Science and Technology*; Bertram E. Shi, *Hong Kong University of Science and Technology*

12:14

A2L-F.4 Guaranteeing Spike Arrival Time in Multiboard & Multichip Spiking Neural Networks 377

Bilel Belhadj, *Univ. Bordeaux*; Jean Tomas, *Univ. Bordeaux*; Olivia Malot, *Univ. Bordeaux*; Yannick Bornat, *Univ. Bordeaux*; Gilles N'Kaoua, *Univ. Bordeaux*; Sylvie Renaud, *Univ. Bordeaux*

12:32	A2L-F.5	High Performance Implementation of Neural Networks by Networks on Chip with 5-Port 2-Virtual Channels	381
		Yiping Dong, <i>Waseda University</i> ; Zhen Lin, <i>Waseda University</i> ; Yan Li, <i>Waseda University</i> ; Takahiro Watanabe, <i>Waseda University</i>	
	A2L-G	Encoder Optimization (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon C	
	<i>Chair(s):</i>	Yap-Peng Tan, <i>Nanyang Technological University</i> Jiang Tao Wen, <i>Stretch Inc.</i>	
11:20	A2L-G.1	Prediction-Based Macroblock Mode Mapping for Video Coding	385
		Jun Zhang, <i>Santa Clara University</i> ; Xiang Li, <i>Santa Clara University</i> ; Nam Ling, <i>Santa Clara University</i> ; Jianhua Zheng, <i>HiSilicon Technologies Co., Ltd.</i> ; Philipp Zhang, <i>HiSilicon Technologies Co., Ltd.</i>	
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		Bingqiang Zhu, <i>Tsinghua University</i> ; Da An, <i>Tsinghua University</i> ; Yaocheng Rong, <i>Tsinghua University</i> ; Yun He, <i>Tsinghua University</i>	
11:56	A2L-G.3	Perceptual-Based Coding Mode Decision	393
		Yi-Hsin Huang, <i>National Taiwan University</i> ; Tao-Sheng Ou, <i>National Taiwan University</i> ; Homer H. Chen, <i>National Taiwan University</i>	
12:14	A2L-G.4	Fast Mode Decision for KTA Software	397
		Wenpeng Ding, <i>University of Science and Technology of China</i> ; You Zhou, <i>Microsoft Research Asia</i> ; Feng Wu, <i>Microsoft Research Asia</i>	
12:32	A2L-G.5	An Adaptive Bandwidth Reduction Scheme for Video Coding	401
		Liu Song, <i>Waseda University</i> ; Dajiang Zhou, <i>Waseda University</i> ; Xin Jin, <i>Waseda University</i> ; Satoshi Goto, <i>Waseda University</i> ; Peilin Liu, <i>Shanghai Jiao Tong University</i>	
	A2L-H	Complex Networks Analysis & Applications I (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon D	
	<i>Chair(s):</i>	Wallace Tang, <i>City University of Hong Kong</i> Wei Xing Zheng, <i>University of Western Sydney</i>	
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11:56	A2L-H.3	An Opinion Disseminating Model for Market Penetration in Social Networks	413
		Daniel Trpevski, <i>Macedonian Academy of Sciences and Arts</i> ; Wallace K.S. Tang, <i>City University of Hong Kong</i> ; Ljupco Kocarev, <i>University of California, San Diego</i>	
12:14	A2L-H.4	On Decentralized Adaptive Pinning Synchronization of Complex Dynamical Networks	417
		Housheng Su, <i>Huazhong University of Science and Technology</i> ; Zhihai Rong, <i>Donghua University</i> ; Xiaofan Wang, <i>Shanghai Jiao Tong University</i> ; Guanrong Chen, <i>City University of Hong Kong</i>	
12:32	A2L-H.5	Impulsive Synchronization on Complex Networks of Nonlinear Dynamical Systems	421
		Juan Chen, <i>Wuhan University</i> ; Jun-an Lu, <i>Wuhan University</i> ; Xiaoqun Wu, <i>Wuhan University</i> ; Wei Xing Zheng, <i>University of Western Sydney</i>	
	A2L-J	Design of Specialized VLSI Circuits (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon J	
	<i>Chair(s):</i>	Linda DeBrunner, <i>Florida State University</i> Viktor Öwall, <i>Lund University</i>	
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		Ülkühan Güler, <i>National Research Institute of Electronics and Cryptology</i> ; Salih Ergün, <i>National Research Institute of Electronics and Cryptology</i>	
11:38	A2L-J.2	Hardware Implementation of the Double-Tree Scan Architecture	429
		Nathan Schemm, <i>University of Nebraska-Lincoln</i> ; Sina Balkir, <i>University of Nebraska-Lincoln</i> ; Sharad Seth, <i>University of Nebraska-Lincoln</i>	
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		Satendra Kumar Maurya, <i>Arizona State University</i> ; Lawrence T. Clark, <i>Arizona State University</i>	
12:14	A2L-J.4	Multi-Cycle Compress Technique for High-Speed IP in Low-Cost Environment	437
		Gong-Han Chen, <i>Tamkang University</i> ; Chu-Chuan Lin, <i>Tamkang University</i> ; Po-Han Wu, <i>Tamkang University</i> ; Jiann-Chyi Rau, <i>Tamkang University</i>	
12:32	A2L-J.5	Efficient High-Throughput Architectures for High-Speed Parallel Scramblers	441
		JianWei Chen, <i>National Chung Hsing University</i> ; Hongchin Lin, <i>National Chung Hsing University</i> ; Yun-Ching Tang, <i>National Chung Hsing University</i>	
	A2L-K	DSP & Its Implementation (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon K	
	<i>Chair(s):</i>	Oscar Gustafsson, <i>Linköping University</i> Mohsin Jamali, <i>University of Toledo</i>	
11:20	A2L-K.1	Wide-Band Length-6 Cubic Interpolator	445
		Tian-Bo Deng, <i>Toho University</i>	

11:38	A2L-K.2	Fraction-Free Inversion of a Toeplitz Matrix	449
		Yuval Bistriz, <i>Tel Aviv University</i> ; Yaron Segalov, <i>Tel Aviv University</i>	
11:56	A2L-K.3	A 30fps Stereo Matching Processor based on Belief Propagation with Disparity-Parallel PE Array Architecture	453
		Junyoung Park, <i>Korea Advanced Institute of Science and Technology</i> ; Seungjin Lee, <i>Korea Advanced Institute of Science and Technology</i> ; Hoi-Jun Yoo, <i>Korea Advanced Institute of Science and Technology</i>	
12:14	A2L-K.4	Minimal Logic Depth Adder Tree Optimization for Multiple Constant Multiplication	457
		Mathias Faust, <i>Nanyang Technological University</i> ; Chip-Hong Chang, <i>Nanyang Technological University</i>	
12:32	A2L-K.5	On Joint Synchronization of Clock Offset and Skew for Wireless Sensor Networks Under Exponential Delay	461
		Mei Leng, <i>University of Hong Kong</i> ; Yik-Chung Wu, <i>University of Hong Kong</i>	
	A2L-L	Circuits for Error Correction Codes (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon L	
	<i>Chair(s):</i>	Hanho Lee, <i>Inha University</i> Xinmiao Zhang, <i>Case Western Reserve University</i>	
11:20	A2L-L.1	High-Speed Re-Encoder Design for Algebraic Soft-Decision Reed-Solomon Decoding	465
		Jiangli Zhu, <i>Case Western Reserve University</i> ; Xinmiao Zhang, <i>Case Western Reserve University</i>	
11:38	A2L-L.2	Memory-Reduced Map Decoding for Double-Binary Convolutional Turbo Code	469
		Jinjin He, <i>Oregon State Univ.</i> ; Zhongfeng Wang, <i>Broadcom Corporation</i> ; Huaping Liu, <i>Oregon State Univ.</i>	
11:56	A2L-L.3	An Early Stopping Criterion for Decoding LDPC Codes in WiMAX and WiFi Standards	473
		Zhixiang Chen, <i>Waseda University</i> ; Xiongxin Zhao, <i>Waseda University</i> ; Xiao Peng, <i>Waseda University</i> ; Dajiang Zhou, <i>Waseda University</i> ; Satoshi Goto, <i>Waseda University</i>	
12:14	A2L-L.4	Dual-Rail Decoding of Low-Density Parity-Check Codes	477
		Bongjin Kim, <i>Korea Advanced Institute of Science and Technology</i> ; Hasan Ahmed, <i>Korea Advanced Institute of Science and Technology</i> ; In-Cheol Park, <i>Korea Advanced Institute of Science and Technology</i>	
12:32	A2L-L.5	Layered Decoding for Non-Binary LDPC Codes	481
		Shuai Zhou, <i>Nanjing University</i> ; Jin Sha, <i>Nanjing University</i> ; Li Li, <i>Nanjing University</i> ; Zhongfeng Wang, <i>Broadcom Corporation</i>	

A2L-M Circuits for Wireless Systems (Lecture)

Time: Monday, May 31, 2010, 11:20 - 12:50

Place: Salon M

Chair(s): Luis Oliveira, *University of Nova de Lisboa*

11:20

A2L-M.1 A 3.1-4.8-GHz Energy-Detector Front-End for Non-Coherent OOK Impulse-Radio UWB 485

Peng Wang, *KTH Royal Institute of Technology*; David Sarmiento Mendoza, *KTH Royal Institute of Technology*;
Fredrik Jonsson, *KTH Royal Institute of Technology*; Li-Rong Zheng, *KTH Royal Institute of Technology*

11:38

A2L-M.2 Monolithic CMOS HD Radio: Architecture Design and Front-End Implementation 489

Inshad Chowdhury, *University of Arizona*; Dongsheng Ma, *University of Arizona*; Fred Highton, *Texas Instruments Inc.*; Paul Prazak, *Texas Instruments Inc.*

11:56

A2L-M.3 Low Power 2.4 GHz Quadrature Generation for Body Area Network Applications 493

Jens Masuch, *CSIC Instituto de Microelectrónica de Sevilla (IMSE-CNM)*; Manuel Delgado-Restituto, *CSIC Instituto de Microelectrónica de Sevilla (IMSE-CNM)*

12:14

A2L-M.4 A 21pJ/Pulse FCC Compliant UWB Pulse Generator 497

Yousif Shamsa, *Delft University of Technology*; Wouter A. Serdijn, *Delft University of Technology*

12:32

A2L-M.5 A 13MHz Input, 480MHz Output Fractional Phase Lock Loop with 1MHz Bandwidth 501

Anant S. Kamath, *Texas Instruments India Pvt. Ltd.*; Biman Chattopadhyay, *Texas Instruments India Pvt. Ltd.*

A2L-N SPECIAL SESSION: Biologically Inspired Speech Processing (Lecture)

Time: Monday, May 31, 2010, 11:20 - 12:50

Place: Radio City Ballroom I

Chair(s): John Harris, *University of Florida*

Shih-Chii Liu, *ETH Zürich*

11:20

A2L-N.1 The Use of Spike-Based Representations for Hardware Audition Systems 505

Shih-Chii Liu, *University of Zürich and ETH Zürich*; Nima Mesgarani, *Johns Hopkins University*;
John Harris, *University of Florida*; Hynek Hermansky, *Johns Hopkins University*

11:38

A2L-N.2 Characteristics of Human Voice Processing 509

Trevor R. Agus, *CNRS & Université Paris Descartes & Ecole Normale Supérieure*; Clara Sued, *University of Cambridge*; Simon J. Thorpe, *CNRS-Université Toulouse 3 / SpikeNet Technology SARL*; Daniel Pressnitzer, *CNRS & Université Paris Descartes & Ecole Normale Supérieure*

11:56

A2L-N.3 Exploiting Spike-Based Dynamics in a Silicon Cochlea for Speaker Identification 513

Shantanu Chakrabartty, *Michigan State University*; Shih-Chii Liu, *University of Zürich and ETH Zürich*

12:14

A2L-N.4 Mean Firing Rate Spike Representations for Speech Recognition 517

John G. Harris, *University of Florida*; Yukun Feng, *University of Florida*

12:32	A2L-N.5	One Step Backpropagation Through Time for Learning Input Mapping in Reservoir Computing Applied to Speech Recognition	521
		Michiel Hermans, <i>Ghent University</i> ; Benjamin Schrauwen, <i>Ghent University</i>	
	A2L-P	SPECIAL SESSION: Stability Regions of Nonlinear Circuits & Systems: Recent Advances & Emerging Apps. (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 11:20 - 12:50	
	<i>Place:</i>	Radio City Ballroom II	
	<i>Chair(s):</i>	Luis Alberto, <i>Universidade de São Paulo</i> Hsiao-Dong Chiang, <i>Cornell University</i>	
11:20	A2L-P.1	Robustness of Stability Regions of Nonlinear Circuits and Systems under Parameter Variation	525
		Fabiolo M. Amaral, <i>Universidade de São Paulo</i> ; Luís F.C. Alberto, <i>Universidade de São Paulo</i>	
11:38	A2L-P.2	Critical Load-Shedding Time Calculation based on Region of Attraction Limits	529
		N.G. Sakellaris, <i>National Technical University of Athens</i> ; C.D. Vournas, <i>National Technical University of Athens</i>	
11:56	A2L-P.3	Trajectory Approximation Near the Stability Boundary	533
		Ian A. Hiskens, <i>University of Michigan</i>	
12:14	A2L-P.4	On-Line Power System Stability Screening of Practical Power System Models using TEPCO-BCU	537
		Jianzhong Tong, <i>PJM Interconnect, LLC</i> ; Hsiao-Dong Chiang, <i>Cornell University</i> ; Yasuyuki Tada, <i>Tokyo Electric Power Company</i>	
	A3L-A	SPECIAL SESSION: Analysis & Design of Biomolecular Circuits (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 14:10 - 15:40	
	<i>Place:</i>	Grand Ballroom E	
	<i>Chair(s):</i>	Heinz Koeppl, <i>Ecole Polytechnique Fédérale de Lausanne</i> Gianluca Setti, <i>University of Ferrara</i>	
14:10	A3L-A.1	Probability Metrics to Calibrate Stochastic Chemical Kinetics	541
		Heinz Koeppl, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Gianluca Setti, <i>Università di Bologna</i> ; Serge Pelet, <i>Swiss Federal Institute of Technology Zürich</i> ; Mauro Mangia, <i>Università di Bologna</i> ; Tatjana Petrov, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Matthias Peter, <i>Swiss Federal Institute of Technology Zürich</i>	
14:28	A3L-A.2	Design of an Insulation Device using Phosphotransfer Systems	545
		Shridhar Jayanthi, <i>University of Michigan</i> ; Domitilla Del Vecchio, <i>University of Michigan</i>	
14:46	A3L-A.3	Computational Methods for Analyzing Bistability in Biochemical Reaction Networks	549
		Casian Pantea, <i>University of Wisconsin-Madison</i> ; Gheorghe Craciun, <i>University of Wisconsin-Madison</i>	
15:04	A3L-A.4	iSSA: An Incremental Stochastic Simulation Algorithm for Genetic Circuits	553
		Chris Winstead, <i>Utah State University</i> ; Curtis Madsen, <i>University of Utah</i> ; Chris Myers, <i>University of Utah</i>	

15:22	A3L-A.5	Rule based Constraints for the Construction of Genetic Devices	557
		Douglas Densmore, <i>Synthetic Biology Engineering Research Center</i> ; Joshua T. Kittleon, <i>University of California, Berkeley</i> ; Lesia Bilitchenko, <i>Cal Poly Pomona</i> ; Adam Liu, <i>University of California, Berkeley</i> ; J. Christopher Anderson, <i>University of California, Berkeley</i>	
	A3L-B	Calibration Techniques for Data Converters (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 14:10 - 15:40	
	<i>Place:</i>	Grand Ballroom F	
	<i>Chair(s):</i>	Jose Silva-Martinez, <i>Texas A&M University</i>	
14:10	A3L-B.1	Adaptive Compensation of Frequency Response Mismatches in High-Resolution Time-Interleaved ADCs using a Low-Resolution ADC and a Time-Varying Filter	561
		Shahzad Saleem, <i>Graz University of Technology</i> ; Christian Vogel, <i>Graz University of Technology</i>	
14:28	A3L-B.2	Radix-Based Digital Correction Technique for Two-Capacitor DACs	565
		Jinzhou Cao, <i>Oregon State University</i> ; Gabor C. Temes, <i>Oregon State University</i>	
14:46	A3L-B.3	Foreground Digital Calibration of Non-Linear Errors in Pipelined A/D Converters	569
		Hussein Adel, <i>LIP6 Laboratory, Université Pierre et Marie Curie, Ain Shams Univ.</i> ; Mohamed Dessouky, <i>LIP6 Laboratory, Université Pierre et Marie Curie, Ain Shams Univ.</i> ; Marie-Minerve Louerat, <i>LIP6 Laboratory, Université Pierre et Marie Curie</i> ; Hugo Gicquel, <i>STMicroelectronics</i> ; Hisham Haddara, <i>Ain Shams Univ.</i>	
15:04	A3L-B.4	New Calibration Technique for Current-Steering DACs	573
		Tao Zeng, <i>Iowa State University</i> ; Degang Chen, <i>Iowa State University</i>	
15:22	A3L-B.5	Synthesis of Subband Hybrid Filter Banks ADCs with Finite Word-Length Coefficients using Adaptive Equalization	577
		Zhiguo Song, <i>Supélec</i> ; Caroline Lelandais-Perrault, <i>Supélec</i> ; Daniel Poulton, <i>Supélec</i> ; Philippe Benabes, <i>Supélec</i>	
	A3L-C	VLSI Circuits for Communication Systems (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 14:10 - 15:40	
	<i>Place:</i>	Grand Ballroom G	
	<i>Chair(s):</i>	Paul Ampadu, <i>University of Rochester</i> Naresh R Shanbhag, <i>University of Illinois at Urbana-Champaign</i>	
14:10	A3L-C.1	A 32Gbps Low Propagation Delay 4x4 Switch IC for Feedback-Based System in 0.13μm CMOS Technology	581
		Yu-Hao Hsu, <i>National Tsing Hua University</i> ; Yang-Syu Lin, <i>National Tsing Hua University</i> ; Ching-Te Chiu, <i>National Tsing Hua University</i> ; Jen-Ming Wu, <i>National Tsing Hua University</i> ; Shuo-Hung Hsu, <i>National Tsing Hua University</i> ; Fan-Ta Chen, <i>National Tsing Hua University</i> ; Min-Sheng Kao, <i>National Tsing Hua University</i> ; Yar-Sun Hsu, <i>National Tsing Hua University</i>	
14:28	A3L-C.2	A Low-Power IP Design of Viterbi Decoder with Dynamic Threshold Setting	585
		Yi-Ming Lin, <i>National Cheng Kung University</i> ; Wan-Ching Liu, <i>National Cheng Kung University</i> ; Li-Yuan Chang, <i>National Cheng Kung University</i> ; Chih-Yuan Lien, <i>Chia Nan University of Pharmacy and Science</i> ; Pei-Yin Chen, <i>National Cheng Kung University</i> ; Shung-Chih Chen, <i>Southern Taiwan University</i>	

14:46	A3L-C.3	Matching Pursuit: Evaluation and Implementation for LTE Channel Estimation	589
		P. Maechler, <i>ETH Zürich</i> ; P. Greisen, <i>ETH Zürich</i> ; N. Felber, <i>ETH Zürich</i> ; A. Burg, <i>ETH Zürich</i>	
15:04	A3L-C.4	VLSI Implementation of a WIMAX/LTE Compliant Low-Complexity High-Throughput Soft-Output K-Best MIMO Detector	593
		Dimpesh Patel, <i>University of Toronto</i> ; Vadim Smolyakov, <i>University of Toronto</i> ; Mahdi Shabany, <i>University of Toronto</i> , <i>Sharif University of Technology</i> ; P. Glenn Gulak, <i>University of Toronto</i>	
15:22	A3L-C.5	A Simple Energy Efficient Transceiver for IEEE 802.15.4	597
		Chen Wang, <i>Xi'an Jiaotong University</i> ; Qinye Yin, <i>Xi'an Jiaotong University</i> ; Wenjie Wang, <i>Xi'an Jiaotong University</i> ; Jingjing Zhang, <i>Xi'an Jiaotong University</i> ; Haixia Liu, <i>Xi'an Jiaotong University</i>	
	A3L-D	Integrated Power Electronic Circuits (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 14:10 - 15:40	
	<i>Place:</i>	Grand Ballroom H	
	<i>Chair(s):</i>	Eduard Alarcon, <i>Technical University of Catalunya</i> Gabriel Rincón-Mora, <i>Georgia Institute of Technology</i>	
14:10	A3L-D.1	A Novel High-Speed and Low-Power Negative Voltage Level Shifter for Low Voltage Applications	601
		Peijun Liu, <i>Tsinghua University</i> ; Xueqiang Wang, <i>Tsinghua University</i> ; Dong Wu, <i>Tsinghua University</i> ; Zhigang Zhang, <i>Tsinghua University</i> ; Liyang Pan, <i>Tsinghua University</i>	
14:28	A3L-D.2	High-Voltage Rectifier and Voltage Doubler in Conventional 0.18μm CMOS Process	605
		Edward K.F. Lee, <i>Alfred Mann Foundation</i>	
14:46	A3L-D.3	Low Quiescent Current Variable Output Digital Controlled Voltage Regulator	609
		Wei-Chih Hsieh, <i>National Chiao Tung University</i> ; Wei Hwang, <i>National Chiao Tung University</i>	
15:04	A3L-D.4	Takagi-Sugeno Fuzzy Model to Approximate MOSFET Capacitance for VRM Applications	613
		T. López, <i>Philips</i> ; E. Alarcón, <i>Universitat Politècnica de Catalunya</i> ; F. Guinjoan, <i>Universitat Politècnica de Catalunya</i> ; A. Poveda, <i>Universitat Politècnica de Catalunya</i>	
15:22	A3L-D.5	Hardware-Software Co-Design of an Embedded Power Management Module with Adaptive on-Chip Power Processing Schemes	617
		Rajdeep Bondade, <i>University of Arizona</i> ; Dongsheng Ma, <i>University of Arizona</i>	
	A3L-E	Imagers (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 14:10 - 15:40	
	<i>Place:</i>	Salon A	
	<i>Chair(s):</i>	Viktor Gruev, <i>Washington University</i> Teresa Serrano-Gotarredona, <i>Instituto de Microelectrónica de Sevilla</i>	
14:10	A3L-E.1	Integrated Polarization-Analyzing CMOS Image Sensor	621
		Mukul Sarkar, <i>IMEC, Delft University of Technology</i> ; David San Segundo Bello, <i>IMEC</i> ; Chris van Hoof, <i>IMEC</i> ; Albert Theuwissen, <i>Delft University of Technology, Harvest Imaging</i>	

14:28	A3L-E.2	A Row-Parallel Cyclic-Line-Access Edge Detection CMOS Image Sensor Employing Global Thresholding Operation	625
		Norihiro Takahashi, <i>University of Tokyo</i> ; Tadashi Shibata, <i>University of Tokyo</i>	
14:46	A3L-E.3	A 1 MPixel CCD Image Sensor with Aluminum Nanowire Polarization Filter	629
		Viktor Gruev, <i>Washington University in St Louis</i> ; Rob Perkins, <i>Washington University in St Louis</i>	
15:04	A3L-E.4	Intensity Histogram CMOS Image Sensor for Adaptive Optics	633
		Yu M. Chi, <i>Univ. of California, San Diego</i> ; Gary Carhart, <i>U.S. Army Research Laboratory</i> ; Mikhail A. Vorontsov, <i>U.S. Army Research Laboratory</i> ; Gert Cauwenberghs, <i>Univ. of California, San Diego</i>	
15:22	A3L-E.5	Liquid-Crystal Micropolarimeter Array for Visible Linear and Circular Polarization Imaging	637
		Xiaojin Zhao, <i>Hong Kong University of Science and Technology, University of Western Australia</i> ; Amine Bermak, <i>Hong Kong University of Science and Technology</i> ; Farid Boussaid, <i>University of Western Australia</i> ; Vladimir G. Chigrinov, <i>Hong Kong University of Science and Technology</i>	
	A3L-F	Testing, Verification & Debug (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 14:10 - 15:40	
	<i>Place:</i>	Salon B	
	<i>Chair(s):</i>	Yu Hao, <i>Nanyang Technological University</i>	
14:10	A3L-F.1	Using QBF to Increase Accuracy of SAT-Based Debugging	641
		André Sülflow, <i>Universität Bremen</i> ; Görschwin Fey, <i>Universität Bremen</i> ; Rolf Drechsler, <i>Universität Bremen</i>	
14:28	A3L-F.2	Improving Verification Coverage of Analog Circuit Blocks by State Space-Guided Transient Simulation	645
		Sebastian Steinhorst, <i>Goethe-Universität Frankfurt am Main</i> ; Lars Hedrich, <i>Goethe-Universität Frankfurt am Main</i>	
14:46	A3L-F.3	Efficient Test Generation with Maximal Crosstalk-Induced Noise using Unconstrained Aggressor Excitation	649
		Stephan Eggersgluß, <i>Universität Bremen</i> ; Daniel Tille, <i>Universität Bremen</i> ; Rolf Drechsler, <i>Universität Bremen</i>	
15:04	A3L-F.4	Fault Collapsing with Linear Complexity in Digital Circuits	653
		R. Ubar, <i>Tallinn University of Technology</i> ; D. Mironov, <i>Tallinn University of Technology</i> ; J. Raik, <i>Tallinn University of Technology</i> ; A. Jutman, <i>Tallinn University of Technology</i>	
15:22	A3L-F.5	Detection of Inter-Port Bridging Faults in Dual-Port Memories	657
		Ho-Yong Choi, <i>Chungbuk National University</i> ; Kewal K. Saluja, <i>University of Wisconsin-Madison</i>	

A3L-G Multimedia Coding I (Lecture)

Time: Monday, May 31, 2010, 14:10 - 15:40

Place: Salon C

Chair(s): Yu Hen Hu, *University of Wisconsin-Madison*
Bin-Da Liu, *National Cheng-Kung University*

14:10

A3L-G.1 Low Complexity MAD Prediction Algorithms for Rate Controllable H.264/AVC Hardware Encoders ... 661

Li-Chuan Chang, *National Cheng-Kung University*; Chih-Hung Kuo, *National Cheng Kung University*;
Bin-Da Liu, *National Cheng Kung University*

14:28

A3L-G.2 Efficient Inter-Layer Prediction Hardware Design with Extended Spatial Scalability for H.264/AVC Scalable Extension 665

Yu-Chen Chen, *National Chiao Tung University*; Gwo-Long Li, *National Chiao Tung University*;
Tian-Sheuan Chang, *National Chiao Tung University*

14:46

A3L-G.3 Efficient Macroblock Pipeline Structure in High Definition AVS Video Encoder VLSI Architecture 669

Hai bing Yin, *Peking University, Zhejiang University*; Hong gang Qi, *Peking University*; Huizhu Jia, *Peking University*; Don Xie, *Peking University*; Wen Gao, *Peking University*

15:04

A3L-G.4 Down-Sampling based Video Coding with Super-Resolution Technique 673

Minmin Shen, *Nanyang Technological University*; Ping Xue, *Nanyang Technological University*;
Ci Wang, *Shanghai Jiao Tong University*

15:22

A3L-G.5 A Lossless Frame Recompression Scheme for Reducing DRAM Power in Video Encoding 677

Xuena Bao, *Waseda University*; Dajiang Zhou, *Waseda University*; Satoshi Goto, *Waseda University*

A3L-H Complex Networks Analysis & Applications II (Lecture)

Time: Monday, May 31, 2010, 14:10 - 15:40

Place: Salon D

Chair(s): Zbigniew Galias, *AGH University of Science & Technology*
Jie Huang, *Chinese University of Hong Kong*

14:10

A3L-H.1 Building Synchronizable and Robust Networks 681

Igor Mishkovski, *Politecnico di Torino*; Marco Righero, *Politecnico di Torino*; Mario Biey, *Politecnico di Torino*; Ljupco Kocarev, *Macedonian Academy of Sciences and Arts*

14:28

A3L-H.2 Fully Adaptive Pinning Control of Complex Networks 685

P. DeLellis, *Università degli Studi di Napoli Federico II*; M. diBernardo, *Università degli Studi di Napoli Federico II*; L.F.R. Turci, *Technological Institute of Aeronautics*

14:46

A3L-H.3 Robust Adaptive Control of a Class of Nonlinear Systems by Internal Model Design 689

Dabo Xu, *Chinese University of Hong Kong*; Jie Huang, *Chinese University of Hong Kong*

15:04

A3L-H.4 Basins of Attraction for Periodic Solutions of Discretized Sliding Mode Control Systems 693

Zbigniew Galias, *AGH University of Science and Technology*

15:22	A3L-H.5	Automatic Skill Acquisition in Reinforcement Learning using Connection Graph Stability Centrality	697
		<i>Ali Ajdari Rad, Ecole Polytechnique Fédérale de Lausanne; Martin Hasler, Ecole Polytechnique Fédérale de Lausanne; Parham Moradi, Amirkabir University of Technology</i>	
	A3L-J	Arithmetic Circuits (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 14:10 - 15:40	
	<i>Place:</i>	Salon J	
	<i>Chair(s):</i>	Vojin Oklobdzija, <i>University of Texas</i> Xinmiao Zhang, <i>Case Western Reserve University</i>	
14:10	A3L-J.1	A High Performance Pseudo-Multi-Core ECC Processor Over GF(2¹⁶³)	701
		<i>Yu Zhang, University of Saskatchewan; Dongdong Chen, University of Saskatchewan; Younhee Choi, University of Saskatchewan; Li Chen, University of Saskatchewan; Seok-Bum Ko, University of Saskatchewan</i>	
14:28	A3L-J.2	A Novel Counter-Based Low Complexity Inner-Product Architecture for High Speed Inputs	705
		<i>Manas Ranjan Meher, Nanyang Technological University; Ching-Chuen Jong, Nanyang Technological University; Chip-Hong Chang, Nanyang Technological University; Jeremy Yung Shern Low, Nanyang Technological University</i>	
14:46	A3L-J.3	A Radix-4 Single-Precision Floating Point Divider based on Digit Set Interleaving	709
		<i>Ingo Rust, RWTH Aachen University; Tobias G. Noll, RWTH Aachen University</i>	
15:04	A3L-J.4	Design of High-Speed Bit-Serial Divider in GF(2^m)	713
		<i>Wen-Ching Lin, National Cheng Kung University; Ming-Der Shieh, National Cheng Kung University; Chien-Ming Wu, National Applied Research Laboratories</i>	
15:22	A3L-J.5	Fast Hard Multiple Generators for Radix-8 Booth Encoded Modulo 2ⁿ-1 and Modulo 2ⁿ+1 Multipliers	717
		<i>Ramya Muralidharan, Nanyang Technological University; Chip-Hong Chang, Nanyang Technological University</i>	
	A3L-K	Digital Filter Design (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 14:10 - 15:40	
	<i>Place:</i>	Salon K	
	<i>Chair(s):</i>	Andreas Antoniou, <i>University of Victoria</i> H.K. Kwan, <i>University of Windsor</i>	
14:10	A3L-K.1	Frequency Domain Limitations of Non-Negative Impulse Response Non-Lowpass Filters	721
		<i>Y. Liu, University of Notre Dame; Peter H. Bauer, University of Notre Dame</i>	
14:28	A3L-K.2	Novel Low Complexity Lattice Filters with Overflow Property Close to the Normalized Lattice	725
		<i>Gang Li, Zhejiang University of Technology; Yong Ching Lim, Nanyang Technological University; Chaogeng Huang, Zhejiang University of Technology; Shuqin Guo, Zhejiang University of Technology</i>	
14:46	A3L-K.3	Analytical Synthesis of Minimum L₂-Sensitivity Realizations of All-Pass Digital Filters	729
		<i>Shunsuke Yamaki, Tohoku Univ.; Masahide Abe, Tohoku Univ.; Masayuki Kawamata, Tohoku Univ.</i>	

15:04	A3L-K.4 Polynomial Implementation Structure for Lagrange-Type Variable Fractional Delay Filters	733
	Wei Jing Xu, <i>Nanyang Technological University</i> ; Ya Jun Yu, <i>Nanyang Technological University</i>	
15:22	A3L-K.5 Design of IIR Allpass Fractional-Delay Fractional Hilbert Transformer using Complex Cepstrum	737
	Soo-Chang Pei, <i>National Taiwan University</i> ; Huei-Shan Lin, <i>National Taiwan University</i>	
	A3L-L Millimeter-Wave & Optical Communications Circuits (Lecture)	
	<i>Time:</i> Monday, May 31, 2010, 14:10 - 15:40	
	<i>Place:</i> Salon L	
	<i>Chair(s):</i> Ehsan Afshari, <i>Cornell University</i> Elvis Mak, <i>University of Macau</i>	
14:10	A3L-L.1 45-nm Planar Bulk-CMOS 23-GHz LNAs with High-Q Above-IC Inductors	741
	Wen-Chieh Wang, <i>National Chiao Tung University</i> ; Zue-Der Huang, <i>National Chiao Tung University</i> ; Geert Carchon, <i>IMEC</i> ; Abdelkarim Mercha, <i>IMEC</i> ; Stefaan Decoutere, <i>IMEC</i> ; Walter De Raedt, <i>IMEC</i> ; Chung-Yu Wu, <i>National Chiao Tung University</i>	
14:28	A3L-L.2 30-39GHz 2Gbit/s Ring Oscillator based OOK-Modulator for Chip-to-Chip Communications	745
	Tero Tikka, <i>Aalto University</i> ; Jussi Ryyänen, <i>Aalto University</i>	
14:46	A3L-L.3 Bandwidth Enhancement of Passive Filters at mm-Wave Frequencies using Effective Negative Group Index (NGI) Structures	749
	Muhamamd Adnan, <i>Cornell University</i> ; Ehsan Afshari, <i>Cornell University</i>	
15:04	A3L-L.4 A W-Band LNA in 0.18-μm SiGe BiCMOS	753
	Leland Gilreath, <i>University of California-Irvine, Northrop Grumman Aerospace Systems</i> ; Vipul Jain, <i>SaberTek</i> ; Payam Heydari, <i>University of California-Irvine</i>	
15:22	A3L-L.5 A 40 Gb/s Transimpedance Amplifier in 65 nm CMOS	757
	Samira Bashiri, <i>Carleton University</i> ; Calvin Plett, <i>Carleton University</i> ; Jorge Aguirre, <i>Nortel</i> ; Peter Schvan, <i>Nortel</i>	
	A3L-M Switching Amplifiers & Feedback Techniques (Lecture)	
	<i>Time:</i> Monday, May 31, 2010, 14:10 - 15:40	
	<i>Place:</i> Salon M	
	<i>Chair(s):</i> Gregorio Cappuccino, <i>University of Calabria</i>	
14:10	A3L-M.1 Wide Swing Signal Amplification by SC Voltage Doubling	761
	Sebastian Höppner, <i>Technische Universität Dresden</i> ; René Schüffny, <i>Technische Universität Dresden</i> ; Zuo-Min Tsai, <i>National Taiwan University</i> ; Huei Wang, <i>National Taiwan University</i>	
14:28	A3L-M.2 Low-Power Ripple-Free Chopper Amplifier with Correlated Double Sampling De-Chopping	765
	Massimiliano Belloni, <i>Università degli studi di Pavia</i> ; Edoardo Bonizzoni, <i>Università degli studi di Pavia</i> ; Franco Maloberti, <i>Università degli studi di Pavia</i> ; Andrea Fornasari, <i>National Semiconductor Corporation</i>	

14:46	A3L-M.3	A Phase-Shift Self-Oscillating Stereo Class-D Amplifier for Battery-Powered Applications	769
		Alexandre Huffenus, <i>CPE Lyon</i> ; Gaël Pillonnet, <i>CPE Lyon</i> ; Nacer Abouchi, <i>CPE Lyon</i> ; Frédéric Goutti, <i>STMicroelectronics</i> ; Vincent Rabary, <i>STMicroelectronics</i> ; Cécile Specq, <i>STMicroelectronics</i>	
15:04	A3L-M.4	Low-Voltage g_m-Enhanced CMOS Differential Pairs using Positive Feedback	773
		Jaime Ramírez-Angulo, <i>New Mexico State University</i> ; Belen Calvo, <i>Universidad de Zaragoza</i> ; Ramón G. Carvajal, <i>Universidad de Sevilla</i> ; Antonio López-Martín, <i>Universidad Pública de Navarra</i>	
15:22	A3L-M.5	Analytical Figure of Merit Evaluation of RNMC Networks for Low-Power Three-Stage OTAs	777
		Davide Marano, <i>Università di Catania</i> ; Gaetano Palumbo, <i>Università di Catania</i> ; Salvatore Pennisi, <i>Università di Catania</i>	
	A3L-N	Emerging Nano-Devices & Nano-Scale Technologies (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 14:10 - 15:40	
	<i>Place:</i>	Radio City Ballroom I	
	<i>Chair(s):</i>	Paul Ampadu, <i>University of Rochester</i> Mladen Berekovic, <i>Technische Universität Braunschweig</i>	
14:10	A3L-N.1	A 2-Dimensional Si Nanodisk Array Structure for Spiking Neuron Models	781
		Takashi Morie, <i>Kyushu Institute of Technology</i> ; Yilai Sun, <i>Kyushu Institute of Technology</i> ; Haichao Liang, <i>Kyushu Institute of Technology</i> ; Makoto Igarashi, <i>Tohoku University</i> ; Chi-Hsien Huang, <i>Tohoku University</i> ; Seiji Samukawa, <i>Tohoku University</i>	
14:28	A3L-N.2	Analysis of NBTI-Induced SNM Degradation in Power-Gated SRAM Cells	785
		Andrea Calimera, <i>Politecnico di Torino</i> ; Enrico Macii, <i>Politecnico di Torino</i> ; Massimo Poncino, <i>Politecnico di Torino</i>	
14:46	A3L-N.3	Dual-Stylus-Arm Scratch Drive Micro-Robots Controlled by a Communication Channel	789
		Jung H. Cho, <i>Lehigh University</i> ; Mark G. Arnold, <i>Lehigh University</i>	
	A3L-P	SPECIAL SESSION: Recent Advances in Blind Signal Processing (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 14:10 - 15:40	
	<i>Place:</i>	Radio City Ballroom II	
	<i>Chair(s):</i>	Wei Xing Zheng, <i>University of Western Sydney</i> Wei-Ping Zhu, <i>Concordia University</i>	
14:10	A3L-P.1	Blind Carrier Frequency Offset Estimation for OFDM Systems by Probability Density Function	793
		Ju-Ya Chen, <i>National Sun Yat-Sen University</i>	
14:28	A3L-P.2	Sigma-Delta Learning for Super-Resolution Source Separation on High-Density Microphone Arrays ..	797
		Amin Fazel, <i>Michigan State University</i> ; Shantanu Chakrabartty, <i>Michigan State University</i>	
14:46	A3L-P.3	A Block-Based Adaptive Super-Exponential Deflation Algorithm for Blind Deconvolution of MIMO Systems using the Matrix Pseudo-Inversion Lemma	801
		Kiyotaka Kohno, <i>Yonago National College of Technology</i> ; Mitsuru Kawamoto, <i>National Institute of Advanced Industrial Science and Technology</i> ; Yujiro Inouye, <i>Shimane University</i>	

15:04	A3L-P.4	A Joint Block Diagonalization Approach to Convolutional Blind Source Separation	805
		Xianfeng Xu, <i>Xidian University</i> ; Da-Zheng Feng, <i>Xidian University</i> ; Wei Xing Zheng, <i>University of Western Sydney</i>	
15:22	A3L-P.5	Blind Resampling Parameter Estimation for Doubly Selective Underwater Acoustic Channels	809
		Srinivas Yerramalli, <i>University of Southern California</i> ; Urbashi Mitra, <i>University of Southern California</i>	
	A4L-A	SPECIAL SESSION: Digitally Enhanced RF for Wireless Communications (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 16:00 - 17:30	
	<i>Place:</i>	Grand Ballroom E	
	<i>Chair(s):</i>	Andreas Springer, <i>Johannes Kepler University</i> Mikko Valkama, <i>Tampere University of Technology</i>	
16:00	A4L-A.1	Digital Signal Processing for Reducing the Effects of RF Imperfections in Radio Devices – An Overview	813
		Mikko Valkama, <i>Tampere University of Technology</i> ; Andreas Springer, <i>Johannes Kepler University</i> ; Gernot Hueber, <i>DICE GmbH & CO KG</i>	
16:18	A4L-A.2	Softransceiver Transmit Origin Offset Compensation: Digital to the Rescue of RF-CMOS	817
		Khurram Waheed, <i>BitWave Semiconductors, Inc.</i> ; John Kilpatrick, <i>BitWave Semiconductors, Inc.</i> ; Greg Sheets, <i>BitWave Semiconductors, Inc.</i> ; Geoff Dawe, <i>BitWave Semiconductors, Inc.</i>	
16:36	A4L-A.3	Emerging Multi-Level Architectures and Unbalanced Mismatch Calibration Technique for High-Efficient and High-Linear LINC Systems	821
		J. Laskar, <i>Georgia Institute of Technology</i> ; K. Lim, <i>Georgia Institute of Technology</i> ; J. Hur, <i>Georgia Institute of Technology</i> ; K.W. Kim, <i>Georgia Institute of Technology</i> ; O. Lee, <i>Georgia Institute of Technology</i> ; C.-H. Lee, <i>Samsung Design Center</i>	
16:54	A4L-A.4	An IIP2 Digital Calibration Technique for Passive CMOS Down-Converters	825
		S. Rodriguez, <i>KTH Royal Institute of Technology</i> ; S. Tao, <i>KTH Royal Institute of Technology</i> ; M. Ismail, <i>KTH Royal Institute of Technology</i> ; A. Rusu, <i>KTH Royal Institute of Technology</i>	
17:12	A4L-A.5	Sampling Clock Jitter Estimation and Compensation in ADC Circuits	829
		Zaid J. Towfic, <i>University of California, Los Angeles</i> ; Shang-Kee Ting, <i>University of California, Los Angeles</i> ; Ali H. Sayed, <i>University of California, Los Angeles</i>	
	A4L-B	Regulators & DC/DC Converters (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 16:00 - 17:30	
	<i>Place:</i>	Grand Ballroom F	
	<i>Chair(s):</i>	Mohamad Sawan, <i>École Polytechnique de Montréal</i>	
16:00	A4L-B.1	A DC-DC Converter using a High Speed Soft-Start Control Circuit	833
		Kimio Shibata, <i>University of Electro-Communications</i> ; Cong-Kha Pham, <i>University of Electro-Communications</i>	
16:18	A4L-B.2	A Resistor-Less Overload Detector for DC/DC Linear Regulators	837
		Jader A. De Lima, <i>Center of Technology for Information</i> ; Wallace A. Pimenta, <i>Center of Technology for Information</i>	

16:36	A4L-B.3	Low Noise Linear Voltage Regulator for Use as an On-Chip PLL Supply in Microprocessors	841
		Joseph Shor, <i>Intel Corporation</i>	
16:54	A4L-B.4	A Resistor-Free Temperature-Compensated CMOS Current Reference	845
		Wei Liu, <i>Ohio State University</i> ; Waleed Khalil, <i>Ohio State University</i> ; Mohammed Ismail, <i>Ohio State University</i> ; Edith Kussener, <i>Institut Materiaux Microelectronique Nanosciences de Provence</i>	
17:12	A4L-B.5	Low-Dropout Voltage Reference: An Approach to Buffered Architectures with Low Sensitivity	849
		Hamed Aminzadeh, <i>Ferdowsi University of Mashhad</i> ; Reza Lotfi, <i>Ferdowsi University of Mashhad</i> ; Khalil Mafinezhad, <i>Ferdowsi University of Mashhad</i>	
	A4L-C	Programmable/Reconfigurable Circuits & Systems (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 16:00 - 17:30	
	<i>Place:</i>	Grand Ballroom G	
	<i>Chair(s):</i>	Mladen Berekovic, <i>Technische Universität Braunschweig</i> Gaetano Palumbo, <i>University of Catania</i>	
16:00	A4L-C.1	A Direct Bitstream Manipulation Approach for Virtex4-Based Evolvable Systems	853
		Fabio Cancare, <i>Politecnico di Milano</i> ; Marco D. Santambrogio, <i>Massachusetts Institute of Technology</i> ; Donatella Sciuto, <i>Politecnico di Milano</i>	
16:18	A4L-C.2	Computation in Communication: Spike Event Coding for Programmable Analog Arrays	857
		Luiz Carlos Gouveia, <i>University of Edinburgh</i> ; Thomas Jacob Koickal, <i>University of Edinburgh</i> ; Alister Hamilton, <i>University of Edinburgh</i>	
16:36	A4L-C.3	Crossbar Switch Matrix for Floating-Gate Programming Over Large Current Ranges	861
		Brian P. Degan, <i>Georgia Institute of Technology</i> ; Christopher J. Duffy, <i>Georgia Institute of Technology</i> ; Paul E. Hasler, <i>Georgia Institute of Technology</i>	
16:54	A4L-C.4	A Novel Scalable and Reconfigurable Emulation Platform for Embedded Systems Verification	865
		M. Di Marzio, <i>Politecnico di Torino</i> ; M. Grosso, <i>Politecnico di Torino</i> ; M. Sonza Reorda, <i>Politecnico di Torino</i> ; L. Sterpone, <i>Politecnico di Torino</i> ; G. Audisio, <i>Pirelli Tyre</i> ; M. Sabatini, <i>Pirelli Tyre</i>	
17:12	A4L-C.5	Voltage-Mode Quaternary FPGAs: An Evaluation of Interconnections	869
		Cristiano Lazzari, <i>Inesc-ID</i> ; Paulo Flores, <i>Inesc-ID</i> ; José Monteiro, <i>Inesc-ID</i> ; Luigi Carro, <i>Universidade Federal do Rio Grande do Sul</i>	
	A4L-D	Integrated & Wireless Power Circuits (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 16:00 - 17:30	
	<i>Place:</i>	Grand Ballroom H	
	<i>Chair(s):</i>	Marian Kazimierczuk, <i>Wright State University</i> Gabriel Rincón-Mora, <i>Georgia Institute of Technology</i>	
16:00	A4L-D.1	A Low Voltage CMOS Rectifier for Wirelessly Powered Devices	873
		Qiang Li, <i>Waseda University</i> ; Renyuan Zhang, <i>Waseda University</i> ; Zhangcai Huang, <i>Waseda University</i> ; Yasuaki Inoue, <i>Waseda University</i>	

16:18	A4L-D.2 Fully Integrated Ultra-Low-Power Asynchronously Driven Step-Down DC-DC Converter	877
	Omar Al-Terkawi Hasib, <i>École Polytechnique de Montréal</i> ; Mohamad Sawan, <i>École Polytechnique de Montréal</i> ; Yvon Savaria, <i>École Polytechnique de Montréal</i>	
16:36	A4L-D.3 Circuit/System Design Space Characterization of EER-Based Transmitter for 802.11a WLAN Standard	881
	J. Marchán, <i>Universitat Politècnica de Catalunya</i> ; E. Barba, <i>Universitat Politècnica de Catalunya</i> ; L. Marco, <i>Universitat Politècnica de Catalunya</i> ; D. Maksimović, <i>University of Colorado at Boulder</i> ; E. Alarcón, <i>Universitat Politècnica de Catalunya</i>	
16:54	A4L-D.4 Translayer Optimized Co-Design of In-Space Microwave based Wireless Power Transfer	885
	Elisenda Bou, <i>Universitat Politècnica de Catalunya</i> ; Eduard Alarcón, <i>Universitat Politècnica de Catalunya</i> ; Alvar Saenz-Otero, <i>Massachusetts Institute of Technology</i> ; Christophe Mandy, <i>Massachusetts Institute of Technology</i>	
17:12	A4L-D.5 An Ultra-Low-Voltage Active Rectifier for Energy Harvesting Applications	889
	Christian Peters, <i>Universität Freiburg</i> ; Jonas Handwerker, <i>Universität Freiburg</i> ; Dominic Maurath, <i>Universität Freiburg, HSG-IMIT</i> ; Yiannos Manoli, <i>Universität Freiburg, HSG-IMIT</i>	
A4L-E	Sensor Circuits & Systems (Lecture)	
<i>Time:</i>	Monday, May 31, 2010, 16:00 - 17:30	
<i>Place:</i>	Salon A	
<i>Chair(s):</i>	Milutin Stanacevic, <i>Stony Brook University</i> Chai Wah Wu, <i>IBM T. J. Watson Research Center</i>	
16:00	A4L-E.1 POSFET Devices based Tactile Sensing Arrays	893
	Ravinder S. Dahiya, <i>Italian Institute of Technology</i> ; Leandro Lorenzelli, <i>Fondazione Bruno Kessler</i> ; Giorgio Metta, <i>Italian Institute of Technology, Università degli Studi di Genova</i> ; Maurizio Valle, <i>Università degli Studi di Genova</i>	
16:18	A4L-E.2 Fully On-Chip Temperature, Process, and Voltage Sensors	897
	Shi-Wen Chen, <i>National Chiao Tung University</i> ; Ming-Hung Chang, <i>National Chiao Tung University</i> ; Wei-Chih Hsieh, <i>National Chiao Tung University</i> ; Wei Hwang, <i>National Chiao Tung University</i>	
16:36	A4L-E.3 Genetic-Based Automated Synthesis and Optimization of MEMS Accelerometers with Sigma-Delta Control	901
	Chenxu Zhao, <i>University of Southampton</i> ; Tom J. Kazmierski, <i>University of Southampton</i>	
16:54	A4L-E.4 Dual-Line Distance Sensor with On-Chip Phase Generator and Suppression of Ambient Light	905
	G. Zach, <i>Vienna University of Technology</i> ; M. Davidovic, <i>Vienna University of Technology</i> ; H. Zimmermann, <i>Vienna University of Technology</i>	
17:12	A4L-E.5 Low-Power Charge Sensitive Amplifier for Semiconductor Scintillator	909
	Xiao Yun, <i>Stony Brook Univ.</i> ; Milutin Stanačević, <i>Stony Brook Univ.</i> ; Serge Luryi, <i>Stony Brook Univ.</i>	

A4L-F Placement & Floorplanning (Lecture)

Time: Monday, May 31, 2010, 16:00 - 17:30

Place: Salon B

Chair(s): David Pan, *University of Texas at Austin*

16:00

A4L-F.1 Whitespace Insertion for Through-Silicon via Planning on 3-D SoCs 913
Wei Zhong, *Waseda University*; Song Chen, *Waseda University*; Takeshi Yoshimura, *Waseda University*

16:18

A4L-F.2 Case Study: GPU-Based Implementation of Sequence Pair based Floorplanning using CUDA 917
Won Ha Choi, *North Carolina State University*; Xun Liu, *North Carolina State University*

16:36

A4L-F.3 Performance-Driven High-Level Synthesis with Floorplan for GDR Architectures and its Evaluation 921
Akira Ohchi, *Waseda University*; Nozomu Togawa, *Waseda University*; Masao Yanagisawa, *Waseda University*; Tatsuo Ohtsuki, *Waseda University*

16:54

A4L-F.4 A Floorplan Method for Asynchronous Circuits with Bundled-Data Implementation on FPGAs 925
Hiroshi Saito, *University of Aizu*; Naohiro Hamada, *University of Aizu*; Tomohiro Yoneda, *National Institute of Informatics*; Takashi Nanya, *University of Tokyo*

17:12

A4L-F.5 Post-Placement STI Well Width Adjusting by Geometric Programming for Device Mobility Enhancement in Critical Path 929
Jing Li, *University of Kitakyushu*; Bo Yang, *University of Kitakyushu*; Qing Dong, *University of Kitakyushu*; Shigetoshi Nakatake, *University of Kitakyushu*

A4L-G Advanced Video Coding I (Lecture)

Time: Monday, May 31, 2010, 16:00 - 17:30

Place: Salon C

Chair(s): Mary Comer, *Purdue University*
Daniel P.K. Lun, *Hong Kong Polytechnic University*

16:00

A4L-G.1 Partial Video Encryption based on Alternative Integer Transforms 933
Siu-Kei Au Yeung, *Hong Kong University of Science and Technology*; Shuyuan Zhu, *Hong Kong University of Science and Technology*; Bing Zeng, *Hong Kong University of Science and Technology*

16:18

A4L-G.2 Composing Better Pictures in MDC: A Multi-Target Total Variational Approach 937
Shuyuan Zhu, *Hong Kong University of Science and Technology*; Jiying Wu, *Hong Kong University of Science and Technology*; Bing Zeng, *Hong Kong University of Science and Technology*

16:36

A4L-G.3 Macroblock Level Hybrid Temporal-Spatial Prediction for H.264/AVC 941
Mou Xiao, *Tsinghua University*; Pin Tao, *Tsinghua University*; Jianwen Chen, *Tsinghua University*; Wenting Wu, *Tsinghua University*; Jiangtao Wen, *Tsinghua University*

16:54

A4L-G.4 Improving H.264/AVC Video Coding with Adaptive Coefficient Suppression 945
Zhengyi Luo, *Shanghai Jiao Tong University*; Li Song, *Shanghai Jiao Tong University*; Shibao Zheng, *Shanghai Jiao Tong University*

17:12	A4L-G.5	Improved Hybrid Coding Scheme for Intra 4x4 Residual Block Produced by H.264/AVC	949
		Li-Li Wang, <i>Hong Kong Polytechnic University</i> ; Wan-Chi Siu, <i>Hong Kong Polytechnic University</i>	
	A4L-H	Circuits for Biomedical Systems I (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon D	
	<i>Chair(s):</i>	Amine Bermak, <i>Hong Kong University of Science & Technology</i> Ching-Hsing Luo, <i>National Cheng Kung University</i>	
16:00	A4L-H.1	4-Channel Asynchronous Bio-Potential Recording System	953
		Wei Tang, <i>Yale University</i> ; Chenxi Huang, <i>Yale University</i> ; Dongsoo Kim, <i>Yale University</i> ; Berin Martini, <i>Yale University</i> ; Eugenio Culurciello, <i>Yale University</i>	
16:18	A4L-H.2	WiiEMG: A Real-Time Environment for Control of the Wii with Surface Electromyography	957
		Harry Oppenheim, <i>Johns Hopkins University</i> ; Robert S. Armiger, <i>Johns Hopkins University</i> ; R. Jacob Vogelstein, <i>Johns Hopkins University</i>	
16:36	A4L-H.3	A Novel Energy-Efficient Stimuli Generator for Very-High Impedance Intracortical Microstimulation	961
		Sébastien Ethier, <i>École Polytechnique de Montréal</i> ; Mohamad Sawan, <i>École Polytechnique de Montréal</i> ; Mourad El-Gamal, <i>McGill University</i>	
16:54	A4L-H.4	A Current Generator Circuit for Tripolar Stimulation and Insensitive to Temperature and Supply Variations	965
		Xiao Liu, <i>University College London</i> ; Andreas Demosthenous, <i>University College London</i> ; Iasonas Triantis, <i>Imperial College London</i> ; Nick Donaldson, <i>University College London</i>	
17:12	A4L-H.5	Analog Complex Gammatone Filter for Cochlear Implant Channels	969
		Wannaya Ngamkham, <i>Delft University of Technology</i> ; Chutham Sawigun, <i>Delft University of Technology</i> ; Senad Hiseni, <i>Delft University of Technology</i> ; Wouter A. Serdijn, <i>Delft University of Technology</i>	
	A4L-J	Noise/Failure Analysis in VLSI Circuits (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon J	
	<i>Chair(s):</i>	Vasily Moshnyaga, <i>Fukuoka University</i> Radu Secareanu, <i>Motorola, Inc</i>	
16:00	A4L-J.1	Digital Enhancement of Frequency Synthesizers	973
		Mahmoud Ouda, <i>Ain Shams University</i> ; Emad Hegazi, <i>Ain Shams University</i> ; Hany F. Ragai, <i>Ain Shams University</i>	
16:18	A4L-J.2	EMI Reduction by Resonant Clock Distribution Networks	977
		Behzad Mesgarzadeh, <i>Linköping University</i> ; Atila Alvandpour, <i>Linköping University</i>	
16:36	A4L-J.3	An Area Efficient Design Methodology for SEU Tolerant Digital Circuits	981
		Sohan Purohit, <i>University of Massachusetts Lowell</i> ; David Harrington, <i>University of Massachusetts Lowell</i> ; Martin Margala, <i>University of Massachusetts Lowell</i>	

16:54	A4L-J.4	Analysis and Optimization of Sequential Circuit Elements to Combat Single-Event Timing Upsets	985
		Hamed Abrishami, <i>University of Southern California</i> ; Safar Hatami, <i>University of Southern California</i> ; Massoud Pedram, <i>University of Southern California</i>	
17:12	A4L-J.5	ESD Protection Circuit for High-Voltage CMOS ICs with Improved Immunity Against Transient-Induced Latchup	989
		Ming-Dou Ker, <i>National Chiao Tung University, I-Shou University</i> ; Che-Lun Hsu, <i>National Chiao Tung University</i> ; Wen-Yi Chen, <i>National Chiao Tung University</i>	
	A4L-K	M-Dimensional Digital Signal Processing (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon K	
	<i>Chair(s):</i>	Masayuki Kawamata, <i>Tohoku University</i> Zhiping Lin, <i>Nanyang Technology University</i>	
16:00	A4L-K.1	Two-Dimensional Partially Differential Cepstrum and Minimum-Phase Sequence Construction	993
		Soo-Chang Pei, <i>National Taiwan University</i> ; Huei-Shan Lin, <i>National Taiwan University</i>	
16:18	A4L-K.2	Non-Fragile H_{∞} Filter Design for Polytopic 2-D Systems in Fornasini- Marchesini Model	997
		Huiling Xu, <i>Nanyang Technological University</i> ; Zhiping Lin, <i>Nanyang Technological University</i> ; Anamitra Makur, <i>Nanyang Technological University</i>	
16:36	A4L-K.3	Application Specific Stability of 2-D Roesser Model Realizations	1001
		Joerg Velten, <i>Bergische Universität Wuppertal</i> ; Sam Schauland, <i>Bergische Universität Wuppertal</i> ; Anton Kummert, <i>Bergische Universität Wuppertal</i> ; Krzysztof Galkowski, <i>University of Zielona Gora</i>	
16:54	A4L-K.4	Multidimensional Raster-Scanned LC-Ladder Wave-Digital Filter Hardware for Directional Filtering in Space-Time	1005
		Arjuna Madanayake, <i>University of Akron</i> ; Len T. Bruton, <i>University of Calgary</i>	
17:12	A4L-K.5	State-Space Formulation of n-Variable Bilinear Transformation for n-D Systems	1009
		Natsuko Shiratori, <i>Akita Prefectural University</i> ; Shi Yan, <i>Akita Prefectural University</i> ; Hsin-Jang Shieh, <i>National Dong Hwa University</i> ; Li Xu, <i>Akita Prefectural University</i>	
	A4L-L	Modeling & Analysis of Communications Systems (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon L	
	<i>Chair(s):</i>	Wael Badawy, <i>IntelliView Technologies Inc.</i> Mohamed Elgamel, <i>University of Louisiana at Lafayette</i>	
16:00	A4L-L.1	Optimizing Throughput for Limited Receiver Circuit Power	1013
		J.H.C. van den Heuvel, <i>Eindhoven University of Technology</i> ; J.P.M.G. Linnartz, <i>Eindhoven University of Technology</i> , <i>Philips Research</i> ; P.G.M. Baltus, <i>Eindhoven University of Technology</i>	
16:18	A4L-L.2	Gain and Delay Mismatches Cancellation in LINC and Polar Transmitters	1017
		Corinne Berland, <i>ESIEE Paris</i> ; Jean-François Bercher, <i>ESIEE Paris</i> ; Olivier Venard, <i>ESIEE Paris</i>	

16:36	A4L-L.3	IQ Mismatch Compensation using Time Domain Signal Processing: A Practical Approach	1021
		Bijoy Bhukania, <i>Texas Instruments India Pvt. Ltd.</i> ; Sthanunathan Ramakrishnan, <i>Texas Instruments India Pvt. Ltd.</i> ; Yogesh Darwhekar, <i>Texas Instruments India Pvt. Ltd.</i>	
16:54	A4L-L.4	How to Choose the ADC Resolution for Short Range Low Power Communication?	1025
		Amine Mezghani, <i>Technische Universität München</i> ; Josef A. Nossek, <i>Technische Universität München</i>	
17:12	A4L-L.5	BER-Optimal Analog-to-Digital Converters for Communication Links	1029
		Minwei Lu, <i>University of Illinois at Urbana-Champaign</i> ; Naresh Shanbhag, <i>University of Illinois at Urbana-Champaign</i> ; Andrew Singer, <i>University of Illinois at Urbana-Champaign</i>	
	A4L-M	Special & Current-Mode Filters (Lecture)	
	<i>Time:</i>	Monday, May 31, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon M	
	<i>Chair(s):</i>	Viktor Gruev, <i>Washington University</i>	
16:00	A4L-M.1	An Improved Wide-Dynamic Range Tunable RF Interference Suppression Notch Filter	1033
		Sanghoon Park, <i>University of California, San Diego</i> ; Vincent W. Leung, <i>Qualcomm Inc.</i> ; Lawrence E. Larson, <i>University of California, San Diego</i>	
16:18	A4L-M.2	Towards the Realization of Fractional Step Filters	1037
		Todd J. Freeborn, <i>University of Calgary</i> ; Brent Maundy, <i>University of Calgary</i> ; Ahmed Elwakil, <i>University of Sharjah</i>	
16:36	A4L-M.3	Tunable Current-Mode Log-Domain Universal Filter	1041
		Pipat Prommee, <i>King Mongkut's Institute of Technology Ladkrabang</i> ; Montri Somdunyanok, <i>Siam University</i> ; Krit Angkeaw, <i>King Mongkut's University of Technology North Bangkok</i> ; Kobchai Dejhan, <i>King Mongkut's Institute of Technology Ladkrabang</i>	
16:54	A4L-M.4	CMOS-Based Current-Controlled DDCC and its Applications	1045
		Pipat Prommee, <i>King Mongkut's Institute of Technology Ladkrabang</i> ; Montri Somdunyanok, <i>Siam University</i> ; Sompongse Toomsawasdi, <i>Siam University</i>	
17:12	A4L-M.5	Current Conveyor with Very Low Output Impedance Voltage Buffer for Laboratory Instrumentation	1049
		Vratislav Michal, <i>LGEP-Supélec, Brno University of Technology</i> ; Geoffroy Klisnick, <i>Université Pierre et Marie Curie - Paris 6</i> ; Gérard Sou, <i>Université Pierre et Marie Curie - Paris 6</i> ; Michel Redon, <i>Université Pierre et Marie Curie - Paris 6</i> ; Jiří Sedláček, <i>Brno University of Technology</i>	

A4L-N Design Methodologies for Nano-Electronic Circuits & Gigascale Systems (Lecture)

Time: Monday, May 31, 2010, 16:00 - 17:30

Place: Radio City Ballroom I

Chair(s): Wei Wang, *University at Albany, State University of New York*
Orly Yadid-Pecht, *University of Calgary*

16:00

A4L-N.1 Decomposition of Drain-Current Variation into Gain-Factor and Threshold Voltage Variations 1053

Takashi Sato, *Kyoto University*; Takumi Uezono, *Tokyo Institute of Technology*; Noriaki Nakayama, *Tokyo Institute of Technology*; Kazuya Masu, *Tokyo Institute of Technology*

16:18

A4L-N.2 A Successive Approximation based Process-Invariant Ring Oscillator 1057

Xuan Zhang, *Cornell University*; Rajeev Dokania, *Cornell University*; Mustansir Mukadam, *Cornell University*; Alyssa Apsel, *Cornell University*

16:36

A4L-N.3 A Packet-Based Emulating Platform with Serializer/Deserializer Interface for Heterogeneous IP Verification 1061

Chih-Hsing Lin, *National Tsing Hua University*; Yung-Chang Chang, *National Tsing Hua University*; Wen-Chih Huang, *National Tsing Hua University*; Wei-Chih Lai, *National Tsing Hua University*; Ching-Te Chiu, *National Tsing Hua University*; Jen-Ming Wu, *National Tsing Hua University*; Shuo-Hung Hsu, *National Tsing Hua University*; Chun-Ming Huang, *National Chip Implementation Center*; Chih-Chyau Yang, *National Chip Implementation Center*; Shih-Lun Chen, *National Chip Implementation Center*

16:54

A4L-N.4 Temperature Sensor Placement in Thermal Management Systems for MPSoCs 1065

Francesco Zanini, *Ecole Polytechnique Fédérale de Lausanne*; David Atienza, *Ecole Polytechnique Fédérale de Lausanne*; Colin N. Jones, *ETH Zürich*; Giovanni De Micheli, *Ecole Polytechnique Fédérale de Lausanne*

A4L-P SPECIAL SESSION: Time Encoding Techniques in Data Conversion (Lecture)

Time: Monday, May 31, 2010, 16:00 - 17:30

Place: Radio City Ballroom II

Chair(s): Luis Hernandez, *Carlos III University of Madrid*
Andreas Wiesbauer, *Infineon Technologies AG*

16:00

A4L-P.1 Exploiting Time Resolution in Nanometre CMOS Data Converters 1069

Luis Hernandez, *Carlos III University*; Andreas Wiesbauer, *Infineon Technologies*

16:18

A4L-P.2 On the Characterization of Limit Cycle Modes in Oversampled Data Converters 1073

Sotir Ouzounov, *Philips Research*

16:36

A4L-P.3 Extended Modelling for Time-Encoding Converters 1077

Arthur van Roermund, *Eindhoven University of Technology*; Foad Arfaei Malekzadeh, *Eindhoven University of Technology*; Mehdi Sarkeshi, *Eindhoven University of Technology*; Reza Mahmoudi, *Eindhoven University of Technology*

16:54

A4L-P.4 Pulse-Width Modulation in Sigma-Delta Modulators 1081

F. Colodro, *Universidad de Sevilla*; A. Torralba, *Universidad de Sevilla*

A4L-P.5	All-Digital Differential VCO-Based A/D Conversion	1085
	Jorg Daniels, <i>Katholieke Universiteit Leuven</i> ; Wim Dehaene, <i>Katholieke Universiteit Leuven</i> ; Michiel Steyaert, <i>Katholieke Universiteit Leuven</i>	
A5P-Q	UWB & WLAN Circuits (Poster)	
<i>Time:</i>	Monday, May 31, 2010, 9:30 - 11:00	
<i>Place:</i>	Times Square 1	
<i>Chair(s):</i>	Chang-Ho Lee, <i>Samsung</i>	
A5P-Q.1	A Differential 5th Derivative Gaussian Pulse Generator for UWB Transceivers	1089
	Omid Salehi-Abari, <i>Carleton University</i> ; Calvin Plett, <i>Carleton University</i>	
A5P-Q.2	A Mode-I/Mode-III UWB LNA with Programmable Gain and 20 dB WLAN Blocker Rejection in 130nm CMOS	1093
	Subhanshu Gupta, <i>University of Washington</i> ; Daibashish Gangopadhyay, <i>University of Washington</i> ; David J. Allstot, <i>University of Washington</i>	
A5P-Q.3	Gated Threshold Compensated Noncoherent PPM Receiver for UWB Impulse Radio	1097
	Tamás Krébesz, <i>Budapest University of Technology and Economics</i> ; Géza Kolumbán, <i>Pázmány Péter Catholic University</i> ; Chi K. Tse, <i>Hong Kong Polytechnic University</i> ; Francis C.M. Lau, <i>Hong Kong Polytechnic University</i>	
A5P-Q.4	A Digitally Programmable Ring Oscillator in the UWB Range	1101
	Andrea Gerosa, <i>Università degli Studi di Padova</i> ; Silvia Soldà, <i>Università degli Studi di Padova</i> ; Andrea Bevilacqua, <i>Università degli Studi di Padova</i> ; Daniele Vogrig, <i>Università degli Studi di Padova</i> ; Andrea Neviani, <i>Università degli Studi di Padova</i>	
A5P-Q.5	The Theoretical Efficiency in Digital Envelope Power Amplifiers for WLAN OFDM Polar Transmitters	1105
	Paul T.M. van Zeijl, <i>Philips Research</i> ; Manel Collados, <i>NXP Semiconductors</i>	
A5P-R	Circuit Design for Wireless Communications (Poster)	
<i>Time:</i>	Monday, May 31, 2010, 9:30 - 11:00	
<i>Place:</i>	Times Square 2	
<i>Chair(s):</i>	Paul Ampadu, <i>University of Rochester</i>	
A5P-R.1	A Novel RFID Tag Chip with Temperature Sensor in Standard CMOS Process	1109
	Qi Zhang, <i>Chinese Academy of Sciences</i> ; Peng Feng, <i>Chinese Academy of Sciences</i> ; Shenghua Zhou, <i>Chinese Academy of Sciences</i> ; Zhiqing Geng, <i>Chinese Academy of Sciences</i> ; Nanjian Wu, <i>Chinese Academy of Sciences</i>	
A5P-R.2	Configurable MCPW based Inductor for mm-Wave Circuits and Systems	1113
	Gui Liu, <i>Illinois Institute of Technology</i> ; Roc Berenguer, <i>Illinois Institute of Technology, Communications IC Design Group</i> ; Abe Akhiyat, <i>Illinois Institute of Technology</i> ; Keya Kamtikar, <i>Illinois Institute of Technology</i> ; Yang Xu, <i>Illinois Institute of Technology</i>	
A5P-R.3	A Novel Sigma-Delta Fractional-N Synthesizer Architecture with Fractional Spur and Quantization Noise Cancellation	1117
	Chun-Pang Wu, <i>National Taiwan University</i> ; Hen-Wai Tsao, <i>National Taiwan University</i> ; Jingshown Wu, <i>National Taiwan University</i>	
A5P-R.4	An Adaptive Body-Bias Low Voltage Low Power LC VCO	1121
	Pinping Sun, <i>IBM</i> ; Guoan Wang, <i>IBM</i> ; Wayne Woods, <i>IBM</i> ; Hailing Wang, <i>IBM</i> ; Ya Jun Yu, <i>Nanyang Technological University</i>	
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	Mikko Kaltiokallio, <i>Aalto University</i> ; Jussi Rynänen, <i>Aalto University</i> ; Saska Lindfors, <i>Texas Instruments</i>	

A5P-S Multimedia Security (Poster)

Time: Monday, May 31, 2010, 9:30 - 11:00

Place: Times Square 3

Chair(s): Chang-Tsun Li, *University of Warwick*
Chun-Shien Lu, *Academia Sinica*

A5P-S.2 Double-Threshold Reversible Data Hiding 1129

Guorong Xuan, *Tongji University*; Yun Q. Shi, *New Jersey Institute of Technology*; Jianzhong Teng, *Tongji University*; Xuefeng Tong, *Tongji University*; Peiqi Chai, *Tongji University*

A5P-S.3 Data Hiding in Halftone Images with Secret-Shared Dot Diffusion 1133

Jing-Ming Guo, *National Taiwan University of Science and Technology*;
Jyun-Hao Huang, *National Taiwan University of Science and Technology*

A5P-S.5 High Capacity Reversible Data Hiding using the Histogram Modification of Block Image 1137

Hyang-Mi Yoo, *Chungbuk National University*; Sang-Kwang Lee, *Electronics and Telecommunications Research Institute*; Jae-Won Suh, *Chungbuk National University*

A5P-T Multimedia Coding II (Poster)

Time: Monday, May 31, 2010, 9:30 - 11:00

Place: Times Square 4

Chair(s): Xue Ping, *Nanyang Technological University*
Myung Sunwoo, *Ajou University*

A5P-T.1 A SOT based Digital Audio Coder using Reference Frame Ordering Method 1141

Yu-Lin Wang, *National Cheng-Kung University*; Wei-Hsiang Liao, *National Cheng-Kung University*;
Alvin Wen-Yu Su, *National Cheng Kung University*

A5P-T.2 Sub-Sampling Framework of Distributed Video Coding 1145

Wenbo Xu, *Beijing University of Posts and Telecommunications*; Zhiqiang He, *Beijing University of Posts and Telecommunications*; Kai Niu, *Beijing University of Posts and Telecommunications*; Jiaru Lin, *Beijing University of Posts and Telecommunications*

A5P-T.3 A Bandwidth-Efficient Embedded Compression Algorithm using Two-Level Rate Control Scheme for Video Coding System 1149

Yu-Hsuan Lee, *National Central University*; Yi-Cheng Chen, *National Central University*;
Tsong-Han Tsai, *National Central University*

A5P-T.4 Parallel Implementation of Computing-Intensive Decoding Algorithms of H.264 on Reconfigurable SoC 1153

Tongsheng Geng, *Tsinghua University*; Leibo Liu, *Tsinghua University*; Shouyi Yin, *Tsinghua University*;
Min Zhu, *Tsinghua University*; Wen Jia, *Tsinghua University*; Shaojun Wei, *Tsinghua University*

A5P-T.5 Perceptual Energy Scalable Video Encoding Method based on Just Noticeable Distortion 1157

Wen Ji, *Chinese Academy of Sciences*; Peng Li, *Chinese Academy of Sciences*; Yiqiang Chen, *Chinese Academy of Sciences*; Rongxue Zhang, *ChaoZhou Chuangjia Electronic Co., Ltd.*

A5P-U Multimedia Technologies (Poster)

Time: Monday, May 31, 2010, 9:30 - 11:00

Place: Times Square 5

Chair(s): Oscar Au, *Hong Kong University of Science & Technology*
Yap-Peng Tan, *Nanyang Technological University*

A5P-U.1 Nonlinear Image Restoration using Recurrent Radial Basis Function Network 1161

Shengkui Zhao, *Nanyang Technological University*; Jianfei Cai, *Nanyang Technological University*;
Zhihong Man, *Swinburne University of Technology*

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<i>Time:</i>	Monday, May 31, 2010, 9:30 - 11:00	
<i>Place:</i>	Times Square 6	
<i>Chair(s):</i>	Amine Bermak, <i>Hong Kong University of Science & Technology</i> Sameer Sonkusale, <i>Tufts University</i>	
A5P-V.1	Advanced Characterization of Piezoresistive Sensors for Human Body Movement Tracking	1181
	<i>G. Orenco, Università degli Studi di Roma "Tor Vergata"; G. Saggio, Università degli Studi di Roma "Tor Vergata"; S. Bocchetti, Università degli Studi di Roma "Tor Vergata"; F. Giannini, Università degli Studi di Roma "Tor Vergata"</i>	
A5P-V.2	Automatic Configuration of a Medical Imaging System to Unknown Delays in Synchronous Input Data Channels	1185
	<i>C. Leong, Inesc-ID, Instituto Superior Técnico; J.P. Teixeira, Inesc-ID, Instituto Superior Técnico; I.C. Teixeira, Inesc-ID, Instituto Superior Técnico; R. Bugalho, LIP-Lisbo; M. Ferreira, LIP-Lisbo; P. Rodrigues, LIP-Lisbo; J.C. Silva, LIP-Lisbo; P. Lousã, INOV; J. Varela, LIP-Lisbo, Instituto Superior Técnico</i>	
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	<i>Kavitha P. Thomas, Nanyang Technological University; Cuntai Guan, Institute for Infocomm Research; Lau Chiew Tong, Nanyang Technological University; A.P. Vinod, Nanyang Technological University</i>	
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	<i>Elliot Greenwald, Johns Hopkins University; Mohsen Mollazadeh, Johns Hopkins University; Nitish Thakor, Johns Hopkins University; Wei Tang, Yale University; Eugenio Culurciello, Yale University</i>	
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<i>Place:</i>	Times Square 7	
<i>Chair(s):</i>	Wael Badawy, <i>IntelliView Technologies Inc.</i>	
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	<i>Gaurav Bawa, North Carolina State University; Alex Q. Huang, North Carolina State University; Maysam Ghovanloo, Georgia Institute of Technology</i>	

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	Kihyun Kim, <i>Seoul National University</i> ; Sungho Lee, <i>Seoul National University</i> ; Eunil Cho, <i>Seoul National University</i> ; Junghee Choi, <i>Seoul National University</i> ; Sangwook Nam, <i>Seoul National University</i>	
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	J.R. Custódio, <i>Universidade Nova de Lisboa</i> ; J. Oliveira, <i>Universidade Nova de Lisboa</i> ; L.B. Oliveira, <i>Universidade Nova de Lisboa</i> ; J. Goes, <i>Universidade Nova de Lisboa</i> ; Erik Bruun, <i>Danmarks Tekniske Universitet</i>	
A5P-W.4	Fully Integrated UWB Impulse Transmitter and 402-to-405MHz Super-Regenerative Receiver for Medical Implant Devices	1213
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	Yu-Cheng Su, <i>National Chung Cheng University</i> ; Huan Chen, <i>National Chung Cheng University</i> ; Ching-Lun Hung, <i>National Chung Cheng University</i> ; Shuenn-Yuh Lee, <i>National Chung Cheng University</i>	
A5P-X	Circuits for Biomedical Systems III (Poster)	
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	Jinyong Zhang, <i>Shenzhen Institutes of Advanced Technology, South China University of Technology</i> ; Lei Wang, <i>Shenzhen Institutes of Advanced Technology</i> ; Li Yu, <i>Shenzhen Institutes of Advanced Technology</i> ; Bin Li, <i>South China University of Technology</i>	
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	Ruslana Shulyzki, <i>University of Toronto</i> ; Karim Abdelhalim, <i>University of Toronto</i> ; Roman Genov, <i>University of Toronto</i>	
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A6P-Q.2	A Switched-Capacitor Programmable Gain Amplifier Optimized for Motor Control Application using Correlated Double Sampling Technique	1240
	Andre Vilas Boas, <i>Freescale Semiconductor Inc.</i> ; Fabio Lacerda, <i>Freescale Semiconductor Inc.</i> ; Alfredo Olmos, <i>Freescale Semiconductor Inc.</i>	
A6P-Q.3	Novel Ultra Low Voltage Transconductance Amplifier	1244
	Y. Berg, <i>Universitetet i Oslo</i>	

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	Linfei Guo, <i>Nanyang Technological University</i> ; Tong Ge, <i>Nanyang Technological University</i> ; Joseph S. Chang, <i>Nanyang Technological University</i>	
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	<i>Time:</i> Monday, May 31, 2010, 11:20 - 12:50 <i>Place:</i> Times Square 2 <i>Chair(s):</i> Albert Wang, <i>University of California, Riverside</i>	
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	Stephen T. Kim, <i>Georgia Institute of Technology</i> ; Jaehyouk Choi, <i>Georgia Institute of Technology</i> ; Sungcho Beck, <i>Georgia Institute of Technology</i> ; Taejoong Song, <i>Georgia Institute of Technology</i> ; Kyutae Lim, <i>Georgia Institute of Technology</i> ; Joy Laskar, <i>Georgia Institute of Technology</i>	
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	<i>Time:</i> Monday, May 31, 2010, 11:20 - 12:50 <i>Place:</i> Times Square 3 <i>Chair(s):</i> Maysam Ghovanloo, <i>Georgia Institute of Technology</i>	
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	Miguel A. Martins, <i>Inesc-ID</i> ; Ka-Fai Un, <i>University of Macau</i> ; Pui-In Mak, <i>University of Macau</i> ; R.P. Martins, <i>University of Macau</i>	
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	Matteo Perenzoni, <i>Fondazione Bruno Kessler</i> ; Fausto Borghetti, <i>Fondazione Bruno Kessler</i> ; Lorenzo Gonzo, <i>Fondazione Bruno Kessler</i>	

A6P-S.5	Mixed Signal Phase Sensitive Detection	1292
	Jonathan Tapson, <i>University of Cape Town</i>	
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<i>Time:</i>	Monday, May 31, 2010, 11:20 - 12:50	
<i>Place:</i>	Times Square 4	
<i>Chair(s):</i>	Shahriar Mirabbasi, <i>University of British Columbia</i>	
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A6P-T.2	A High Resolution Metastability-Independent Two-Step Gated Ring Oscillator TDC with Enhanced Noise Shaping	1300
	Sang-Hye Chung, <i>Korea Advanced Institute of Science and Technology</i> ; Kyu-Dong Hwang, <i>Korea Advanced Institute of Science and Technology</i> ; Won-Young Lee, <i>Korea Advanced Institute of Science and Technology</i> ; Lee-Sup Kim, <i>Korea Advanced Institute of Science and Technology</i>	
A6P-T.3	Three Novel Improved CMOS Capacitance Scaling Schemes	1304
	Jesús Aguado Ruiz, <i>Universidad Pública de Navarra</i> ; Antonio Lopez-Martin, <i>Universidad Pública de Navarra</i> ; Jaime Ramirez-Angulo, <i>New Mexico State University</i>	
A6P-T.4	A Highly Efficient Transient and Frequency-Response Simulation Method for Switching Converters without using a SPICE-Like Analog Simulator	1308
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A6P-T.5	Peak-to-Peak Jitter Reduction Technique for the Free-Running Period Synthesizer (FRPS)	1312
	Marcel Siadjine Njinowa, <i>Université du Québec à Chicoutimi</i> ; Hung Tien Bui, <i>Université du Québec à Chicoutimi</i> ; François-Raymond Boyer, <i>École Polytechnique de Montréal</i>	
A6P-U	Nonlinear Oscillators & PLL II (Poster)	
<i>Time:</i>	Monday, May 31, 2010, 11:20 - 12:50	
<i>Place:</i>	Times Square 5	
<i>Chair(s):</i>	Zeljko Ignjatovic, <i>University of Rochester</i>	
A6P-U.1	A Low-Power Active Switched-Capacitor Loop Filter for Phase Locked Loops	1316
	Yu Song, <i>University of Rochester</i> ; Zeljko Ignjatovic, <i>University of Rochester</i>	
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	Elena Blokhina, <i>University College Dublin</i> ; Orla Feely, <i>University College Dublin</i> ; Jordi Ricart, <i>Universitat Politècnica de Catalunya</i> ; Manuel Domínguez, <i>Universitat Politècnica de Catalunya</i>	
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	Jan-K. Bremer, <i>Leibniz University Hanover</i> ; Marco Reit, <i>Leibniz University Hanover</i> ; Jan Przytarski, <i>Leibniz University Hanover</i> ; Wolfgang Mathis, <i>Leibniz University Hanover</i>	
A6P-U.4	A 2.4-GHz Reference Doubled Fractional-N PLL with Dual Phase Detector in 0.13-μm CMOS	1328
	Woojae Lee, <i>Korea Advanced Institute of Science and Technology</i> ; SeongHwan Cho, <i>Korea Advanced Institute of Science and Technology</i>	

A6P-V Nonlinear Circuits & Systems IV (Poster)

Time: Monday, May 31, 2010, 11:20 - 12:50

Place: Times Square 6

Chair(s): Toshinori Yamada, *Saitama University*

A6P-V.1 An Extended Popov Criterion for Absolute Stability of Descriptor Systems with Ferromagnetic Hysteresis Nonlinearities 1332

Zheng Song, *Northeastern University*; Yingchun Wang, *Northeastern University*; Huaguang Zhang, *Northeastern University*; Meng Dong, *Northeastern University*

A6P-V.2 Faster Adaptive Parallel Diagnosis in the Presence of Intermittent Faults 1336

Kei Itoh, *Saitama University*; Toshinori Yamada, *Saitama University*

A6P-V.3 Reducing Offset Errors in MITE Systems by Precise Floating Gate Programming 1340

Craig Schlottmann, *Georgia Institute of Technology*; Brian Degnan, *Georgia Institute of Technology*; David Abramson, *Georgia Institute of Technology*; Paul Hasler, *Georgia Institute of Technology*

A6P-V.4 Heuristic Algorithms for the Marking Construction Problem of Petri Nets 1344

Satoshi Taoka, *Hiroshima University*; Toshimasa Watanabe, *Hiroshima University*

A6P-V.5 Control of Inverted Pendulum using Adaptive Neuro Fuzzy Inference Structure (ANFIS) 1348

Ravi Chandra Tatikonda, *Indian Institute of Technology Roorkee*; Venkata Praveen Battula, *Indian Institute of Technology Roorkee*; Vijay Kumar, *Indian Institute of Technology Roorkee*

A6P-W Nonlinear Circuits & Systems III (Poster)

Time: Monday, May 31, 2010, 11:20 - 12:50

Place: Times Square 7

Chair(s): Henry Leung, *University of Calgary*

Yoshifumi Nishio, *Tokushima University*

A6P-W.1 Optimal Stochastic Resonance Under Low Signal-to-Noise Ratio Circumstances 1352

Di He, *Shanghai Jiao Tong University*

A6P-W.2 Exactly Solvable Chaotic Circuit 1356

Ned J. Corron, *United States Army RDECOM*; Mark T. Stahl, *United States Army RDECOM*; Jonathan N. Blakely, *United States Army RDECOM*

A6P-W.3 Chaos Glial Network Connected to Multi-Layer Perceptron for Solving Two-Spiral Problem 1360

Chihiro Ikuta, *Tokushima University*; Yoko Uwate, *University of Zürich and ETH Zürich*; Yoshifumi Nishio, *Tokushima University*

A6P-W.4 Stochastic Delay Differential Equation and its Application on Communications 1364

Mingdong Xu, *University of Calgary*; Fan Wu, *University of Calgary*; Henry Leung, *University of Calgary*

A6P-W.5 Synchronization Phenomena in Coupled Logistic Maps Involving Parametric Force 1368

Hironori Kumeno, *Tokushima University*; Yoshifumi Nishio, *Tokushima University*

A6P-X Signal Analysis & Systems for Health Care Applications (Poster)

Time: Monday, May 31, 2010, 11:20 - 12:50

Place: Times Square 8

Chair(s): Joseph Chang, *Nanyang Technological University*
Pau-Choo Chung, *National Cheng Kung University*

A6P-X.1 A ±6Ms-Accuracy, 0.68mm² and 2.21µW QRS Detection ASIC 1372

Hui-Min Wang, *National Chiao Tung University*; You-Liang Lai, *National Chiao Tung University, National Chip Implantation Center*; Mark C. Hou, *National Chiao Tung University, Changhua Christian Hospital*; Shih-Hsiang Lin, *National Chiao Tung University*; Brad S. Yen, *National Chiao Tung University*; Yu-Chieh Huang, *National Chiao Tung University*; Lei-Chun Chou, *National Chiao Tung University*; Shao-You Hsu, *National Chiao Tung University*; Sheng-Chieh Huang, *National Chiao Tung University*; Ming-Yie Jan, *Academia Sinica*

A6P-X.2 The Performance of Visuo-Motor Coordination Changes under Force Feedback Assistance System 1376

Chin-Teng Lin, *National Chiao Tung University*; Chun-Ling Lin, *National Chiao Tung University*; Kuan-Chih Huang, *National Chiao Tung University*; Shi-An Chen, *National Chiao Tung University*; Jui-Hsin Tung, *National Chiao Tung University*

A6P-X.3 Development of Real-Time Wireless Brain Computer Interface for Drowsiness Detection 1380

Shao-Hang Hung, *National Chiao Tung University*; Che-Jui Chang, *National Chiao Tung University*; Chih-Feng Chao, *National Chiao Tung University*; I-Jan Wang, *National Chiao Tung University*; Chin-Teng Lin, *National Chiao Tung University*; Bor-shyh Lin, *National Chiao Tung University*

A6P-X.4 Amplification Circuit and Microelectrode Array for HL-1 Cardiomyocyte Action Potential Measurement 1384

Jianan Song, *Arizona State University*; David Welch, *Arizona State University*; Jennifer Blain Christen, *Arizona State University*

A6P-X.5 Epileptic Seizure Detection in Grouped Multi-Channel EEG Signal using ICA and Wavelet Transform 1388

Han-Yen Chang, *National Cheng Kung University*; Sheng-Chih Yang, *National Chin-Yi University of Technology*; Sheng-Hsing Lan, *Kaohsiung Medical University Hospital*; Pau-Choo Chung, *National Cheng Kung University*

A7P-Q Live Demonstrations of Circuits & Systems I (Poster)

Time: Monday, May 31, 2010, 14:10 - 17:30

Place: Times Square 1

Chair(s): Tobi Delbruck, *ETH Zürich*

A7P-Q.1 Live Demonstration: Asynchronous Time-Based Image Sensor (ATIS) Camera with Full-Custom AE Processor 1392

Christoph Posch, *Austrian Institute of Technology*; Daniel Matolin, *Austrian Institute of Technology*; Rainer Wohlgenannt, *Austrian Institute of Technology*; Michael Hofstätter, *Austrian Institute of Technology*; Peter Schön, *Austrian Institute of Technology*; Martin Litzenberger, *Austrian Institute of Technology*; Daniel Bauer, *Austrian Institute of Technology*; Heinrich Garn, *Austrian Institute of Technology*

A7P-Q.2a Live Demonstration: Neuro-Inspired System for Real-Time Vision Tilt Correction 1393

A. Jimenez-Fernandez, *Universidad de Sevilla*; J.L. Fuentes-del-Bosh, *Universidad de Sevilla*; R. Paz-Vicente, *Universidad de Sevilla*; A. Linares-Barranco, *Universidad de Sevilla*; G. Jiménez, *Universidad de Sevilla*

A7P-Q.2b Neuro-Inspired System for Real-Time Vision Sensor Tilt Correction 1394

A. Jimenez-Fernandez, *Universidad de Sevilla*; J.L. Fuentes-del-Bosh, *Universidad de Sevilla*; R. Paz-Vicente, *Universidad de Sevilla*; A. Linares-Barranco, *Universidad de Sevilla*; G. Jiménez, *Universidad de Sevilla*

A7P-Q.3a	Live Demonstration: Real Time Objects Tracking using a Bio-Inspired Processing Cascade Architecture	1398
	F. Gómez-Rodríguez, <i>Universidad de Sevilla</i> ; L. Miró-Amarante, <i>Universidad de Sevilla</i> ; F. Diaz-del-Rio, <i>Universidad de Sevilla</i> ; A. Linares-Barranco, <i>Universidad de Sevilla</i> ; G. Jimenez, <i>Universidad de Sevilla</i>	
A7P-Q.3b	Real Time Multiple Objects Tracking based on a Bio-Inspired Processing Cascade Architecture	1399
	F. Gómez-Rodríguez, <i>Universidad de Sevilla</i> ; L. Miró-Amarante, <i>Universidad de Sevilla</i> ; F. Diaz-Del-Rio, <i>Universidad de Sevilla</i> ; A. Linares-Barranco, <i>Universidad de Sevilla</i> ; G. Jimenez, <i>Universidad de Sevilla</i>	
A7P-Q.4a	Live Demonstration: A 64x64 Pixels UWB Wireless Temporal-Difference Digital Image Sensor	1403
	Shoushun Chen, <i>Nanyang Technological University</i> ; Wei Tang, <i>Yale University</i> ; Eugenio Culurciello, <i>Yale University</i>	
A7P-Q.4b	A 64x64 Pixels UWB Wireless Temporal-Difference Digital Image Sensor	1404
	Shoushun Chen, <i>Nanyang Technological University</i> ; Wei Tang, <i>Yale University</i> ; Eugenio Culurciello, <i>Yale University</i>	
A7P-R	Live Demonstrations of Circuits & Systems II (Poster)	
	<i>Time:</i> Monday, May 31, 2010, 14:10 - 17:30	
	<i>Place:</i> Times Square 2	
	<i>Chair(s):</i> Tobi Delbruck, <i>ETH Zürich</i>	
A7P-R.1a	Live Demonstration: Dynamic Stereo Vision System for Real-Time Tracking	1408
	Stephan Schraml, <i>Austrian Institute of Technology</i> ; Ahmed Nabil Belbachir, <i>Austrian Institute of Technology</i> ; Nenad Milosevic, <i>Austrian Institute of Technology</i> ; Peter Schön, <i>Austrian Institute of Technology</i>	
A7P-R.1b	Dynamic Stereo Vision System for Real-Time Tracking	1409
	Stephan Schraml, <i>Austrian Institute of Technology</i> ; Ahmed Nabil Belbachir, <i>Austrian Institute of Technology</i> ; Nenad Milosevic, <i>Austrian Institute of Technology</i> ; Peter Schön, <i>Austrian Institute of Technology</i>	
A7P-R.2a	Live Demonstration: Intelligent Ubiquitous Sensor Network for Sound Acquisition	1413
	Koji Kugata, <i>Kobe University</i> ; Tomoya Takagi, <i>Kobe University</i> ; Hiroki Noguchi, <i>Kobe University</i> ; Masahiko Yoshimoto, <i>Kobe University</i> ; Hiroshi Kawaguchi, <i>Kobe University</i>	
A7P-R.2b	Intelligent Ubiquitous Sensor Network for Sound Acquisition	1414
	Koji Kugata, <i>Kobe University</i> ; Tomoya Takagi, <i>Kobe University</i> ; Hiroki Noguchi, <i>Kobe University</i> ; Masahiko Yoshimoto, <i>Kobe University</i> ; Hiroshi Kawaguchi, <i>Kobe University</i>	
A7P-R.3a	Live Demonstration: FPGA-Based Real-Time Acoustic Camera Prototype	1418
	B. Zimmermann, <i>ETH Zürich</i> ; C. Studer, <i>ETH Zürich</i>	
A7P-R.3b	FPGA-Based Real-Time Acoustic Camera Prototype	1419
	B. Zimmermann, <i>ETH Zürich</i> ; C. Studer, <i>ETH Zürich</i>	
A7P-R.4a	Live Demonstration: The Self-Tuned Regenerative Electromechanical Parametric Amplifier	1423
	Jonathan Tapson, <i>University of Cape Town</i> ; Tara Julia Hamilton, <i>University of Queensland</i> ; André van Schaik, <i>University of Sydney</i>	
A7P-R.4b	The Self-Tuned Regenerative Electromechanical Parametric Amplifier: A Model for Active Amplification in the Cochlea	1424
	Jonathan Tapson, <i>University of Cape Town</i> ; Tara Julia Hamilton, <i>University of Queensland</i> ; André van Schaik, <i>University of Sydney</i>	

Tuesday, June 1, 2010

B1L-A SPECIAL SESSION: Emerging Technologies for Giga-Scale FPGA Applications (Lecture)

Time: Tuesday, June 1, 2010, 9:30 - 11:00

Place: Grand Ballroom E

Chair(s): Wei Wang, *University at Albany, State University of New York*
Hai-Gang Yang, *Chinese Academy of Sciences*

9:30
B1L-A.1 Overview: Emerging Technologies on Giga-Scale FPGA Implementation 1428
Hai-Gang Yang, *Chinese Academy of Sciences*

9:48
B1L-A.2 Mixed-Signal System-on-Chip Verification using a Recursively-Verifying-Modeling (RVM) Methodology 1432
C.-J. Richard Shi, *University of Washington*

10:06
B1L-A.3 Asynchronous FPGA Architecture with Distributed Control 1436
Delong Shang, *Newcastle University*; Fei Xia, *Newcastle University*; Alex Yakovlev, *Newcastle University*

10:24
B1L-A.4 60 GHz Meta-Material Wideband Antenna for FPGA Giga Bit Data Transmission 1440
Ying Peng, *University of Manchester*; Zhirun Hu, *University of Manchester*

10:42
B1L-A.5 cFPGA: CNT Emerging Memory-Based FPGA 1444
Wei Wang, *University at Albany, State University of New York*; Tom T. Jing, *University at Albany, State University of New York*; Brian Butcher, *University at Albany, State University of New York*

B1L-B Successive Approximation ADCs (Lecture)

Time: Tuesday, June 1, 2010, 9:30 - 11:00

Place: Grand Ballroom F

Chair(s): Randall Geiger, *Iowa State University*

9:30
B1L-B.1 Two-Step Junction-Splitting SAR Analog-to-Digital Converter 1448
Wenhuan Yu, *Oregon State University*; Jiaming Lin, *Oregon State University*;
Gabor C. Temes, *Oregon State University*

9:48
B1L-B.2 Energy-Efficient Time-Interleaved and Pipelined SAR ADCs 1452
Jiaming Lin, *Oregon State University*; Wenhuan Yu, *Oregon State University*;
Gabor C. Temes, *Oregon State University*

10:06
B1L-B.3 Capacitor Scaling for Low-Power Design of Cyclic Analog-to-Digital Converters 1456
Maryam Zaare', *Ferdowsi University of Mashhad*; Reza Lotfi, *Ferdowsi University of Mashhad*;
Mohammad Maymandi-nejad, *Ferdowsi University of Mashhad*

10:24
B1L-B.4 A Radix-3 SAR Analog-to-Digital Converter 1460
Shankar Thirunakkarasu, *Texas Instruments*; Bertan Bakkaloglu, *Arizona State University*

10:42	B1L-B.5	Capacitor Array Structure and Switching Control Scheme to Reduce Capacitor Mismatch Effects for SAR Analog-to-Digital Converters	1464
		<i>YoungJoo Lee, Korea Advanced Institute of Science and Technology; In-Cheol Park, Korea Advanced Institute of Science and Technology</i>	
	B1L-C	Ultra-Low Power VLSI Design (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 9:30 - 11:00	
	<i>Place:</i>	Grand Ballroom G	
	<i>Chair(s):</i>	Gwee Bah Hwee, <i>Nanyang Technological University</i> Vasily Moshnyaga, <i>Fukuoka University</i>	
9:30	B1L-C.1	Closed-Form Analysis of DC Noise Immunity in Subthreshold CMOS Logic Circuits	1468
		<i>Massimo Alioto, Università degli Studi di Siena</i>	
9:48	B1L-C.2	Power Gating for Ultra-Low Voltage Nanometer ICs	1472
		<i>Kyung Ki Kim, Daegu University; Haiqing Nan, Illinois Institute of Technology; Ken Choi, Illinois Institute of Technology</i>	
10:06	B1L-C.3	Ultra Low Voltage Static Carry Generate Circuit	1476
		<i>Y. Berg, Universitetet i Oslo</i>	
10:24	B1L-C.4	Multiobjective Optimization for Transistor Sizing of Sub-Threshold CMOS Logic Standard Cells	1480
		<i>Matthias Blesken, Universität Paderborn; Sven Lütke-meier, Universität Paderborn; Ulrich Rückert, Universität Bielefeld</i>	
10:42	B1L-C.5	Robustness-Aware Sleep Transistor Engineering for Power-Gated Nanometer Subthreshold Circuits	1484
		<i>David Bol, Université Catholique de Louvain; Cédric Hocquet, Université Catholique de Louvain; Denis Flandre, Université Catholique de Louvain; Jean-Didier Legat, Université Catholique de Louvain</i>	
	B1L-D	Wireless Communications Systems I (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 9:30 - 11:00	
	<i>Place:</i>	Grand Ballroom H	
	<i>Chair(s):</i>	Tzi-Dar Chiueh, <i>National Taiwan University</i>	
9:30	B1L-D.1	A 128/256-Point Pipeline FFT/IFFT Processor for MIMO OFDM System IEEE 802.16e	1488
		<i>Simeng Li, Fudan University; Huxiong Xu, Fudan University; Wenhua Fan, Fudan University; Yun Chen, Fudan University; Xiaoyang Zeng, Fudan University</i>	
9:48	B1L-D.2	High-Throughput QR Decomposition for MIMO Detection in OFDM Systems	1492
		<i>Zheng-Yu Huang, National Central University; Pei-Yun Tsai, National Central University</i>	
10:06	B1L-D.3	A Multiple Code-Rate Turbo Decoder based on Reciprocal Dual Trellis Architecture	1496
		<i>Chen-Yang Lin, National Chiao Tung University; Cheng-Chi Wong, National Chiao Tung University; Hsie-Chia Chang, National Chiao Tung University</i>	

10:24	B1L-D.4	Harvesting a Clock from a GSM Signal for the Wake-Up of a Wireless Sensor Network	1500
		Jonathan K. Brown, <i>University of Michigan</i> ; David D. Wentzloff, <i>University of Michigan</i>	
10:42	B1L-D.5	Phase Difference and Frequency Offset Estimation for Collaborative Beamforming in Sensor Networks	1504
		Serkan Sayilir, <i>Purdue University</i> ; Yung-Hsiang Lu, <i>Purdue University</i> ; Dimitrios Peroulis, <i>Purdue University</i> ; Y. Charlie Hu, <i>Purdue University</i> ; Byunghoo Jung, <i>Purdue University</i>	
	B1L-E	Biosensors & Devices in Life & Health Science (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 9:30 - 11:00	
	<i>Place:</i>	Salon A	
	<i>Chair(s):</i>	Jie Chen, <i>University of Alberta</i> Koc Ut-Va, <i>Bell Labs, Lucent Technologies</i>	
9:30	B1L-E.1	Accuracy and Power Tradeoff in Spike Sorting Microsystems with Cubic Spline Interpolation	1508
		Yun-Yu Chen, <i>National Taiwan University</i> ; Tung-Chien Chen, <i>National Taiwan University</i> ; Liang-Gee Chen, <i>National Taiwan University</i>	
9:48	B1L-E.2	Optimization of Bipolar and Tetrapolar Impedance Biosensors	1512
		Panagiotis Kassanos, <i>University College London</i> ; Andreas Demosthenous, <i>University College London</i> ; Richard H. Bayford, <i>Middlesex University</i>	
10:06	B1L-E.3	Development of Water-Soluble Sono/Photo-Sensitive Nanoparticles for Cancer Treatment	1516
		Yongde Meng, <i>University of Alberta and IntelligentNano Inc.</i> ; Chunpu Zou, <i>Shanghai University of Traditional Chinese Medicine</i> ; Min Huang, <i>University of Alberta</i> ; Jie Chen, <i>University of Alberta, Cross-cancer Insitute, National Institute of Nanotechnology</i> ; James Xing, <i>Cross-cancer Institute, IntelligentNano Inc.</i>	
10:24	B1L-E.4	Fabrication and Electrical Characteristics of Memristors with TiO₂/TiO_{2+x} Active Layers	1520
		T. Prodromakis, <i>Imperial College London</i> ; K. Michelakis, <i>Imperial College London</i> ; C. Toumazou, <i>Imperial College London</i>	
10:42	B1L-E.5	An Integrated Patch-Clamp System with Dual Input	1523
		Pujitha Weerakoon, <i>Yale University</i> ; Fred Sigworth, <i>Yale University</i> ; Peter Kindlmann, <i>Yale University</i> ; Joseph Santos-Sacchi, <i>Yale University</i> ; Youshan Yang, <i>Yale University</i> ; Eugenio Culurciello, <i>Yale University</i>	
	B1L-F	Nonlinear Circuits & Systems I (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 9:30 - 11:00	
	<i>Place:</i>	Salon B	
	<i>Chair(s):</i>	Paolo Maffezzoni, <i>Politecnico di Milano</i> Augusto Montisci, <i>University of Cagliari</i>	
9:30	B1L-F.1	Use of a Continuation Method for Analyzing Startup Circuits	1527
		Wen Hou, <i>University of California, Irvine</i> ; Michael M. Green, <i>University of California, Irvine</i>	
9:48	B1L-F.2	A Qualitative Analysis of a Complementary Differential LC Injection-Locked Frequency Divider based on Direct Injection	1531
		Saeid Daneshgar, <i>University College Cork</i> ; Michael Peter Kennedy, <i>University College Cork</i>	

10:06	B1L-F.3	Estimating the Locking Range of Analog Dividers Through a Phase-Domain Macromodel	1535
		P. Maffezzoni, <i>Politecnico di Milano</i> ; D. D'Amore, <i>Politecnico di Milano</i> ; S. Daneshgar, <i>University College Cork</i> , <i>Tyndall National Institute</i> ; M.P. Kennedy, <i>University College Cork</i> , <i>Tyndall National Institute</i>	
10:24	B1L-F.4	A Fast Procedure for Canonical Ambiguity Groups Determination in Nonlinear Analog Circuits ...	1539
		Barbara Cannas, <i>Università degli Studi di Cagliari</i> ; Alessandra Fanni, <i>Università degli Studi di Cagliari</i> ; Augusto Montisci, <i>Università degli Studi di Cagliari</i>	
10:42	B1L-F.5	Experimental Validation of a Novel Adaptive Controller for Piecewise Affine Systems	1543
		Mario di Bernardo, <i>Università degli Studi di Napoli Federico II</i> ; Carlos Ildefonso Hoyos Velasco, <i>Università degli Studi di Napoli Federico II</i> ; Umberto Montanaro, <i>Università degli Studi di Napoli Federico II</i> ; Stefania Santini, <i>Università degli Studi di Napoli Federico II</i>	
	B1L-G	Visual Signal Modeling (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 9:30 - 11:00	
	<i>Place:</i>	Salon C	
	<i>Chair(s):</i>	Wan-Chi Siu, <i>The Hong Kong Polytechnic University</i> Bing Zeng, <i>Hong Kong University of Science & Technology</i>	
9:30	B1L-G.1	Robust Face Recognition using Subface Hidden Markov Models	1547
		Shih-Ming Huang, <i>National Cheng Kung University</i> ; Jar-Ferr Yang, <i>National Cheng Kung University</i> ; Shih-Cheng Chang, <i>Networking Video Product BU AverMedia Information, Inc.</i>	
9:48	B1L-G.2	Directional Variance: A Measure to Find the Directionality in a Given Image Segment	1551
		D. Jayachandra, <i>Nanyang Technological University</i> ; Anamitra Makur, <i>Nanyang Technological University</i>	
10:06	B1L-G.3	Local Affine Motion Prediction for H.264 without Extra Overhead	1555
		Hoi-Kok Cheung, <i>Hong Kong Polytechnic University</i> ; Wan-Chi Siu, <i>Hong Kong Polytechnic University</i>	
10:24	B1L-G.4	Video Bckground Inpainting using Dynamic Texture Synthesis	1559
		Chia-Wen Lin, <i>National Tsing Hua University</i> ; Nai-Chia Cheng, <i>Corel Corporation</i>	
10:42	B1L-G.5	Analysis of Template Matching Prediction and its Application to Parametric Overlapped Block Motion Compensation	1563
		Tse-Wei Wang, <i>National Chiao Tung University</i> ; Yi-Wen Chen, <i>National Chiao Tung University</i> ; Wen-Hsiao Peng, <i>National Chiao Tung University</i>	
	B1L-H	Analog Building Blocks (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 9:30 - 11:00	
	<i>Place:</i>	Salon D	
	<i>Chair(s):</i>	Salvatore Pennisi, <i>University of Catania</i>	
9:30	B1L-H.1	A Wide-Input Linear Range Sub-Threshold Transconductor for Sub-Hz Filtering	1567
		Chutham Sawigun, <i>Mahanakorn University of Technology</i> , <i>Delft University of Technology</i> ; Dipankar Pal, <i>Dr. B.C. Roy Engineering College</i> ; Andreas Demosthenous, <i>University College London</i>	

9:48	B1L-H.2	A Rail-to-Rail Full Clock Fully Differential Rectifier and Sample-and-Hold Amplifier	1571
		<i>Adnan Harb, United Arab Emirates University</i>	
10:06	B1L-H.3	A New Rail-to-Rail Comparator with Adaptive Power Control for Low Power SAR ADCs in Biomedical Application	1575
		<i>Sung-Min Chin, National Tsing Hua University; Chih-Cheng Hsieh, National Tsing Hua University</i>	
10:24	B1L-H.4	Single Miller Compensation using Inverting Current Buffer for Multi-Stage Amplifiers	1579
		<i>Annajirao Garimella, New Mexico State University; M. Wasequr Rashid, New Mexico State University; Paul M. Furth, New Mexico State University</i>	
10:42	B1L-H.5	Compact Low-Voltage CMOS Current-Mode Multiplier/Divider	1583
		<i>Antonio J. Lopez-Martin, Universidad Pública de Navarra; Carlos A. De La Cruz Blas, Universidad Pública de Navarra; Jaime Ramirez-Angulo, New Mexico State University; Ramón G. Carvajal, Universidad de Sevilla</i>	
	B1L-J	VLSI Testing & Thermal Issues (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 9:30 - 11:00	
	<i>Place:</i>	Salon J	
	<i>Chair(s):</i>	Mohammed Y. Niamat, <i>University of Toledo</i> Lars Wanhammar, <i>Linköping University</i>	
9:30	B1L-J.1	Multi-Chains Encoding Scheme in Low-Cost ATE	1587
		<i>Gong-Han Chen, Tamkang University; Po-Han Wu, Tamkang University; Jiann-Chyi Rau, Tamkang University</i>	
9:48	B1L-J.2	Test Power Reduction with Test-Time Trade-Off	1591
		<i>Subhadip Kundu, Indian Institute of Technology Kharagpur; Krishna Kumar S., Indian Institute of Technology Kharagpur; Santanu Chattopadhyay, Indian Institute of Technology Kharagpur</i>	
10:06	B1L-J.3	Delay Analysis of Sub-Path on Fabricated Chips by Several Path-Delay Tests	1595
		<i>Takanobu Shiki, University of Kitakyushu; Yasuhiro Takashima, University of Kitakyushu; Yuichi Nakamura, NEC Corporation</i>	
10:24	B1L-J.4	Neural Network based On-Chip Thermal Simulator	1599
		<i>Pratyush Kumar, Ecole Polytechnique Fédérale de Lausanne; David Atienza, Ecole Polytechnique Fédérale de Lausanne</i>	
10:42	B1L-J.5	Temperature and Power Measurement of Modern Dual Core Processor by Infrared Thermography	1603
		<i>F. Farrokhi Farkhani, Ryerson University; F.A. Mohammadi, Ryerson University</i>	

B1L-K Discrete Transforms & Wavelets (Lecture)

Time: Tuesday, June 1, 2010, 9:30 - 11:00

Place: Salon K

Chair(s): M. Omair Ahmad, *Concordia University*
Rabinder N. Madan, *Office of Naval Research*

9:30
B1L-K.1 Structurally Regular Integer Discrete Cosine Transform for Low-Bit-Word-Length Coefficients 1607
Taizo Suzuki, *Keio University*; Masaaki Ikehara, *Keio University*

9:48
B1L-K.2 Modified Discrete Fourier Transforms for Fast Convolution and Adaptive Filtering 1611
C. Radhakrishnan, *Pennsylvania State University*; W.K. Jenkins, *Pennsylvania State University*

10:06
B1L-K.3 A Novel Approach for FFT Data Reordering 1615
Marwan A. Jaber, *Université du Québec à Trois-Rivières*;
Daniel Massicotte, *Université du Québec à Trois-Rivières*

10:24
B1L-K.4 On Hilbert-Pairs from Non-Minimum Phase Daubechies Filters 1619
David B.H. Tay, *LaTrobe University*; Jingxin Zhang, *Monash University*

10:42
B1L-K.5 Comparison of Haar Wavelet-Based and Poisson-Based Numerical Integration Techniques 1623
Peter J. Hampton, *University of Victoria*; Pan Agathoklis, *University of Victoria*

B1L-L Wireless Receiver Circuits (Lecture)

Time: Tuesday, June 1, 2010, 9:30 - 11:00

Place: Salon L

Chair(s): Hassan Aboushady, *University of Paris VI, Pierre & Marie Curie*
James Haslett, *University of Calgary*

9:30
B1L-L.1 A 2.4 GHz Reference-Less Wireless Receiver for 1Mbps QPSK Demodulation 1627
Wei-Zen Chen, *National Chiao Tung University*; Wei-Wen Ou, *National Chiao Tung University*;
Tai-You Lu, *National Chiao Tung University*; Shun-Tien Chou, *National Chiao Tung University*;
Song-Yu Yang, *National Chiao Tung University*

9:48
B1L-L.2 A 2.2mW CMOS LNA for 6-8.5GHz UWB Receivers 1631
Chang-Ching Wu, *University of California, Berkeley*; Xuening Sun, *University of California, Berkeley*;
Alberto Sangiovanni-Vincentelli, *University of California, Berkeley*; Jan M. Rabaey, *University of California, Berkeley*

10:06
B1L-L.3 A 1.6 mW 5.4 GHz Transformer-Feedback g_m -Boosted Current-Reuse LNA in 0.18 μ m CMOS 1635
Daibashish Gangopadhyay, *University of Washington*; Sudip Shekhar, *Intel Corporation*;
Jeffrey S. Walling, *University of Washington*; David J. Allstot, *University of Washington*

B1L-M References & Power Converter Circuits (Lecture)*Time:* Tuesday, June 1, 2010, 9:30 - 11:00*Place:* Salon M*Chair(s):* Vadim Ivanov, *Texas Instruments*

- 9:30
B1L-M.1 Novel MOSFET-Only Bandgap Voltage Reference 1639
 Carlos Dualibe, *Freescale Semiconductor, University of Mons*
- 9:48
B1L-M.2 Low Voltage CMOS Bandgap References with Temperature Compensated Reference Current Output 1643
 Edward K.F. Lee, *Alfred Mann Foundation*
- 10:06
B1L-M.3 32-Bit Configurable Bias Current Generator with Sub-Off-Current Capability 1647
 Tobi Delbruck, *University of Zürich and ETH Zürich*; Raphael Berner, *University of Zürich and ETH Zürich*; Patrick Lichtsteiner, *University of Zürich and ETH Zürich*; Carlos Dualibe, *Freescale Semiconductor*
- 10:24
B1L-M.4 A Compact Adaptive Slope Compensation Circuit for Current-Mode DC-DC Converter 1651
 Kimio Shibata, *University of Electro-Communications*; Cong-Kha Pham, *University of Electro-Communications*
- 10:42
B1L-M.5 Enhanced RF to DC CMOS Rectifier with Capacitor-Bootstrapped Transistor 1655
 Mahsa Ebrahimian, *Dalhousie University*; Kamal El-Sankary, *Dalhousie University*; Ezz El-Masry, *Dalhousie University*
- B1L-N SPECIAL SESSION: Neuromorphic Nano Devices Adaptive Sensing & Processing Systems** (Lecture)
- Time:* Tuesday, June 1, 2010, 9:30 - 11:00
Place: Radio City Ballroom I
Chair(s): Christian Gamrat, *CEA, France*
 Teresa Serrano-Gotarredona, *Instituto de Microelectrónica de Sevilla*
- 9:30
B1L-N.1 On Neuromorphic Spiking Architectures for Asynchronous STDP Memristive Systems 1659
 J.A. Pérez-Carrasco, *CSIC Instituto de Microelectrónica de Sevilla (IMSE-CNM)*; C. Zamarreño-Ramos, *CSIC Instituto de Microelectrónica de Sevilla (IMSE-CNM)*; T. Serrano-Gotarredona, *CSIC Instituto de Microelectrónica de Sevilla (IMSE-CNM)*; B. Linares-Barranco, *CSIC Instituto de Microelectrónica de Sevilla (IMSE-CNM)*
- 9:48
B1L-N.2 Development of a Functional Model for the Nanoparticle-Organic Memory Transistor 1663
 O. Bichler, *CEA, LIST*; WS. Zhao, *CEA, LIST*; C. Gamrat, *CEA, LIST*; F. Alibart, *CNRS IEMN-Université Lille 1*; S. Pleutin, *CNRS IEMN-Université Lille 1*; D. Vuillaume, *CNRS IEMN-Université Lille 1*
- 10:06
B1L-N.3 Carbon Nanotube-Based Programmable Devices for Adaptive Architectures 1667
 G. Agnus, *CEA, IRAMIS, SPEC*; A. Filoramo, *CEA, IRAMIS, SPEC*; J-P. Bourgoin, *CEA, IRAMIS, SPEC*; V. Derycke, *CEA, IRAMIS, SPEC*; W. Zhao, *CEA, LIST*
- 10:24
B1L-N.4 Robustness of Logic Gates and Reconfigurability of Neuromorphic Switching Networks 1671
 Zackary Chiragwandi, *Chalmers University of Technology*; Jonas Sköldbberg, *Chalmers University of Technology*; Göran Wendin, *Chalmers University of Technology*

10:42	B1L-N.5	Characterization of Memristive Poly-Si Nanowires via Empirical Physical Modelling	1675
		Nikolaos Archontas, <i>University of Cyprus</i> ; Julius Georgiou, <i>University of Cyprus</i> ; M. Haykel Ben Jamaa, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Sandro Carrara, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Giovanni De Micheli, <i>Ecole Polytechnique Fédérale de Lausanne</i>	
	B1L-P	SPECIAL SESSION: Multimedia Forensics & Security (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 9:30 - 11:00	
	<i>Place:</i>	Radio City Ballroom II	
	<i>Chair(s):</i>	Jiwu Huang, <i>Sun Yat-Sen University</i> Yun-Qing Shi, <i>New Jersey Institute of Technology</i>	
9:30	B1L-P.1	Block-Based Image Steganalysis: Algorithm and Performance Evaluation	1679
		Seongho Cho, <i>University of Southern California</i> ; Byung-Ho Cha, <i>Samsung</i> ; Jingwei Wang, <i>University of Southern California</i> ; C.-C. Jay Kuo, <i>University of Southern California</i>	
9:48	B1L-P.2	Mobile Camera Identification using Demosaicing Features	1683
		Hong Cao, <i>Nanyang Technological University</i> ; Alex C. Kot, <i>Nanyang Technological University</i>	
10:06	B1L-P.3	Identification of Cut & Paste Tampering by Means of Double-JPEG Detection and Image Segmentation	1687
		M. Barni, <i>Università degli Studi di Siena</i> ; A. Costanzo, <i>Università degli Studi di Siena</i> ; L. Sabatini, <i>Università degli Studi di Siena</i>	
10:24	B1L-P.4	Color based Soft Biometry for Hooligans Detection	1691
		Angela D'Angelo, <i>Eurecom</i> ; Jean-Luc Dugelay, <i>Eurecom</i>	
10:42	B1L-P.5	Resolution Variant Visual Cryptography for Street View of Google Maps	1695
		Jonathan Weir, <i>Queen's University Belfast</i> ; WeiQi Yan, <i>Queen's University Belfast</i>	
	B2L-A	SPECIAL SESSION: Emerging Technologies for Nanometer VLSI Circuits & Applications (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 11:20 - 12:50	
	<i>Place:</i>	Grand Ballroom E	
	<i>Chair(s):</i>	Massimo Alioto, <i>University of Siena</i>	
11:20	B2L-A.1	Experimental Study of Leakage-Delay Trade-Off in Germanium pMOSFETs for Logic Circuits	1699
		Paolo Magnone, <i>Università della Calabria</i> ; Felice Crupi, <i>Università della Calabria</i> ; Massimo Alioto, <i>Università degli Studi di Siena</i> , <i>University of California-Berkeley</i> ; Ben Kaczer, <i>IMEC</i>	
11:38	B2L-A.2	32nm and Beyond Multi-V_T Ultra-Thin Body and BOX FDSOI: From Device to Circuit	1703
		O. Thomas, <i>CEA, LETI, MINATEC</i> ; J.-P. Noel, <i>CEA, LETI, MINATEC</i> ; C. Fenouillet-Beranger, <i>CEA, LETI, MINATEC & STMicroelectronics</i> ; M.-A. Jaud, <i>CEA, LETI, MINATEC</i> ; J. Dura, <i>CEA, LETI, MINATEC</i> ; P. Perreau, <i>CEA, LETI, MINATEC & STMicroelectronics</i> ; F. Boeuf, <i>STMicroelectronics</i> ; F. Andrieu, <i>CEA, LETI, MINATEC</i> ; D. Delprat, <i>SOITEC</i> ; F. Boedt, <i>SOITEC</i> ; K. Bourdelle, <i>SOITEC</i> ; B.-Y. Nguyen, <i>SOITEC</i> ; A. Vladimirescu, <i>Institut Supérieur d'électronique de Paris</i> ; A. Amara, <i>Institut Supérieur d'électronique de Paris</i>	

11:56	B2L-A.3	SRAM Design in Fully-Depleted SOI Technology	1707
		Borivoje Nikolić, <i>University of California, Berkeley</i> ; Changhwan Shin, <i>University of California, Berkeley</i> ; Min Hee Cho, <i>University of California, Berkeley</i> ; Xin Sun, <i>University of California, Berkeley</i> ; Tsu-Jae King Liu, <i>University of California, Berkeley</i> ; Bich-Yen Nguyen, <i>SOITEC</i>	
12:14	B2L-A.4	Design of a CNFET Array for Sensing and Control in P450 based Biochips for Multiple Drug Detection	1711
		Shashikanth Bobba, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Sandro Carrara, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Giovanni De Micheli, <i>Ecole Polytechnique Fédérale de Lausanne</i>	
12:32	B2L-A.5	Design Aspects of Carry Lookahead Adders with Vertically-Stacked Nanowire Transistors	1715
		Davide Sacchetto, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; M. Haykel Ben-Jamaa, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Giovanni De Micheli, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Yusuf Leblebici, <i>Ecole Polytechnique Fédérale de Lausanne</i>	
	B2L-B	Pipelined & Flash ADCs (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 11:20 - 12:50	
	<i>Place:</i>	Grand Ballroom F	
	<i>Chair(s):</i>	Tony Chan Carusone, <i>University of Toronto</i>	
11:20	B2L-B.1	Offset Cancellation for Zero Crossing based Circuits	1719
		Albert Chow, <i>Massachusetts Institute of Technology</i> ; Hae-Seung Lee, <i>Massachusetts Institute of Technology</i>	
11:38	B2L-B.2	High-Speed Differential Resistor Ladder for A/D Converters	1723
		Davide De Caro, <i>Università degli Studi di Napoli Federico II</i> ; Marino Coppola, <i>Università degli Studi di Napoli Federico II</i> ; Nicola Petra, <i>Università degli Studi di Napoli Federico II</i> ; Ettore Napoli, <i>Università degli Studi di Napoli Federico II</i> ; Antonio G.M. Strollo, <i>Università degli Studi di Napoli Federico II</i> ; Valeria Garofalo, <i>Università degli Studi di Napoli Federico II</i>	
11:56	B2L-B.3	13-bit 205 MS/s Time-Interleaved Pipelined ADC with Digital Background Calibration	1727
		Mohamed Mohsen, <i>Silicon Vision LLC.</i> ; Mohamed Dessouky, <i>Ain Shams University</i>	
12:14	B2L-B.4	Pseudo-Differential Zero-Crossing-Based Circuit with Differential Error Suppression	1731
		Tawfiq Musah, <i>Oregon State University</i> ; Un-Ku Moon, <i>Oregon State University</i>	
12:32	B2L-B.5	A 1.6-GHz, 54-dB Signal-to-Noise and Distortion Ratio Pipeline A/D Converter	1735
		L. Picolli, <i>Università degli studi di Pavia</i> ; L. Crespi, <i>Conexant Systems</i> ; F. Chaahoub, <i>Quellan</i> ; P. Malcovati, <i>Università degli studi di Pavia</i> ; A. Baschiroto, <i>Università degli Studi di Milano-Bicocca</i>	

B2L-C Clocking & Variability (Lecture)

Time: Tuesday, June 1, 2010, 11:20 - 12:50
Place: Grand Ballroom G
Chair(s): Masud Chowdhury, *University of Illinois at Chicago*
Vojin Oklobdzija, *University of Texas*

11:20
B2L-C.1 Comparative Analysis of Power Yield Improvement under Process Variation of Sub-Threshold Flip-Flops 1739
Hassan Mostafa, *University of Waterloo*; Mohab Anis, *University of Waterloo*;
Mohamed Elmasry, *University of Waterloo*

11:38
B2L-C.2 A Novel Variation Insensitive Clock Distribution Methodology 1743
Ezz El-Din O. Hussein, *Nile University*; Yehea I. Ismail, *Northwestern University & Nile University*

11:56
B2L-C.3 Statistical Timing Yield Improvement of Dynamic Circuits using Negative Capacitance Technique 1747
Hassan Mostafa, *University of Waterloo*; Mohab Anis, *University of Waterloo*;
Mohamed Elmasry, *University of Waterloo*

12:14
B2L-C.4 Globally Integrated Power and Clock Distribution Network 1751
Renatas Jakushokas, *University of Rochester*; Eby G. Friedman, *University of Rochester*

12:32
B2L-C.5 A 55nm 1GHz One-Cycle-Locking De-Skewing Circuit 1755
Jinn-Shyan Wang, *National Chung Cheng University*; Chun-Yuan Cheng, *National Chung Cheng University*;
Je-Ching Liu, *National Chung Cheng University*; Yu-Chia Liu, *National Chung Cheng University*;
Yi-Ming Wang, *National Chi-Nang University*

B2L-D Wireless Communications Systems II (Lecture)

Time: Tuesday, June 1, 2010, 11:20 - 12:50
Place: Grand Ballroom H
Chair(s): Myung Sunwoo, *Ajou University*

11:20
B2L-D.1 Low-Power Design of Variable Block-Size LDPC Decoder using Nanometer Technology 1759
Chih-Hung Lin, *National Chung Hsing University*; Alex Chien-Lin Huang, *National Chip Implementation Center*; Robert Chen-Hao Chang, *National Chung Hsing University*; Kuang-Hao Lin, *National Chin-Yi University of Technology*

11:38
B2L-D.2 Implementation of Enhanced CDMA Utilizing Low Complexity Joint Detection with Iterative Processing 1763
Russell Dodd, *University of Alberta*; Christian Schlegel, *University of Alberta*;
Vincent Gaudet, *University of Alberta*

11:56
B2L-D.3 Efficient FPGA Implementation of a Wireless Communication System using Bluetooth Connectivity 1767
Hasan Taha, *Brunel University*; Abdul N. Sazish, *Brunel University*; Afandi Ahmad, *Brunel University*;
Mhd Saeed Sharif, *Brunel University*; Abbas Amira, *Brunel University*

12:14	B2L-D.4	A FIR Baseband Filter for High Data Rate 60-GHz Wireless Communications	1771
		Jonathan Muller, <i>STMicroelectronics, University of California-Berkeley, IEMN</i> ; Andraia Cathelin, <i>STMicroelectronics</i> ; Ali Niknejad, <i>University of California, Berkeley</i> ; Andreas Kaiser, <i>IEMN</i>	
12:32	B2L-D.5	On-the-Fly Speed and Power Scaling of an E-TSPC Dual Modulus Prescaler using Forward Body Bias in 0.25 μm CMOS	1775
		Seungsoo Kim, <i>Kwangwoon University</i> ; Jaewook Shin, <i>Kwangwoon University</i> ; Hyunchol Shin, <i>Kwangwoon University</i>	
	B2L-E	Biomedical Systems & Signal Processing (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon A	
	<i>Chair(s):</i>	Zhiping Lin, <i>Nanyang Technology University</i> Stephen Wong, <i>Methodist Hospital Research Institute, Cornell University</i>	
11:20	B2L-E.1	Portable Biomarker Detection with Magnetic Nanotags	1779
		Drew A. Hall, <i>Stanford University</i> ; Shan X. Wang, <i>Stanford University</i> ; Boris Murmann, <i>Stanford University</i> ; Richard S. Gaster, <i>Stanford University</i>	
11:38	B2L-E.2	3D Oncological PET Volume Analysis using CNN and LVQNN	1783
		Mhd Saeed Sharif, <i>Brunel University</i> ; Abbas Amira, <i>Brunel University</i> ; Habib Zaidi, <i>Geneva University Hospital</i>	
11:56	B2L-E.3	The SAW Resonators on LiNbO₃ for Mass-Sensing Applications	1787
		Hsu-Cheng Ou, <i>George Washington University</i> ; Mona Zaghoul, <i>George Washington University</i>	
12:14	B2L-E.4	Is SystemC-AMS an Appropriate "Promoter" for the Modeling and Simulation of Bio-Compatible Systems?	1791
		François Pêcheux, <i>LIP6 Laboratory, Université Pierre et Marie Curie</i> ; Morgan Madec, <i>Institut d'Électronique du Solide et des Systèmes</i> ; Christophe Lallement, <i>Institut d'Électronique du Solide et des Systèmes</i>	
12:32	B2L-E.5	The Extended Ear Type System and Possible Applications	1795
		Koranan Limpaphayom, <i>University of Maryland</i> ; Robert W. Newcomb, <i>University of Maryland</i>	
	B2L-F	Nonlinear Circuits & Systems II (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon B	
	<i>Chair(s):</i>	Saverio Morfu, <i>Université de Bourgogne</i>	
11:20	B2L-F.1	Narrowband Interference Reduction in UWB Systems based on Spreading Sequence Spectrum Shaping	1799
		Mauro Mangia, <i>Università di Bologna, Swiss Federal Institute of Technology</i> ; Riccardo Rovatti, <i>Università di Bologna</i> ; Gianluca Setti, <i>Università degli Studi di Ferrara</i>	
11:38	B2L-F.2	Spectral Analysis of Internet Topology Graphs	1803
		Laxmi Subedi, <i>Simon Fraser University</i> ; Ljiljana Trajković, <i>Simon Fraser University</i>	

11:56	B2L-F.3	On Two-Directional Orthogonal Ray Graphs	1807
		Anish Man Singh Shrestha, <i>Tokyo Institute of Technology</i> ; Satoshi Tayu, <i>Tokyo Institute of Technology</i> ; Shuichi Ueno, <i>Tokyo Institute of Technology</i>	
12:14	B2L-F.4	Image Processing using Diffusion Processes	1811
		S. Morfu, <i>Université de Bourgogne</i>	
12:32	B2L-F.5	A Heuristic Solution to the Optimisation of Flutter Control in Compression Systems (and to Some More Binary Quadratic Programming Problems) via $\Delta\Sigma$ Modulation Circuits	1815
		Sergio Callegari, <i>Università di Bologna</i> ; Federico Bizzarri, <i>Università di Bologna</i>	
	B2L-G	Visual Signal Coding & Communications (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon C	
	<i>Chair(s):</i>	Gwo Giun Lee, <i>National Cheng Kung University</i> Nam Ling, <i>Santa Clara University</i>	
11:20	B2L-G.1	Streaming Capacity in Multi-Channel P2P VoD Systems	1819
		Yifeng He, <i>Ryerson University</i> ; Ling Guan, <i>Ryerson University</i>	
11:38	B2L-G.2	Joint Source Channel Coding with Hermitian Symmetric DFT Codes	1823
		A. Anil Kumar, <i>Nanyang Technological University</i> ; Anamitra Makur, <i>Nanyang Technological University</i>	
11:56	B2L-G.3	Multiple-Description Video Coding based on JPEG 2000 MQ-Coder Registers	1827
		Angelo M. Arrifano, <i>Universidade da Beira Interior</i> ; Manuela Pereira, <i>Universidade da Beira Interior</i> ; Marc Antonini, <i>Université de Nice Sophia Antipolis</i> ; Mario M. Freire, <i>Universidade da Beira Interior</i>	
12:14	B2L-G.4	On-the-Fly Tone Mapping for Backward-Compatible High Dynamic Range Image/Video Compression	1831
		Zicong Mai, <i>University of British Columbia</i> ; Hassan Mansour, <i>University of British Columbia</i> ; Rafal Mantiuk, <i>University of British Columbia</i> ; Panos Nasiopoulos, <i>University of British Columbia</i> ; Rabab Ward, <i>University of British Columbia</i> ; Wolfgang Heidrich, <i>University of British Columbia</i>	
12:32	B2L-G.5	An Entropy Coding Method for Floating-Point Texture Coordinates of 3D Mesh	1835
		Tong Zhou, <i>Beijing University of Posts and Telecommunications</i> ; Yong Liu, <i>Beijing University of Posts and Telecommunications</i> ; Quqing Chen, <i>Thomson Corporate Research</i> ; Kangying Cai, <i>Thomson Corporate Research</i> ; Jun Teng, <i>Thomson Corporate Research</i> ; Zhibo Chen, <i>Thomson Corporate Research</i>	
	B2L-H	Analog Circuits & IC Technology (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon D	
	<i>Chair(s):</i>	George Yuan, <i>Hong Kong University of Science & Technology</i>	
11:20	B2L-H.1	A 250MHz-to-4GHz $\Delta\Sigma$ Fractional-N Frequency Synthesizer with Adjustable Duty Cycle	1839
		Chen-Wei Huang, <i>Southern Methodist University</i> ; Ping Gui, <i>Southern Methodist University</i>	

11:38	B2L-H.2	An Effective Phase Detector for Phase-Locked Loops with Wide Capture Range and Fast Acquisition Time	1843
		Chi-Sheng Lin, <i>National Chip Implementation Center</i> ; Ting-Hsu Chien, <i>National Chip Implementation Center</i> ; Chin-Long Wey, <i>National Chip Implementation Center</i>	
11:56	B2L-H.3	17 Gb/s VCSEL Driver using Double-Pulse Asymmetric Emphasis Technique in 90-nm CMOS for Optical Interconnection	1847
		Kenichi Ohhata, <i>Kagoshima University</i> ; Hironori Imamura, <i>Kagoshima University</i> ; Toshinobu Ohno, <i>Kagoshima University</i> ; Takaya Taniguchi, <i>Kagoshima University</i> ; Kiichi Yamashita, <i>Kagoshima University</i> ; Toru Yazaki, <i>Hitachi, Ltd.</i> ; Norio Chujo, <i>Hitachi, Ltd.</i>	
12:14	B2L-H.4	A Power Amplifier with Minimal Efficiency Degradation under Back-Off	1851
		Nitesh Singhal, <i>University of California, Los Angeles</i> ; Nitin Nidhi, <i>University of California, Los Angeles</i> ; Sudhakar Pamarti, <i>University of California, Los Angeles</i>	
12:32	B2L-H.5	Miniaturized CMOS Thermal Sensor Array for Temperature Gradient Measurement in Microprocessors	1855
		Kosta Luria, <i>Intel Corporation</i> ; Joseph Shor, <i>Intel Corporation</i>	
	B2L-J	VLSI Design Methodologies & Information Security (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon J	
	<i>Chair(s):</i>	Zhongfeng Wang, <i>Broadcom Corp.</i> Xinmiao Zhang, <i>Case Western Reserve University</i>	
11:20	B2L-J.1	Partitioning and Synthesis for Hybrid Architecture Simulators	1859
		Zhuo Ruan, <i>Brigham Young University</i> ; David A. Penry, <i>Brigham Young University</i>	
11:38	B2L-J.2	Automatic Communication Synthesis with Hardware Sharing for Design Space Exploration	1863
		Yuki Ando, <i>Nagoya University</i> ; Seiya Shibata, <i>Nagoya University, Japan Society for the Promotion of Science</i> ; Shinya Honda, <i>Nagoya University</i> ; Hiroyuki Tomiyama, <i>Nagoya University</i> ; Hiroaki Takada, <i>Nagoya University</i>	
11:56	B2L-J.3	State-Dependent Changeable Scan Architecture against Scan-Based Side Channel Attacks	1867
		Ryuta Nara, <i>Waseda University</i> ; Hiroshi Atobe, <i>Mitsubishi Electronics Corp.</i> ; Youhua Shi, <i>Waseda University</i> ; Nozomu Togawa, <i>Waseda University</i> ; Masao Yanagisawa, <i>Waseda University</i> ; Tatsuo Ohtsuki, <i>Waseda University</i>	
12:14	B2L-J.4	Towards a Comprehensive and Systematic Classification of Hardware Trojans	1871
		J. Rajendran, <i>Polytechnic Institute of New York University</i> ; E. Gavvas, <i>Polytechnic Institute of New York University</i> ; J. Jimenez, <i>Polytechnic Institute of New York University</i> ; V. Padman, <i>Polytechnic Institute of New York University</i> ; R. Karri, <i>Polytechnic Institute of New York University</i>	
12:32	B2L-J.5	Fault and Simple Power Attack Resistant RSA using Montgomery Modular Multiplication	1875
		Apostolos P. Fournaris, <i>University of Patras / Hitachi Europe SAS</i>	

B2L-K Detection & Estimation (Lecture)

Time: Tuesday, June 1, 2010, 11:20 - 12:50
Place: Salon K
Chair(s): Behrouz Nowrouzian, *University of Alberta*
 Wei Xing Zheng, *University of Western Sydney*

11:20

- B2L-K.1 A Subspace-Based Method for DOA Estimation of Uniform Linear Array in the Presence of Mutual Coupling** 1879
 B. Liao, *University of Hong Kong*; Z.G. Zhang, *University of Hong Kong*; S.C. Chan, *University of Hong Kong*

11:38

- B2L-K.2 A 22.4 mW Competitive Fuzzy Edge Detection Processor for Volume Rendering** 1883
 Joonsoo Kwon, *Korea Advanced Institute of Science and Technology*; Minsu Kim, *Korea Advanced Institute of Science and Technology*; Jinwook Oh, *Korea Advanced Institute of Science and Technology*; Hoi-Jun Yoo, *Korea Advanced Institute of Science and Technology*

11:56

- B2L-K.3 Semi-Blind CFO, Channel Estimation and Data Detection for OFDM Systems over Doubly Selective Channels** 1887
 Lanlan He, *University of Hong Kong*; Shaodan Ma, *University of Hong Kong*; Yik-Chung Wu, *University of Hong Kong*; Tung-Sang Ng, *University of Hong Kong*

12:14

- B2L-K.4 A Group of Macroblock based Motion Estimation Algorithm Supporting Adaptive Search Range for H.264 Video Coding** 1891
 Chang-Hung Tsai, *National Chung Cheng University*; Kheng-Joo Tan, *National Chung Cheng University*; Ching-Lung Su, *National Yunlin University of Science and Technology*; Jiun-In Guo, *National Chung Cheng University*

12:32

- B2L-K.5 Super-Resolution Technique for Thermography with Dual-Camera System** 1895
 Shingo Chikamatsu, *Kobe University*; Tomohiro Nakaya, *Kobe University*; Masakazu Kouda, *Kobe University*; Nobutaka Kuroki, *Kobe University*; Tetsuya Hirose, *Kobe University*; Masahiro Numa, *Kobe University*

B2L-L Wireless Communications Circuits I (Lecture)

Time: Tuesday, June 1, 2010, 11:20 - 12:50
Place: Salon L
Chair(s): Chang-Ho Lee, *Samsung*
 Calvin Plett, *Carleton University*

11:20

- B2L-L.1 Fully Integrated 9 GHz CMOS VCO with Very Low Phase Noise** 1899
 Kai Hu, *Innovations for High Performance Microelectronics*; Frank Herzel, *Innovations for High Performance Microelectronics*; J. Christoph Scheytt, *Innovations for High Performance Microelectronics*

11:38

- B2L-L.2 A Thorough Analysis of the Tank Quality Factor in LC Oscillators with Switched Capacitor Banks** 1903
 Stefano Dal Toso, *Università degli Studi di Padova*; Andrea Bevilacqua, *Università degli Studi di Padova*; Andrea Gerosa, *Università degli Studi di Padova*; Andrea Neviani, *Università degli Studi di Padova*

11:56

- B2L-L.3 Reliability Study of a Low-Voltage Class-E Power Amplifier in 130nm CMOS** 1907
 Jonas Fritzin, *Linköping University*; Timmy Sundström, *Linköping University*; Ted Johansson, *Linköping University*; Huawei Technologies; Atila Alvandpour, *Linköping University*

12:14	B2L-L.4	A Switch Mode Resonating H-Bridge Polar Transmitter using RF $\Sigma\Delta$ Modulation	1911
		Liang Rong, <i>KTH Royal Institute of Technology</i> ; Fredrik Jonsson, <i>KTH Royal Institute of Technology</i> ; Li-Rong Zheng, <i>KTH Royal Institute of Technology</i>	
12:32	B2L-L.5	Efficiency Enhancement and Linearity Trade-Offs for Cascode vs. Common-Emitter SiGe Power Amplifiers in WiMAX Polar Transmitters	1915
		Yan Li, <i>Texas Tech University</i> ; Jerry Lopez, <i>Texas Tech University</i> ; Donald Y.C. Lie, <i>Texas Tech University</i> ; Kevin Chen, <i>Industrial Technology Research Institute</i> ; Stanley Wu, <i>Industrial Technology Research Institute</i> ; Tzu-Yi Yang, <i>Industrial Technology Research Institute</i>	
	B2L-M	Mixed-Signal Test I (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon M	
	<i>Chair(s):</i>	Tuna Tarim, <i>Texas Instruments</i>	
11:20	B2L-M.1	PCA Application to Frequency Reduction for Fault Diagnosis in Analog and Mixed Electronic Circuit	1919
		Damian Grzechca, <i>Silesian University of Technology</i> ; Jerzy Rutkowski, <i>Silesian University of Technology</i> ; Tomasz Golonek, <i>Silesian University of Technology</i>	
11:38	B2L-M.2	Wavelet Analysis of Current Measurements for Mixed-Signal Circuit Testing	1923
		M.G. Dimopoulos, <i>Alexander Technological Educational Institute of Thessaloniki</i> ; D.K. Papakostas, <i>Alexander Technological Educational Institute of Thessaloniki</i> ; B.D. Vassios, <i>Alexander Technological Educational Institute of Thessaloniki</i> ; A.A. Hatzopoulos, <i>Aristotle University of Thessaloniki</i>	
11:56	B2L-M.3	Fully Integrated and Reconfigurable Architecture for Coherent Self-Testing of IQ ADCs	1927
		E. Santin, <i>Universidade Nova de Lisboa</i> ; L.B. Oliveira, <i>Universidade Nova de Lisboa</i> ; B. Nowacki, <i>Universidade Nova de Lisboa</i> ; J. Goes, <i>UNINOVA - Instituto de Desenvolvimento de Novas Tecnologias</i>	
12:14	B2L-M.4	A Low-Jitter Supply-Regulated Charge Pump Phase-Locked Loop with Built-in Test and Calibration	1931
		Wimol San-Um, <i>Kochi University of Technology</i> ; Tachibana Masayoshi, <i>Kochi University of Technology</i>	
12:32	B2L-M.5	Phase Control of Triangular Stimulus Generator for ADC BIST	1935
		Jingbo Duan, <i>Iowa State University</i> ; Degang Chen, <i>Iowa State University</i> ; Randall Geiger, <i>Iowa State University</i>	
	B2L-P	SPECIAL SESSION: Analog Neuromimetic VLSI: An Alternative Strategy to Investigate Biological Neural (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 11:20 - 12:50	
	<i>Place:</i>	Radio City Ballroom II	
	<i>Chair(s):</i>	Paul Hasler, <i>Georgia Institute of Technology</i> Sylvain Saïghi, <i>University of Bordeaux</i>	
11:20	B2L-P.1	Real-Time Multi-Board Architecture for Analog Spiking Neural Networks	1939
		Sylvain Saïghi, <i>Université Bordeaux</i> ; Jean Tomas, <i>Université Bordeaux</i> ; Yannick Bornat, <i>Université Bordeaux</i> ; Bilel Belhadj, <i>Université Bordeaux</i> ; Olivia Malot, <i>Université Bordeaux</i> ; Sylvie Renaud, <i>Université Bordeaux</i>	

11:38	B2L-P.2	Neural Dynamics in Reconfigurable Silicon	1943
		Arindam Basu, <i>Georgia Institute of Technology</i> ; Shubha Ramakrishnan, <i>Georgia Institute of Technology</i> ; Paul Hasler, <i>Georgia Institute of Technology</i>	
11:56	B2L-P.3	A Wafer-Scale Neuromorphic Hardware System for Large-Scale Neural Modeling	1947
		Johannes Schemmel, <i>Universität Heidelberg</i> ; Daniel Brüderle, <i>Universität Heidelberg</i> ; Andreas Grübl, <i>Universität Heidelberg</i> ; Matthias Hock, <i>Universität Heidelberg</i> ; Karlheinz Meier, <i>Universität Heidelberg</i> ; Sebastian Millner, <i>Universität Heidelberg</i>	
12:14	B2L-P.4	Spike-Based Learning with a Generalized Integrate and Fire Silicon Neuron	1951
		Giacomo Indiveri, <i>University of Zürich and ETH Zürich</i> ; Fabio Stefanini, <i>University of Zürich and ETH Zürich</i> ; Elisabetta Chicca, <i>University of Zürich and ETH Zürich</i>	
	B3L-A	SPECIAL SESSION: Memristors & Memristive Systems – From Devices to Applications (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 14:10 - 15:40	
	<i>Place:</i>	Grand Ballroom E	
	<i>Chair(s):</i>	Garrett Rose, <i>Polytechnic Institute of NYU</i> Wei Wang, <i>University at Albany, State University of New York</i>	
14:10	B3L-A.1	Overview: Memristive Devices, Circuits and Systems	1955
		Garrett S. Rose, <i>Polytechnic Institute of New York University</i>	
14:28	B3L-A.2	Biologically Self-Assembled Memristive Circuit Elements	1959
		Nathaniel C. Cady, <i>University at Albany, State University of New York</i> ; Magnus Bergkvist, <i>University at Albany, State University of New York</i> ; Nicholas M. Fahrenkopf, <i>University at Albany, State University of New York</i> ; Phillip Z. Rice, <i>University at Albany, State University of New York</i> ; Joseph Van Nostrand, <i>Air Force Research Laboratory</i>	
14:46	B3L-A.3	FPGA based on Integration of Memristors and CMOS Devices	1963
		Wei Wang, <i>University at Albany, State University of New York</i> ; Tom T. Jing, <i>University at Albany, State University of New York</i> ; Brian Butcher, <i>University at Albany, State University of New York</i>	
15:04	B3L-A.4	Hybrid CMOS/Memristor Circuits	1967
		D.B. Strukov, <i>University of California, Santa Barbara</i> ; D.R. Stewart, <i>National Council of Canada</i> ; J. Borghetti, <i>Hewlett Packard Laboratories</i> ; X. Li, <i>Hewlett Packard Laboratories</i> ; M. Pickett, <i>Hewlett Packard Laboratories</i> ; G. Medeiros Ribeiro, <i>Hewlett Packard Laboratories</i> ; W. Robinett, <i>Hewlett Packard Laboratories</i> ; G. Snider, <i>Hewlett Packard Laboratories</i> ; J.P. Strachan, <i>Hewlett Packard Laboratories</i> ; W. Wu, <i>Hewlett Packard Laboratories</i> ; Q. Xia, <i>Hewlett Packard Laboratories</i> ; J. Joshua Yang, <i>Hewlett Packard Laboratories</i> ; R.S. Williams, <i>Hewlett Packard Laboratories</i>	
15:22	B3L-A.5	Memristive Transfer Matrices for Analog Electronics	1971
		Blaise L. Mouttet, <i>George Mason University</i>	

B3L-B Oscillators for Wireless Applications (Lecture)*Time:* Tuesday, June 1, 2010, 14:10 - 15:40*Place:* Grand Ballroom F*Chair(s):* Alyssa Apsel, *Cornell University*

14:10

B3L-B.1 Capacitor Bank Design for Wide Tuning Range LC VCOs: 850MHz - 7.1GHz (157%) 1975
Bodhisatwa Sadhu, *University of Minnesota*; Ramesh Harjani, *University of Minnesota*

14:28

B3L-B.2 On-Chip Biased Voltage-Controlled Oscillator with Temperature Compensation of the Oscillation Amplitude for Robust I/Q Generation 1979
A.J. Ginés, *CSIC Instituto de Microelectrónica de Sevilla (IMSE-CNM)*; R. Doldán, *CSIC Instituto de Microelectrónica de Sevilla (IMSE-CNM)*; M.J. Barragán, *CSIC Instituto de Microelectrónica de Sevilla (IMSE-CNM)*; A. Rueda, *CSIC Instituto de Microelectrónica de Sevilla (IMSE-CNM)*; E. Peralías, *CSIC Instituto de Microelectrónica de Sevilla (IMSE-CNM)*

14:46

B3L-B.3 A Wide-Band Digitally Controlled Ring Oscillator 1983
Liangge Xu, *Aalto University*; Kari Stadius, *Aalto University*; Jussi Ryynänen, *Aalto University*

15:04

B3L-B.4 Merged Digitally Controlled Oscillator and Time to Digital Converter for TV Band ADPLL 1987
Wissam Altabban, *Télécom ParisTech*; Patricia Desgreys, *Télécom ParisTech*; Hervé Petit, *Télécom ParisTech*; Karim Ben Kalaia, *Télécom ParisTech*; Laure Rolland du Roscoat, *NXP Semiconductors*

15:22

B3L-B.5 Multi-Standard/Multi-Band Distributed VCO based on the "Switched-Cells Tuning Technique" for SDR Applications 1991
Francesco Cannone, *Politecnico di Bari*; Gianfranco Avitabile, *Politecnico di Bari*; Damiano Cascella, *Politecnico di Bari***B3L-D VLSI & SoC Implementations for Multimedia** (Lecture)*Time:* Tuesday, June 1, 2010, 14:10 - 15:40*Place:* Grand Ballroom H*Chair(s):* Tian-Sheuan Chang, *National Chiao Tung University*
Gwo Giun Lee, *National Cheng Kung University*

14:10

B3L-D.1 A Codesign Synthesis from an MPEG-4 Decoder Dataflow Description 1995
Nicolas Siret, *Lead Tech Design & IETR/INSA*; Ismaïl Sabry, *Lead Tech Design*; Jean François Nezan, *IETR / INSA*; Mickaël Raulet, *IETR / INSA*

14:28

B3L-D.2 Digitally-Controlled RF Passive Attenuator in 65nm CMOS for Mobile TV Tuner ICs 1999
Ahmed Youssef, *University of Calgary*; James Haslett, *University of Calgary*; Edward Youssoufian, *Newport Media Inc.*

14:46

B3L-D.3 Reconfigurable Architecture Design of Motion Compensation for Multi-Standard Video Coding 2003
Gwo-Giun Lee, *National Cheng Kung University*; Wei-Chiao Yang, *National Cheng Kung University*; Min-Shan Wu, *National Cheng Kung University*; He-Yuan Lin, *National Cheng Kung University*

- 15:04
B3L-D.4 A High Throughput VLSI Design with Hybrid Memory Architecture for H.264/AVC CABAC Decoder 2007
 Yuan-Hsin Liao, *National Chiao Tung University*; Gwo-Long Li, *National Chiao Tung University*; Tian-Sheuan Chang, *National Chiao Tung University*
- 15:22
B3L-D.5 A Reconfigurable Multi-Processor SoC for Media Applications 2011
 Min Zhu, *Tsinghua University*; Leibo Liu, *Tsinghua University*; Shouyi Yin, *Tsinghua University*; Yansheng Wang, *Tsinghua University*; Wenjie Wang, *Tsinghua University*; Shaojun Wei, *Tsinghua University*
- B3L-E Acoustic Sensors** (Lecture)
Time: Tuesday, June 1, 2010, 14:10 - 15:40
Place: Salon A
Chair(s): Tobi Delbruck, *ETH Zürich*
 Jonathan Tapson, *University of Cape Town*
- 14:10
B3L-E.1 Fully Integrated 500uW Speech Detection Wake-Up Circuit 2015
 Tobi Delbruck, *University of Zurich and ETH Zürich*; Thomas Koch, *University of Zurich and ETH Zürich*; Raphael Berner, *University of Zurich and ETH Zürich*; Hynek Hermansky, *Johns Hopkins University*
- 14:28
B3L-E.2 A New Deflection Shape Function for Square Membrane CMUT Design 2019
 Mosaddequr Rahman, *University of Windsor*; Sazzadur Chowdhury, *University of Windsor*
- 14:46
B3L-E.3 A SAW-Based Liquid Sensor with Identification for Wireless Applications 2023
 Farid Hassani, *The George Washington University*; Shahrokh Ahmadi, *The George Washington University*; Can Korman, *The George Washington University*; Mona Zaghoul, *The George Washington University*
- 15:04
B3L-E.4 Event-Based 64-Channel Binaural Silicon Cochlea with Q Enhancement Mechanisms 2027
 Shih-Chii Liu, *University of Zurich and ETH Zurich*; André van Schaik, *University of Sydney*; Bradley A. Minch, *Olin College of Engineering*; Tobi Delbruck, *University of Zurich and ETH Zurich*
- 15:22
B3L-E.5 Integrated Low Voltage and Low Power CMOS Circuits for Optical Sensing of Diffraction based Micromachined Microphone 2031
 Muhammad Shakeel Qureshi, *Georgia Institute of Technology*; Arindam Basu, *Georgia Institute of Technology*; Baris Bicen, *Georgia Institute of Technology*; Levent Degertekin, *Georgia Institute of Technology*; Paul Hasler, *Georgia Institute of Technology*
- B3L-F Cellular Nonlinear Networks: Theory & Applications** (Lecture)
Time: Tuesday, June 1, 2010, 14:10 - 15:40
Place: Salon B
Chair(s): Marco Gilli, *Politecnico di Torino*
 Ronald Tetzlaff, *TU Dresden*
- 14:10
B3L-F.1 A Note on the Dichotomy of Limit Sets for Cooperative CNNs with Delays 2035
 M. Di Marco, *University of Siena*; M. Forti, *University of Siena*; M. Grazzini, *University of Siena*; L. Pancioni, *University of Siena*

14:28	B3L-F.2	Retinal Approaching Object Detector Model Implementation and Validation	2039
		Ákos Zarándy, <i>Hungarian Academy of Sciences (MTA-SZTAKI)</i> ; Tamás Fülöp, <i>Pázmány Péter Catholic University</i>	
14:46	B3L-F.3	A Camera based Closed Loop Control System for Keyhole Welding Processes: Algorithm Comparison	2043
		Leonardo Nicolosi, <i>Technische Universität Dresden</i> ; Ronald Tetzlaff, <i>Technische Universität Dresden</i> ; Felix Abt, <i>FGSW Forschungsgesellschaft für Strahlwerkzeuge</i> ; Andreas Blug, <i>Fraunhofer Institut für Physicalische Messtechnik IPM</i> ; Heinrich Höfler, <i>Fraunhofer Institut für Physicalische Messtechnik IPM</i>	
15:04	B3L-F.4	Locally Connected Oscillatory Networks Acting as Fully Connected Oscillatory Networks	2047
		Fernando Corinto, <i>Politecnico di Torino</i> ; Marco Gilli, <i>Politecnico di Torino</i> ; Tamas Roska, <i>MTA SZTAKI and Pázmány Péter Catholic University</i>	
15:22	B3L-F.5	Cellular Nanoscale Network Cell with Memristors for Local Implication Logic and Synapses	2051
		Mika Laiho, <i>University of Turku</i> ; Eero Lehtonen, <i>University of Turku</i>	
	B3L-G	Wireless Transmitters & Receivers (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 14:10 - 15:40	
	<i>Place:</i>	Salon C	
	<i>Chair(s):</i>	Andrea Gerosa, <i>University of Padova</i>	
14:10	B3L-G.1	A Fully Integrated Dual Band Transceiver for IEEE 802.11a/b/g/j/n WLAN Applications using Hybrid Up/Down Conversion Architecture	2055
		Dong-Ok Han, <i>Samsung Electro-Mechanics</i> ; Jeong-Hoon Kim, <i>Samsung Electro-Mechanics</i> ; Kwang-Du Lee, <i>Samsung Electro-Mechanics</i> ; Sang-Gyu Park, <i>Samsung Electro-Mechanics</i> ; Eung-Ju Kim, <i>Samsung Electro-Mechanics</i>	
14:28	B3L-G.2	Transceiver Parameter Detection using a High Conversion Gain RF Amplitude Detector	2059
		Sleiman Bou Sleiman, <i>The Ohio State University</i> ; Mohammed Ismail, <i>The Ohio State University</i>	
14:46	B3L-G.3	Accurate Time-Variant Analysis of a Current-Reuse 2.2 GHz 1.3mW CMOS Front-End	2063
		Matteo Camponeschi, <i>University of Padova</i> ; Andrea Bevilacqua, <i>University of Padova</i> ; Andrea Neviani, <i>University of Padova</i> ; Pietro Andreani, <i>Lund University</i>	
15:04	B3L-G.4	Low Complexity Compensation of Frequency Dependent I/Q Imbalance and Carrier Frequency Offset for Direct Conversion Receivers	2067
		Leonardo Lanante, Jr, <i>Kyushu Institute of Technology</i> ; Masayuki Kurosaki, <i>Kyushu Institute of Technology</i> ; Hiroshi Ochi, <i>Kyushu Institute of Technology</i>	
15:22	B3L-G.5	A Fractional-N Frequency Synthesizer for Cellular and Short Range Multi-Standard Wireless Receiver	2071
		Deping Huang, <i>Fudan University</i> ; Jin Zhou, <i>Fudan University</i> ; Wei Li, <i>Fudan University</i> ; Ning Li, <i>Fudan University</i> ; Junyan Ren, <i>Fudan University</i>	

B3L-H Biomedical Signal Processing & Bioimaging Technology (Lecture)

Time: Tuesday, June 1, 2010, 14:10 - 15:40

Place: Salon D

Chair(s): Mohamad Sawan, *École Polytechnique de Montréal*
Gianluca Setti, *University of Ferrara*

14:10

B3L-H.1 A Dual-Mode Neural Stimulator Capable of Delivering Constant Current in Current-Mode and High Stimulus Charge in Semi-Voltage-Mode 2075

Xiao Liu, *University College London*; Andreas Demosthenous, *University College London*;
Nick Donaldson, *University College London*

14:28

B3L-H.2 Hyperspectral Reconstruction in Biomedical Imaging using Terahertz Systems 2079

Zhimin Xu, *The University of Hong Kong*; Edmund Y. Lam, *The University of Hong Kong*

14:46

B3L-H.3 Sub-Microwatt Correlation Integral Processor for Implantable Closed-Loop Epileptic Neuromodulator 2083

Yu-Hsin Chen, *National Taiwan University*; Tung-Chien Chen, *National Taiwan University*;
Tsung-Hsueh Lee, *National Taiwan University*; Liang-Gee Chen, *National Taiwan University*

15:04

B3L-H.4 A Wirelessly-Powered Electro-Acupuncture based on Adaptive Pulse Width Mono-Phase Stimulation 2087

Kiseok Song, *KAIST*; Seulki Lee, *KAIST*; Hoi-Jun Yoo, *KAIST*

15:22

B3L-H.5 Electric Field Focusing and Shifting Technique in Deep Brain Stimulation using a Dynamic Tripolar Current Source 2091

Virgilio Valente, *University College of London*; Andreas Demosthenous, *University College of London*;
Richard Bayford, *Middlesex University*

B3L-J ASICs & Specialized VLSI Circuits (Lecture)

Time: Tuesday, June 1, 2010, 14:10 - 15:40

Place: Salon J

Chair(s): Wael Badawy, *IntelliView Technologies Inc.*
Linda DeBrunner, *Florida State University*

14:10

B3L-J.1 8x8-Bit Multiplier Designed with a New Wave-Pipelining Scheme 2095

Refik Sever, *Akdeniz University*; Murat Askar, *Middle East Technical University*

14:28

B3L-J.2 A Minimal-Gate-Count Fully Digital Frequency-Tracking Oversampling CDR Circuit 2099

José Sarmiento, *Synopsys Inc*; John T. Stonick, *Synopsys Inc*

14:46

B3L-J.3 An Improved RNS Reverse Converter for the $\{2^{2n+1}-1, 2n, 2n-1\}$ Moduli Set 2103

K.A. Gbolagade, *Delft University of Technology*; R. Chaves, *TuLisbon/INESC-ID*;
L. Sousa, *TuLisbon/INESC-ID*; S.D. Cotozana, *Delft University of Technology*

15:04

B3L-J.4 Compact Hardware Architectures for BLAKE and LAKE Hash Functions 2107

Jianzhou Li, *Polytechnic Institute of NYU*; Ramesh Karri, *Polytechnic Institute of NYU*

15:22	B3L-J.5	A Scalable Hardware/Software Co-Design for Elliptic Curve Cryptography on PicoBlaze Microcontroller	2111
		Mohamed N. Hassan, <i>University of Sheffield</i> ; Mohammed Benaissa, <i>University of Sheffield</i>	
	B3L-K	Multirate & Array Signal Processing (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 14:10 - 15:40	
	<i>Place:</i>	Salon K	
	<i>Chair(s):</i>	Tapio Saramäki, <i>Tampere University of Technology</i> P.P. Vaidyanathan, <i>Caltech</i>	
14:10	B3L-K.1	A 1.2 Gb/s Recursive Polyphase Cascaded Integrator-Comb Prefilter for High Speed Digital Decimation Filters in 0.18-μm CMOS	2115
		Xiong Liu, <i>University of California, Los Angeles</i> ; Alan N. Willson, Jr, <i>University of California, Los Angeles</i>	
14:28	B3L-K.2	Novel Multiplierless Wide-Band CIC Compensator	2119
		Gordana Javanovic Dolecek, <i>Institute INAOE</i> ; Lara Dolecek, <i>UCLA</i>	
14:46	B3L-K.3	Reconfigurable Nonuniform Transmultiplexers based on Uniform Filter Banks	2123
		Amir Eghbali, <i>Linköping University</i> ; Håkan Johansson, <i>Linköping University</i> ; Per Löwenborg, <i>Linköping University</i>	
15:04	B3L-K.4	A Novel Affine Projection Algorithm for Superdirective Microphone Array Beamforming	2127
		Danilo Comminiello, " <i>Sapienza</i> " <i>University of Rome</i> ; Michele Scarpiniti, " <i>Sapienza</i> " <i>University of Rome</i> ; Raffaele Parisi, " <i>Sapienza</i> " <i>University of Rome</i> ; Aurelio Uncini, " <i>Sapienza</i> " <i>University of Rome</i>	
15:22	B3L-K.5	Robust Response Control with Linear Inequality Matrix Constraints for Adaptive Beamformer	2131
		Z.L. Yu, <i>South China University of Technology</i> ; Z.G. Gu, <i>South China University of Technology</i> ; Y. Li, <i>South China University of Technology</i> ; W. Ser, <i>Nanyang Technological University</i> ; M.H. Er, <i>Nanyang Technological University</i>	
	B3L-L	OFDM Communications Systems (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 14:10 - 15:40	
	<i>Place:</i>	Salon L	
	<i>Chair(s):</i>	Zhongfeng Wang, <i>Broadcom Corp.</i>	
14:10	B3L-L.1	Joint Estimation and Compensation for Front-End Imperfection in MB-OFDM UWB Systems	2135
		Jun Zhou, <i>Fudan University</i> ; Liang Liu, <i>Fudan University</i> ; Fan Ye, <i>Fudan University</i> ; Junyan Ren, <i>Fudan University</i>	
14:28	B3L-L.2	A Sideband-Suppressed Low-Power Synthesizer for 14-Band Dual-Carrier MB-OFDM UWB Transceivers	2139
		Danfeng Chen, <i>Fudan University</i> ; Haipeng Fu, <i>Fudan University</i> ; Yunfeng Chen, <i>Fudan University</i> ; Wei Li, <i>Fudan University</i> ; Fan Ye, <i>Fudan University</i> ; Ning Li, <i>Fudan University</i> ; Junyan Ren, <i>Fudan University</i>	
14:46	B3L-L.3	Comparison of Time and Frequency Domain Interpolation Implementations for MB-OFDM UWB Transmitters	2143
		Eleni Fotopoulou, <i>University of Patras</i> ; Dorina Thanou, <i>Swiss Federal Institute of Technology</i> ; Thanos Stouraitis, <i>University of Patras</i>	

15:04	B3L-L.4	Low-Complexity Tone Reservation Method for PAPR Reduction of OFDM Systems	2147
		Kangwoo Park, <i>Korea Advanced Institute of Science and Technology</i> ; In-Cheol Park, <i>Korea Advanced Institute of Science and Technology</i>	
	B3L-M	Sigma-Delta Systems & Techniques (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 14:10 - 15:40	
	<i>Place:</i>	Salon M	
	<i>Chair(s):</i>	Gabor Temes, <i>Oregon State University</i>	
14:10	B3L-M.1	Study on Integrated Transmission Line $\Sigma\Delta$ Modulators	2151
		Ali Zahabi, <i>University of Ulm</i> ; Maurits Ortmanns, <i>University of Ulm</i>	
14:28	B3L-M.2	An Internally Non-Linear ADC for a $\Sigma\Delta$ Accelerometer Loop	2155
		Hanspeter Schmid, <i>University of Applied Sciences NW Switzerland, Institute of Microelectronics</i> ; Sven Sigel, <i>University of Applied Sciences NW Switzerland, Institute of Microelectronics</i> ; Marc Pastre, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Maher Kayal, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Pascal Zwahlen, <i>Colibrys SA</i> ; Anne-Marie Nguyen, <i>Colibrys SA</i>	
14:46	B3L-M.3	Design Techniques for Discrete-Time Delta-Sigma ADCs with Extra Loop Delay	2159
		Yan Wang, <i>Oregon State University</i> ; Gábor C. Temes, <i>Oregon State University</i>	
15:04	B3L-M.4	A New Zero-Optimization Scheme for Noise-Coupled $\Delta\Sigma$ ADCs	2163
		Ramin Zanbaghi, <i>Oregon State University</i> ; Terri S. Fiez, <i>Oregon State University</i> ; Gabor Temes, <i>Oregon State University</i>	
15:22	B3L-M.5	Hardware Complexity of a Correlation based Background DAC Error Estimation Technique for Sigma-Delta ADCs	2167
		Pascal Witte, <i>University of Ulm</i> ; Carsten Noeske, <i>Albert-Ludwigs-University</i> ; Maurits Ortmanns, <i>University of Ulm</i>	
	B3L-P	SPECIAL SESSION: New Video Coding Technologies (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 14:10 - 15:40	
	<i>Place:</i>	Radio City Ballroom II	
	<i>Chair(s):</i>	Weisi Lin, <i>Nanyang Technological University</i> Manoranjan Paul, <i>Nanyang Technological University</i>	
14:10	B3L-P.1	MCFIS: Better I-Frame for Video Coding	2171
		Manoranjan Paul, <i>Nanayng Technological University</i> ; Weisi Lin, <i>Nanayng Technological University</i> ; Chiew Tong Lau, <i>Nanayng Technological University</i> ; Bu-Sung Lee, <i>Nanayng Technological University</i>	
14:28	B3L-P.2	An Efficient Motion Vector Coding Algorithm based on Adaptive Predictor Selection	2175
		Wen Yang, <i>The Hong Kong University of Science and Technology</i> ; Oscar C. Au, <i>The Hong Kong University of Science and Technology</i> ; Chao Pang, <i>The Hong Kong University of Science and Technology</i> ; Jingjing Dai, <i>The Hong Kong University of Science and Technology</i> ; Feng Zou, <i>The Hong Kong University of Science and Technology</i> ; Xing Wen, <i>The Hong Kong University of Science and Technology</i> ; Yu Liu, <i>Applied Science and Technology Research Institute</i>	

14:46	B3L-P.3	Background Modeling for Video Coding: From Sprites to Global Motion Temporal Filtering	2179
		Andreas Krutz, <i>Technische Universität Berlin</i> ; Alexander Glantz, <i>Technische Universität Berlin</i> ; Thomas Sikora, <i>Technische Universität Berlin</i>	
15:04	B3L-P.4	Motion Compensation for Block-Based Lossless Video Coding using Lattice-Based Binning	2183
		Mortuza Ali, <i>Monash University</i> ; Manzur Murshed, <i>Monash University</i>	
15:22	B3L-P.5	Transform-Domain Super Resolution for Improved Motion-Compensated Prediction	2187
		Nafisa Tarannum, <i>University of New South Wales at the Australian Defence Force Academy</i> ; Mark R. Pickering, <i>University of New South Wales at the Australian Defence Force Academy</i> ; Michael R. Frater, <i>University of New South Wales at the Australian Defence Force Academy</i> ; John F. Arnold, <i>University of New South Wales at the Australian Defence Force Academy</i>	
	B4L-A	SPECIAL SESSION: Circuits & Systems for Renewable Energy Sources (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 16:00 - 17:30	
	<i>Place:</i>	Grand Ballroom E	
	<i>Chair(s):</i>	Giovanni Petrone, <i>Università degli Studi di Salerno</i> Doron Shmilovitz, <i>Tel-Aviv University</i>	
16:00	B4L-A.1	A Returned Energy Architecture for Improved Photovoltaic Systems Efficiency	2191
		Yigal Nimni, <i>Tel Aviv University</i> ; Doron Shmilovitz, <i>Tel Aviv University</i>	
16:18	B4L-A.2	A Controller for Wind Generators to Increase Damping of Power Oscillations	2195
		G. Tsourakis, <i>National Technical University of Athens</i> ; C. Vournas, <i>National Technical University of Athens</i>	
16:36	B4L-A.3	Fuel Cell MPPT for Fuel Consumption Optimization	2199
		Carlos Andrés Ramos-Paja, <i>Universidad Nacional de Colombia</i> ; Giovanni Spagnuolo, <i>University of Salerno</i> ; Giovanni Petrone, <i>University of Salerno</i> ; Roberto Giral, <i>Universitat Rovira i Virgili</i> ; Alfonso Romero, <i>Universitat Rovira i Virgili</i>	
16:54	B4L-A.4	Current Sourcing Isolated Grid Connected Inverter	2203
		Ilya Zeltser, <i>Ben-Gurion University of the Negev</i> ; Sam Ben-Yaakov, <i>Ben-Gurion University of the Negev</i>	
17:12	B4L-A.5	An Integrated Four-Port Converter for Compact and Efficient Hybrid Power Systems	2207
		Zhijun Qian, <i>University of Central Florida</i> ; Osama Abdel-Rahman, <i>Advanced Power Electronics Corporation</i> ; Christopher Hamilton, <i>University of Central Florida</i> ; Majd Batarseh, <i>University of Central Florida</i> ; Issa Batarseh, <i>University of Central Florida</i>	
	B4L-B	Wireless Circuits & Systems (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 16:00 - 17:30	
	<i>Place:</i>	Grand Ballroom F	
	<i>Chair(s):</i>	Thierry Taris, <i>University of Bordeaux</i>	
16:00	B4L-B.1	A 1.5V Low Noise Figure Mixer for 3.5GHz WiMAX Systems	2211
		Ro-Min Weng, <i>National Dong Hwa University</i> ; Shu-Wei Liu, <i>National Dong Hwa University</i>	

16:18	B4L-B.2 Instantaneously Companding Baseband SC Low-Pass Filter and ADC for 802.11a/g WLAN Receiver	2215
	Shenjie Wang, <i>Delft University of Technology</i> ; Vaibhav Maheshwari, <i>Delft University of Technology</i> ; Wouter A. Serdijn, <i>Delft University of Technology</i>	
16:36	B4L-B.3 An Area Efficient Digital Amplitude Modulator in 90nm CMOS	2219
	V. Chironi, <i>University of Salento</i> ; B. Debaille, <i>IMEC</i> ; A. Baschirotto, <i>University of Salento</i> ; J. Craninckx, <i>IMEC</i> ; M. Ingels, <i>IMEC</i>	
16:54	B4L-B.4 Efficiency based Design Flow for Fully-Integrated Class C RF Power Amplifiers in Nanometric CMOS	2223
	Nicolás Barabino, <i>Universidad de la República</i> ; Rafaella Fiorelli, <i>Universidad de Sevilla</i> ; Fernando Silveira, <i>Universidad de la República</i>	
17:12	B4L-B.5 A Broadband 470-862 MHz Direct Conversion CMOS Receiver	2227
	Raghavendra Kulkarni, <i>Texas A&M University</i> ; Jusung Kim, <i>Texas A&M University</i> ; Hyung-Joon Jeon, <i>Texas A&M University</i> ; Jose Silva-Martinez, <i>Texas A&M University</i> ; Jianhong Xiao, <i>Broadcom Corporation</i>	
	B4L-C Biomedical Signal Processing (Lecture)	
	<i>Time:</i> Tuesday, June 1, 2010, 16:00 - 17:30	
	<i>Place:</i> Grand Ballroom G	
	<i>Chair(s):</i> Wu-Sheng Lu, <i>University of Victoria, Canada</i> Yajun Yu, <i>Nanyang Technological University</i>	
16:00	B4L-C.1 Optimized Numerical Mapping Scheme for Filter-Based Exon Location in DNA using a Quasi-Newton Algorithm	2231
	Parameswaran Ramachandran, <i>University of Victoria</i> ; Wu-Sheng Lu, <i>University of Victoria</i> ; Andreas Antoniou, <i>University of Victoria</i>	
16:18	B4L-C.2 Comparative Genomic Analysis using Statistically Optimal Null Filters	2235
	Rajasekhar Kakumani, <i>Concordia University</i> ; M. Omair Ahmad, <i>Concordia University</i> ; Vijay Devabhaktuni, <i>University of Toledo</i>	
16:36	B4L-C.3 The Relationship Between Music Processing and Electrocardiogram (ECG) in Vegetative State (VS)	2239
	Brad S. Yen, <i>National Chiao Tung University</i> ; Hui-Min Wang, <i>National Chiao Tung University</i> ; Mark C. Hou, <i>National Chiao Tung University</i> ; Sheng-Chieh Huang, <i>National Chiao Tung University</i> ; Lei-Chun Chou, <i>National Chiao Tung University</i> ; Shao-You Hsu, <i>National Chiao Tung University</i> ; Tzu-Chia Huang, <i>National Chiao Tung University</i> ; You-Liang Lai, <i>National Chiao Tung University</i> ; Ming-Yie Jan, <i>Academia Sinica</i>	
16:54	B4L-C.4 Data Adaptive Analysis of ECG Signals for Cardiovascular Disease Diagnosis	2243
	Md. Rabiul Islam, <i>University of Rajshahi</i> ; Shamim Ahmad, <i>University of Rajshahi</i> ; Keikichi Hirose, <i>The University of Tokyo</i> ; Md. Khademul Islam Molla, <i>University of Rajshahi</i>	

B4L-D Multimedia Mobile Networks (Lecture)

Time: Tuesday, June 1, 2010, 16:00 - 17:30

Place: Grand Ballroom H

Chair(s): Mladen Berekovic, *Technische Universität Braunschweig*
Chang Wen Chen, *University at Buffalo*

16:00

B4L-D.1 Time-Constrained Packet Scheduling Optimization for Video Streaming in Wireless Ad-Hoc Networks 2247
Xinggong Zhang, *Peking University*; Zongming Guo, *Peking University*

16:18

B4L-D.2 Efficient Packet Scheduling for Scalable Video Delivery to Mobile Clients 2251
Maodong Li, *Nanyang Technological University*; Zhenzhong Chen, *Nanyang Technological University*;
Seong-Ping Chuah, *Nanyang Technological University*; Yap-Peng Tan, *Nanyang Technological University*

16:36

B4L-D.3 Cross-Layer Optimization for Wireless Streaming via Adaptive MIMO OFDM 2255
Robert Yi-Pin Lu, *National Taiwan University*; Jun-Wei Lin, *National Taiwan University*;
Tzi-Dar Chiueh, *National Taiwan University*

16:54

B4L-D.4 A Cross-Layer Adaptation HCCA MAC for QoS-Aware H.264 Video Communications Over Wireless Mesh Networks 2259
Byung Joon Oh, *Link Communications, Ltd*; Chang Wen Chen, *State University of New York at Buffalo*

17:12

B4L-D.5 An EFOM for Cross-Layer Optimization Towards Low-Power and High-Performance Wireless Networks 2263
Xia Li, *Eindhoven University of Technology*; Peter Baltus, *Eindhoven University of Technology*;
Dusan Milosevic, *Eindhoven University of Technology*; Arthur van Roermund, *Eindhoven University of Technology*;
Paul van Zeijl, *Philips Research Eindhoven*

B4L-E Chemical Sensors (Lecture)

Time: Tuesday, June 1, 2010, 16:00 - 17:30

Place: Salon A

Chair(s): Amine Bermak, *Hong Kong University of Science & Technology*
Jennifer B. Christen, *Arizona State University*

16:00

B4L-E.1 A 100 μ A/Ch Fully-Integrable Lock-in Multi-Channel Frontend for Infrared Spectroscopic Gas Recognition 2267
S. Sutula, *Instituto de Microelectrónica de Barcelona*; C. Ferrer, *Instituto de Microelectrónica de Barcelona*;
F. Serra-Graells, *Instituto de Microelectrónica de Barcelona*

16:18

B4L-E.2 A Single Chip Computational Sensor System for Gamma Isotope Identification 2271
Nathan Schemm, *University of Nebraska-Lincoln*; Bo Liang, *University of Nebraska-Lincoln*;
Sina Balkir, *University of Nebraska-Lincoln*; Michael W. Hoffman, *University of Nebraska-Lincoln*;
Mark Bauer, *University of Nebraska-Lincoln*

16:36

B4L-E.3 A Frequency-Based Signature Gas Identification Circuit for S_nO₂ Gas Sensors 2275
Kwan Ting Ng, *The University of Western Australia*; Farid Boussaid, *The University of Western Australia*;
Amine Bermak, *Hong Kong University of Science and Technology*

16:54	B4L-E.4	RF Inductive Sensors for Detection of Change in the Ionic Strength and pH of Liquid Samples	2279
		Siavash Saremi-Yarahmadi, <i>Imperial College London</i> ; Olive H. Murphy, <i>Imperial College London</i> ; Christofer Toumazou, <i>Imperial College London</i>	
17:12	B4L-E.5	An ISFET based Sensing Array with Sensor Offset Compensation and pH Sensitivity Enhancement	2283
		Yan Liu, <i>Imperial College of Science, Technology and Medicine</i> ; Chris Toumazou, <i>Imperial College of Science, Technology and Medicine</i>	
	B4L-F	Network Dynamics & Applications I (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon B	
	<i>Chair(s):</i>	Jinhu Lu, <i>Chinese Academy of Sciences</i> Wei Xing Zheng, <i>University of Western Sydney</i>	
16:00	B4L-F.1	EEG-Based Cognitive State Monitoring and Prediction by using the Self-Constructing Neural Fuzzy System	2287
		Fu-Chang Lin, <i>National Chiao-Tung University</i> ; Li-Wei Ko, <i>National Chiao-Tung University</i> ; Shi-An Chen, <i>National Chiao-Tung University</i> ; Ching-Fu Chen, <i>National Chiao-Tung University</i> ; Chin-Teng Lin, <i>National Chiao-Tung University</i>	
16:18	B4L-F.2	Intelligent Approach for PET Volume Analysis	2291
		Mhd Saeed Sharif, <i>Brunel University</i> ; Abbas Amira, <i>Brunel University</i> ; Habib Zaidi, <i>Geneva University Hospital</i>	
16:36	B4L-F.3	A CNN Approach to Computing Arbitrary Boolean Functions	2295
		Eero Lehtonen, <i>University of Turku</i> ; Jussi Poikonen, <i>University of Turku</i> ; Mika Laiho, <i>University of Turku</i>	
16:54	B4L-F.4	On Passivity of Delayed Markovian Jump Systems Subject to Parametric Uncertainties	2299
		Baoyong Zhang, <i>Nanjing University of Science and Technology</i> ; Wei Xing Zheng, <i>University of Western Sydney</i>	
17:12	B4L-F.5	Dynamics of Uncertain Neutral Stochastic Neural Networks with Markovian Jumping and Time-Varying Delays	2303
		Meng Dong, <i>Northeastern University</i> ; Yingchun Wang, <i>Northeastern University</i> ; Huaguang Zhang, <i>Northeastern University</i> ; Zheng Song, <i>Northeastern University</i>	
	B4L-G	Power Systems Modeling & Simulation (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon C	
	<i>Chair(s):</i>	Juri Jatskevich, <i>University of British Columbia</i> Chika Nwankpa, <i>Drexel University</i>	
16:00	B4L-G.1	Modeling Kita-Hon HVDC Link for Load Frequency Control of Eastern Japan 50-Hz Power System based on Application of the CampusWAMS	2307
		Changsong Li, <i>Kyushu Institute of Technology</i> ; Yuji Okada, <i>Kyushu Institute of Technology</i> ; Masayuki Watanabe, <i>Kyushu Institute of Technology</i> ; Yasunori Mitani, <i>Kyushu Institute of Technology</i>	

16:18	B4L-G.2	An Eigenvalue Formulation for Determining Initial Conditions of Induction Machines in Dynamic Power System Simulations	2311
		Daniel K. Molzahn, <i>University of Wisconsin-Madison</i> ; Bernard C. Lesieutre, <i>University of Wisconsin-Madison</i>	
16:36	B4L-G.3	Hardware Prototype to Emulate the Dynamics of Power System Generators with Field Programmable Analog Arrays	2314
		Anthony Deese, <i>Drexel University</i> ; Juan C. Jiménez, <i>Drexel University</i> ; Jon Berardino, <i>Drexel University</i> ; Chika O. Nwankpa, <i>Drexel University</i>	
16:54	B4L-G.4	Averaged-Circuit Modeling of Line-Commutated Rectifiers for Transient Simulation Programs	2318
		Sina Chiniforoosh, <i>University of British Columbia</i> ; Ali Davoudi, <i>University of Illinois at Urbana-Champaign</i> ; Juri Jatskevich, <i>University of British Columbia</i>	
17:12	B4L-G.5	Simulation and Analysis of Distributed PV Generation in a LV Network using MATLAB-Simulink	2322
		Jose R. Rodriguez, <i>IOC-UPC-Spain</i> ; Felipe Ruiz, <i>DE-UTEM-Chile</i> ; Domingo Biel, <i>IOC-UPC-Spain</i> ; Francesc Guinjoan, <i>DEE-UPC-Spain</i>	
	B4L-H	Digital Circuits (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon D	
	<i>Chair(s):</i>	Linda DeBrunner, <i>Florida State University</i> Ming-Dou Ker, <i>National Chiao Tung University</i>	
16:00	B4L-H.1	A Low-Jitter Video Clock Recovery Circuit	2326
		Hossam Ali, <i>Silicon Vision LLC.</i> ; Emad Hegazi, <i>Ain Shams University</i>	
16:18	B4L-H.2	A Self-Learning Multiple-Class Classifier using Multi-Dimensional Quasi-Gaussian Analog Circuits	2330
		Zhouli Sun, <i>University of Tokyo</i> ; Kyunghye Kang, <i>University of Tokyo</i> ; Tadashi Shibata, <i>University of Tokyo</i>	
16:36	B4L-H.3	Implementation of the MFCC Front-End for Low-Cost Speech Recognition Systems	2334
		Ngoc-Vinh Vu, <i>La Trobe University</i> ; Jim Whittington, <i>La Trobe University</i> ; Hua Ye, <i>La Trobe University</i> ; John Devlin, <i>La Trobe University</i>	
16:54	B4L-H.4	Low-Cost Low-Power Bypassing-Based Multiplier Design	2338
		Jin-Tai Yan, <i>Chung-Hua University</i> ; Zhi-Wei Chen, <i>Chung-Hua University</i>	
17:12	B4L-H.5	Power Analysis Detectable Watermarks for Protecting Intellectual Property	2342
		John Goodwin, <i>University of Southampton</i> ; Peter Wilson, <i>University of Southampton</i>	

B4L-J VLSI Modeling & Optimization (Lecture)*Time:* Tuesday, June 1, 2010, 16:00 - 17:30*Place:* Salon J*Chair(s):* Fathi Salem, *Michigan State University*
Radu Secareanu, *Motorola, Inc*

16:00

B4L-J.1 Compact Substrate Models for Efficient Noise Coupling and Signal Isolation Analysis 2346Renas Jakushokas, *University of Rochester*; Emre Salman, *University of Rochester*;
Eby G. Friedman, *University of Rochester*; Radu M. Secareanu, *Freescale Semiconductor*;
Olin L. Hartin, *Freescale Semiconductor*; Cynthia L. Recker, *Freescale Semiconductor*

16:18

B4L-J.2 Effect of Body Biasing on Embedded SRAM Failure 2350Amin Khajeh, *University of California Irvine*; Ahmed M. Eltawil, *University of California Irvine*;
Fadi J. Kurdahi, *University of California Irvine*

16:36

B4L-J.3 Networks-on-Chip Topology Optimization Subject to Power, Delay, and Reliability Constraints 2354Haytham Elmiligi, *University of Victoria*; Ahmed A. Morgan, *University of Victoria*;
M. Watheq El-Kharashi, *Mentor Graphics Egypt*; Fayez Gebali, *University of Victoria*

16:54

B4L-J.4 Parallel Sparse Matrix Solver for Direct Circuit Simulations on FPGAs 2358Tarek Nechma, *University of Southampton*; Mark Zwoliński, *University of Southampton*;
Jeff Reeve, *University of Southampton*

17:12

B4L-J.5 Parallel-Processing VLSI Architecture for Mixed Integer Linear Programming 2362Hiroki Noguchi, *Kobe University*; Junichi Tani, *Kobe University*; Yusuke Shimai, *Kobe University*;
Hiroshi Kawaguchi, *Kobe University*; Masahiko Yoshimoto, *Kobe University***B4L-K Digital Audio & Speech Processing** (Lecture)*Time:* Tuesday, June 1, 2010, 16:00 - 17:30*Place:* Salon K*Chair(s):* Gwee Bah Hwee, *Nanyang Technological University*

16:00

B4L-K.1 A Simplified Structure of Second-Order Volterra Filters for Nonlinear Acoustic Echo Cancellation 2366Jing Fu, *South China University of Technolog*; Wei-Ping Zhu, *Concordia University*

16:18

B4L-K.2 A Modified TESPAS Algorithm for Wildlife Sound Classification 2370Marius Vasile Ghiurcau, *Technical University of Cluj-Napoca*; Corneliu Rusu, *Technical University of Cluj-Napoca*; Radu Ciprian Bilcu, *Nokia Research Center*

16:36

B4L-K.3 Quasi-Periodic Signal Analysis using Harmonic Transform with Application to Voiced Speech Processing 2374Piotr Zubrycki, *Bialystok University of Technology*; Alexander Petrovsky, *Bialystok University of Technology*

16:54

B4L-K.4 Complexity-Effective Dynamic Range Compression for Digital Hearing Aids 2378Kuo-Chiang Chang, *National Chiao Tung University*; Yu-Ting Kuo, *National Chiao Tung University*;
Tay-Jyi Lin, *National Chiao Tung University*; Chih-Wei Liu, *National Chiao Tung University*

17:12	B4L-K.5	Improved Wavelet based A-Priori SNR Estimation for Speech Enhancement	2382
		Daniel Pak-Kong Lun, <i>The Hong Kong Polytechnic University</i> ; Tai-Chiu Hsung, <i>The Hong Kong Polytechnic University</i>	
	B4L-L	Circuit Theory & Techniques (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon L	
	<i>Chair(s):</i>	Paul Sotiriadis, <i>Sotekco LLC, USA</i>	
16:00	B4L-L.1	Analytical Passive Mixer Power Gain Models	2386
		M. Lont, <i>Eindhoven University of Technology</i> ; D. Milosevic, <i>Eindhoven University of Technology</i> ; P.G.M. Baltus, <i>Eindhoven University of Technology</i> ; A.H.M. van Roermund, <i>Eindhoven University of Technology</i> ; G. Dolmans, <i>Holst Centre</i>	
16:18	B4L-L.2	Detailed Analyses in Prediction of Capacitive-Mismatch-Induced Offset in Dynamic Comparators	2390
		Jun He, <i>Iowa State University</i> ; Degang Chen, <i>Iowa State University</i> ; Randall Geiger, <i>Iowa State University</i>	
16:36	B4L-L.3	Generation of Active Inductor Circuits	2394
		Marian Pierzchala, <i>Wroclaw University of Technology</i> ; Mourad Fakhfakh, <i>University of Sfax</i>	
16:54	B4L-L.4	Symmetry-Aware Analog Layout Placement Design Handling Substrate-Sharing Constraints	2398
		Rui He, <i>Memorial University of Newfoundland</i> ; Lihong Zhang, <i>Memorial University of Newfoundland</i>	
17:12	B4L-L.5	Indefinite Matrices of Linear Electrical Circuits, their Pseudoinverses, and Applications in Related Fields	2402
		Cristian E. Onete, <i>NXP Semiconductors</i> ; Maria Cristina C. Onete, <i>Technische Universität Darmstadt & CASED</i>	
	B4L-M	Sigma-Delta Applications (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon M	
	<i>Chair(s):</i>	Anas Hamoui, <i>McGill University</i>	
16:00	B4L-M.1	Design of a 70-MHz IF 10-MHz Bandwidth Bandpass $\Sigma\Delta$ Modulator for WCDMA Applications	2406
		Hervé Caracciolo, <i>University of Pavia</i> ; Edoardo Bonizzoni, <i>University of Pavia</i> ; Piero Malcovati, <i>University of Pavia</i> ; Franco Maloberti, <i>University of Pavia</i>	
16:18	B4L-M.2	A 100 μW Decimator for a 16 Bit 24 kHz Bandwidth Audio $\Delta\Sigma$ Modulator	2410
		Shankar Parameswaran, <i>Indian Institute of Technology Madras</i> ; Nagendra Krishnapura, <i>Indian Institute of Technology Madras</i>	
16:36	B4L-M.3	A 13-Bit, Low-Power, Compact ADC Suitable for Sensor Applications	2414
		Honglei Chen, <i>Tsinghua University</i> ; Dong Wu, <i>Tsinghua University</i> ; Yanzhao Shen, <i>Tsinghua University</i> ; Jun Xu, <i>Tsinghua University</i>	

16:54	B4L-M.4	A Frequency-Scalable 15-Bit Incremental ADC for Low Power Sensor Applications	2418
		Joshua Liang, <i>University of Toronto</i> ; David A. Johns, <i>University of Toronto</i>	
17:12	B4L-M.5	Double-Sampling Analog-Look-Ahead Second Order $\Delta\Sigma$ Modulator with Reduced Dynamics	2422
		Aldo Pena-Perez, <i>University of Pavia</i> ; Victor R. Gonzalez-Diaz, <i>University of Pavia</i> ; Franco Maloberti, <i>University of Pavia</i>	
	B4L-N	SPECIAL SESSION: Activity-Driven, Event Coding Vision Sensors (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 16:00 - 17:30	
	<i>Place:</i>	Radio City Ballroom I	
	<i>Chair(s):</i>	Tobi Delbruck, <i>ETH Zürich</i> Bernabe Linares-Barranco, <i>Institute of Microelectronics, Sevilla</i>	
16:00	B4L-N.1	Activity-Driven, Event-Based Vision Sensors	2426
		Tobi Delbrück, <i>UNI-ETH Zürich</i> ; Bernabe Linares-Barranco, <i>Center for Microelectronics</i> ; Eugenio Culurciello, <i>Yale University</i> ; Christoph Posch, <i>Austrian Institute of Technology</i>	
16:18	B4L-N.2	High-DR Frame-Free PWM Imaging with Asynchronous AER Intensity Encoding and Focal-Plane Temporal Redundancy Suppression	2430
		Christoph Posch, <i>Austrian Institute of Technology</i> ; Daniel Matolin, <i>Austrian Institute of Technology</i> ; Rainer Wohlgenannt, <i>Austrian Institute of Technology</i>	
16:36	B4L-N.3	A Compact-Pixel Tri-Mode Vision Sensor	2434
		Dongsoo Kim, <i>Yale University</i> ; Eugenio Culurciello, <i>Yale University</i>	
16:54	B4L-N.4	A Signed Spatial Contrast Event Spike Retina Chip	2438
		J.A. Leñero-Bardallo, <i>Instituto de Microelectrónica de Sevilla (IMSE-CNM-CSIC)</i> ; T. Serrano-Gotarredona, <i>Instituto de Microelectrónica de Sevilla (IMSE-CNM-CSIC)</i> ; B. Linares-Barranco, <i>Instituto de Microelectrónica de Sevilla (IMSE-CNM-CSIC)</i>	
17:12	B4L-N.5	Temporal Contrast AER Pixel with 0.3%-Contrast Event Threshold	2442
		Tobi Delbruck, <i>University of Zurich and ETH Zurich</i> ; Raphael Berner, <i>University of Zurich and ETH Zurich</i>	
	B4L-P	SPECIAL SESSION: Recent Theory & New Applications in Chaos Communication (Lecture)	
	<i>Time:</i>	Tuesday, June 1, 2010, 16:00 - 17:30	
	<i>Place:</i>	Radio City Ballroom II	
	<i>Chair(s):</i>	Geza Kolumban, <i>Pazmany Peter Catholic University</i> Tony Lawrance, <i>University of Warwick</i>	
16:00	B4L-P.1	Recent Theory and New Applications in Chaos Communications	2446
		Anthony J. Lawrance, <i>University of Warwick</i>	
16:18	B4L-P.2	Feasibility of UWB Radio: Impulse Radio versus Chaos-Based Approach	2450
		Géza Kolumbán, <i>Pázmány Péter Catholic University</i> ; Tamás Krébesz, <i>Budapest University of Technology and Economics</i> ; Francis C.M. Lau, <i>The Hong Kong Polytechnic University</i>	

16:36

- B4L-P.3 Design and Simulation of a Cooperative Communication System based on DCSK/FM-DCSK** 2454
Jing Xu, *Xiamen University*; Weikai Xu, *Xiamen University*; Lin Wang, *Xiamen University*;
Guanrong Chen, *City University of Hong Kong*

16:54

- B4L-P.4 Performance Evaluation of Error-Correcting Scheme Without Redundancy Code for Noncoherent Chaos Communications** 2458
Shintaro Arai, *Aichi University of Technology*; Yoshifumi Nishio, *Tokushima University*;
Takaya Yamazato, *Nagoya University*; Shinji Ozawa, *Aichi University of Technology*

17:12

- B4L-P.5 Performance Analysis of Differential Chaos Shift-Keying Over an M-Distributed Fading Channel** 2462
Georges Kaddoum, *LACIME laboratory, ETS*; Pascal Chargé, *LATTIS Laboratory*;
Daniel Roviras, *LAETITIA Laboratory*; Francois Gagnon, *LACIME laboratory, ETS*

B5P-Q Low Power Design for Nano-Circuits (Poster)

Time: Tuesday, June 1, 2010, 9:30 - 11:00

Place: Times Square 1

Chair(s): Shyh-Jye Jou, *National Chiao Tung University*

Mona E. Zaghloul, *George Washington University*

- B5P-Q.1 Robust Low Power Design in Nano-CMOS Technologies** 2466
Touqeer Azam, *University of Glasgow*; David R.S. Cumming, *University of Glasgow*

- B5P-Q.2 Ultra-Wide-Band Low Noise Amplifier using Inductive Feedback in 90-nm CMOS Technology** 2470
Heng-Ming Hsu, *National Chung-Hsing University*; Tai-Hsin Lee, *National Chung-Hsing University*;
Jhao-Siang Huang, *National Chung-Hsing University*

- B5P-Q.3 Adiabatic SRAM with a Shared Access Port using a Controlled Ground Line and Step-Voltage Circuit** 2474
Shunji Nakata, *NTT Corporation*; Hirotsugu Suzuki, *Kanazawa University*; Ryota Honda, *Kanazawa University*;
Takahito Kusumoto, *Kanazawa University*; Shin'ichiro Mutoh, *NTT Corporation*; Hiroshi Makino, *Osaka Institute of Technology*; Masayuki Miyama, *Kanazawa University*; Yoshio Matsuda, *Kanazawa University*

- B5P-Q.4 A New Substrate Model and Parameter Extraction Method for DNW RF MOSFETS** 2478
Jun Liu, *Hangzhou Dianzi University*; Lingling Sun, *Hangzhou Dianzi University*;
Zhiping Yu, *Hangzhou Dianzi University*; Marissa Condon, *Dublin City University*

- B5P-Q.5 A Forward Body Bias Generator for Digital CMOS Circuits with Supply Voltage Scaling** 2482
Maurice Meijer, *NXP Semiconductors*; José Pineda de Gyvez, *NXP Semiconductors / Technical University of Eindhoven*; Ben Kup, *NXP Semiconductors*; Bert van Uden, *NXP Semiconductors*; Peter Bastiaansen, *NXP Semiconductors*; Marco Lammers, *NXP Semiconductors*; Maarten Vertregt, *NXP Semiconductors*

B5P-R Design for Variability in Nano-Electronics & Systems (Poster)

Time: Tuesday, June 1, 2010, 9:30 - 11:00

Place: Times Square 2

Chair(s): Sorin Cotofana, *Delft University of Technology*

Chin-Wei Liu, *National Chiao-Tung University*

- B5P-R.1 Selective Redundancy-Based Design Techniques for the Minimization of Local Delay Variations** 2486
Milos Stanisavljevic, *EPFL*; Alexandre Schmid, *EPFL*; Yusuf Leblebici, *EPFL*

B5P-R.2	Process Variation Compensation of a 4.6 GHz LNA in 65nm CMOS	2490
	Mustansir Yunus Mukadam, <i>Cornell University</i> ; Oscar Gouveia Filho, <i>Universidade Federal do Paraná</i> ; Xuan Zhang, <i>Cornell University</i> ; Alyssa B. Apsel, <i>Cornell University</i>	
B5P-R.3	Statistical NBTI-Effect Prediction for ULSI Circuits	2494
	Tong Boon Tang, <i>University of Edinburgh</i> ; Alan F. Murray, <i>University of Edinburgh</i> ; Binjie Cheng, <i>University of Glasgow</i> ; Asen Asenov, <i>University of Glasgow</i>	
B5P-R.4	Design Metrics for RTL Level Estimation of Delay Variability Due to Intradie (Random) Variations	2498
	Michael Merrett, <i>University of Southampton</i> ; Yangang Wang, <i>University of Southampton</i> ; Mark Zwolinski, <i>University of Southampton</i> ; Koushik Maharatna, <i>University of Southampton</i> ; Massimo Alioto, <i>Universit�a di Siena</i>	
B5P-R.5	Statistical Delay Modeling of Read Operation of SRAMs Due to Channel Length Variation	2502
	Hossein Aghababa, <i>University of Tehran</i> ; Mahmoud Zangeneh, <i>University of Tehran</i> ; Ali Afzali-Kusha, <i>University of Tehran</i> ; Behjat Forouzandeh, <i>University of Tehran</i>	
B5P-S	Blind Signal Processing (Poster)	
<i>Time:</i>	Tuesday, June 1, 2010, 9:30 - 11:00	
<i>Place:</i>	Times Square 3	
<i>Chair(s):</i>	Shoji Makino, <i>University of Tsukuba</i> Aurelio Uncini, <i>Universita di Roma La Sapienza</i>	
B5P-S.1	Cepstral Smoothing of Separated Signals for Underdetermined Speech Separation	2506
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	Emre Neftci, <i>University of Zurich and ETH Zurich</i> ; Elisabetta Chicca, <i>University of Zurich and ETH Zurich</i> ; Matthew Cook, <i>University of Zurich and ETH Zurich</i> ; Giacomo Indiveri, <i>University of Zurich and ETH Zurich</i> ; Rodney Douglas, <i>University of Zurich and ETH Zurich</i>	
B7P-R.3a	Live Demonstration: Hardware and Software Infrastructure for a Family of Floating-Gate based FPAAs	2793
	Scott Koziol, <i>Georgia Institute of Technology</i> ; Craig Schlottmann, <i>Georgia Institute of Technology</i> ; Arindam Basu, <i>Georgia Institute of Technology</i> ; Stephen Brink, <i>Georgia Institute of Technology</i> ; Csaba Petre, <i>Georgia Institute of Technology</i> ; Brian Degnan, <i>Georgia Institute of Technology</i> ; Shubha Ramakrishnan, <i>Georgia Institute of Technology</i> ; Paul Hasler, <i>Georgia Institute of Technology</i> ; Aurele Balavoine, <i>Georgia Institute of Technology</i>	
B7P-R.3b	Hardware and Software Infrastructure for a Family of Floating-Gate based FPAAs	2794
	Scott Koziol, <i>Georgia Institute of Technology</i> ; Craig Schlottmann, <i>Georgia Institute of Technology</i> ; Arindam Basu, <i>Georgia Institute of Technology</i> ; Stephen Brink, <i>Georgia Institute of Technology</i> ; Csaba Petre, <i>Georgia Institute of Technology</i> ; Brian Degnan, <i>Georgia Institute of Technology</i> ; Shubha Ramakrishnan, <i>Georgia Institute of Technology</i> ; Paul Hasler, <i>Georgia Institute of Technology</i> ; Aurele Balavoine, <i>Georgia Institute of Technology</i>	
B7P-R.4	An Integrated Wireless Electronic Nose System Integrating Sensing and Recognition Functions	2798
	Hung Tat Chen, <i>Hong Kong University of Science and Technology</i> ; Amine Bermak, <i>Hong Kong University of Science and Technology</i> ; Adam Khalifa, <i>Hong Kong University of Science and Technology</i> ; Dominique Martinez, <i>LORIA</i>	
B7P-R.5	Live Demonstration: Spatial-Temporal Color Video Reproduction from Noisy CFA Sequence	2799
	Lei Zhang, <i>The Hong Kong Polytechnic University</i> ; Weisheng Dong, <i>Xidian University</i> ; Chiu-Wai Hui, <i>The Hong Kong Polytechnic University</i> ; Xiaolin Wu, <i>McMaster University</i> ; Guangming Shi, <i>Xidian University</i>	

Wednesday, June 2, 2010

C1L-A SPECIAL SESSION: Circuits & Systems Concept Inventory (Lecture)

Time: Wednesday, June 2, 2010, 9:30 - 11:00

Place: Grand Ballroom E

Chair(s): Tokunbo Ogunfunmi, *Santa Clara University*
Joos Vandewalle, *Katholieke Universiteit Leuven*

- 9:30
C1L-A.1 A Concepts Inventory for an Attractive Teaching Approach of the Mathematics of Circuits and Systems 2800
Joos Vandewalle, *Katholieke Universiteit Leuven*
- 9:48
C1L-A.2 A Concept Inventory for an Electric Circuits Course: Rationale and Fundamental Topics 2804
Tokunbo Ogunfunmi, *Santa Clara University*; Mahmudur Rahman, *Santa Clara University*
- 10:06
C1L-A.3 A Set of Questions for a Concept Inventory for a DC Circuits Course 2808
Mahmudur Rahman, *Santa Clara University*; Tokunbo Ogunfunmi, *Santa Clara University*
- 10:24
C1L-A.4 A First Lab in Filter Design: Power Line Hum Suppression in an ECG Signal 2812
Hsin-I Liu, *University of California, Berkeley*; Jonathan Kotker, *University of California, Berkeley*;
Babak Ayazifar, *University of California, Berkeley*
- C1L-B Complex Amplifiers** (Lecture)
- Time:* Wednesday, June 2, 2010, 9:30 - 11:00
- Place:* Grand Ballroom F
- Chair(s):* Gaetano Palumbo, *University of Catania*
- 9:30
C1L-B.1 A Novel Low-Power High-Speed Rail-to-Rail Class-B Buffer Amplifier for LCD Output Drivers 2816
Davide Marano, *Università di Catania*; Gaetano Palumbo, *Università di Catania*;
Salvatore Pennisi, *Università di Catania*
- 9:48
C1L-B.2 Rail-to-Rail Low-Power Fully Differential OTA Utilizing Adaptive Biasing and Partial Feedback 2820
Tuan Vu Cao, *University of Oslo*; Dag T. Wisland, *University of Oslo*; Tor Sverre Lande, *University of Oslo*;
Farshad Moradi, *University of Oslo*
- 10:06
C1L-B.3 Linear-in-dB Variable Gain Amplifier with PWL Exponential Gain Control 2824
D. Moro-Frías, *INAOE*; M.T. Sanz-Pascual, *INAOE*; C.A. de la Cruz-Blas, *Public University of Navarra*
- 10:24
C1L-B.4 Two-Stage Fully-Differential Inverter-Based Self-Biased CMOS Amplifier with High Efficiency 2828
M. Figueiredo, *Universidade Nova de Lisboa*; E. Santin, *Universidade Nova de Lisboa*; J. Goes, *Universidade Nova de Lisboa*; R. Santos-Tavares, *Universidade Nova de Lisboa*; G. Evans, *Faculdade de Ciências da Universidade de Lisboa*
- 10:42
C1L-B.5 Low-Power Dual-Active Class-AB Buffer Amplifier with Self-Biasing Network for LCD Column Drivers 2832
Davide Marano, *Università di Catania*; Gaetano Palumbo, *Università di Catania*;
Salvatore Pennisi, *Università di Catania*

C1L-C Digital Signal Processing for Communications I (Lecture)

Time: Wednesday, June 2, 2010, 9:30 - 11:00

Place: Grand Ballroom G

Chair(s): Yoshikazu Miyanaga, *Hokkaido University*
Thanos Stouraitis, *University of Patras*

9:30	C1L-C.1 A Novel Type-Based Group Delay Equalization Technique	2836
	<i>Xinping Huang, Communications Research Centre Canada;</i> <i>Mario Caron, Communications Research Centre Canada</i>	
9:48	C1L-C.2 Beamforming using Passive Nested Arrays of Sensors	2840
	<i>Piya Pal, California Institute of Technology; P.P. Vaidyanathan, California Institute of Technology</i>	
10:06	C1L-C.3 Fast Huffman Decoding Algorithm by Multiple-Bit Length Search Scheme for MPEG-2/4 AAC	2844
	<i>Han-Chang Ho, National Cheng Kung University; Sheau-Fang Lei, National Cheng Kung University</i>	
10:24	C1L-C.4 Super-Resolution ToA Estimation for Indoor Geolocation of Wireless Sensor Networks using Frequency Hopping	2848
	<i>Weile Zhang, Xi'an Jiaotong University; Qinye Yin, Xi'an Jiaotong University;</i> <i>Wenjie Wang, Xi'an Jiaotong University</i>	
10:42	C1L-C.5 Tracking by Nonuniform Amplitude Division based LMS Algorithm for Time Varying Channels	2852
	<i>Rubaiyat Yasmin, Saitama University; Tetsuya Shimamura, Saitama University</i>	
	C1L-D Transcoding & Image Segmentation (Lecture)	
	<i>Time:</i> Wednesday, June 2, 2010, 9:30 - 11:00	
	<i>Place:</i> Grand Ballroom H	
	<i>Chair(s):</i> Oscar Au, <i>Hong Kong University of Science & Technology</i> Ebroul Izquierdo, <i>University of London</i>	
9:30	C1L-D.1 Efficient Algorithm for H.264/AVC Intra Frame Transcoding	2856
	<i>Chien-Da Wu, National Central University; Yinyi Lin, National Central University</i>	
9:48	C1L-D.2 Fast Block-Size Partitioning Using Empirical Rate-Distortion Models for MPEG-2 to H.264/AVC Transcoding	2860
	<i>Qiang Tang, University of British Columbia; Panos Nasiopoulos, University of British Columbia;</i> <i>Rabab Ward, University of British Columbia</i>	
10:06	C1L-D.3 Learn to Segment Attention Object from Low DoF Image	2864
	<i>Hongliang Li, University of Electronic Science and Technology of China; Guanghui Liu, University of Electronic Science and Technology of China; KingNgi Ngan, The Chinese University of Hong Kong</i>	
10:24	C1L-D.4 A New Method for Segmentation of Noisy, Low-Contrast Image Sequences	2868
	<i>Hsiao-Chiang Chuang, Purdue University; Mary L. Comer, Purdue University</i>	

10:42	C1L-D.5	A Directional Extension of the JPEG Image Codec	2872
		Marek Parfieniuk, <i>Bialystok Technical University</i>	
	C1L-E	Giga-Scale Arrays & Architectures (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 9:30 - 11:00	
	<i>Place:</i>	Salon A	
	<i>Chair(s):</i>	Ching-Te Chiu, <i>National Tsing Hwa University</i> Danella Zhao, <i>University of Louisiana at Lafayette</i>	
9:30	C1L-E.1	Performance Analysis of 3D-IC for Multi-Core Processors in Sub-65nm CMOS Technologies	2876
		Kumiko Nomura, <i>Toshiba Corporation</i> ; Keiko Abe, <i>Toshiba Corporation</i> ; Shinobu Fujita, <i>Toshiba Corporation</i> ; Yasuhiko Kurosawa, <i>Toshiba Corporation</i> ; Atsushi Kageshima, <i>Toshiba Corporation</i>	
9:48	C1L-E.2	Combining Circuit and Packet Switching with Bus Architecture in a NoC for Real-Time Applications	2880
		Angelo Kuti Lusala, <i>Université Catholique de Louvain</i> ; Jean-Didier Legat, <i>Université Catholique de Louvain</i>	
10:06	C1L-E.3	A 100-Context Optically Reconfigurable Gate Array	2884
		Mao Nakajima, <i>Shizuoka University</i> ; Minoru Watanabe, <i>Shizuoka University</i>	
10:24	C1L-E.4	Chip-to-Chip Communications using Capacitive Interconnects	2888
		Olli Viitala, <i>Aalto University</i> ; Jussi Ryyänen, <i>Aalto University</i>	
10:42	C1L-E.5	Monitoring and Reconfiguration Techniques for Power Supply Variation Tolerant On-Chip Links	2892
		Ethiopia Nigussie, <i>University of Turku</i> ; Juha Plosila, <i>University of Turku</i> ; Jouni Isoaho, <i>University of Turku</i>	
	C1L-F	Analog CAD & Other Topics (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 9:30 - 11:00	
	<i>Place:</i>	Salon B	
	<i>Chair(s):</i>	Eby Friedman, <i>University of Rochester</i>	
9:30	C1L-F.1	Efficient Simulation Model for DAC Dynamic Properties	2896
		Pieter De Wit, <i>Katholieke Universiteit Leuven</i> ; Georges Gielen, <i>Katholieke Universiteit Leuven</i>	
9:48	C1L-F.2	TLM2.0 based Timing Accurate Modeling Method for Complex NoC Systems	2900
		Ye Lu, <i>Queen's University Belfast</i> ; Sakir Sezer, <i>Queen's University Belfast</i> ; John McCanny, <i>Queen's University Belfast</i>	
10:06	C1L-F.3	A Reconfigurable OFDM Inner Receiver Implemented in the CAL Dataflow Language	2904
		Thomas Olsson, <i>Ericsson Research</i> ; Anders Carlsson, <i>Ericsson Research</i> ; Leif Wilhelmsson, <i>Ericsson Research</i> ; Johan Eker, <i>Ericsson Research</i> ; Carl von Platen, <i>Ericsson Research</i> ; Isael Diaz, <i>Lund University</i>	
10:24	C1L-F.4	A New Sampling Method for Analog Behavioral Modeling	2908
		Hui Li, <i>National Semiconductor Corporation</i> ; Makram Mansour, <i>National Semiconductor Corporation</i> ; Sury Maturi, <i>National Semiconductor Corporation</i> ; Li-C. Wang, <i>University of California, Santa Barbara</i>	

10:42	C1L-F.5	Multiobjective Optimization with an Asymptotically Uniform Coverage of Pareto Front	2912
		Jan Michal, <i>Silicon & Software Systems</i> ; Josef Dobeš, <i>Czech Technical University in Prague</i> ; David Černý, <i>Czech Technical University in Prague</i>	
	C1L-G	Control of Power Converter Circuits (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 9:30 - 11:00	
	<i>Place:</i>	Salon C	
	<i>Chair(s):</i>	Eduard Alarcon, <i>Technical University of Catalunya</i> Juri Jatskevich, <i>University of British Columbia</i>	
9:30	C1L-G.1	Minimized Right-Half Plane Zero Effect on Fast Boost DC-DC Converter Achieved by Adaptive Voltage Positioning Technique	2916
		Jie-Yu Liao, <i>National Chiao Tung University</i> ; Han-Hsiang Huang, <i>National Chiao Tung University</i> ; Ke-Horng Chen, <i>National Chiao Tung University</i>	
9:48	C1L-G.2	Zero-Derivative Method of Analog Controller Design Applied to Step-Down DC-DC Converters	2920
		Vratislav Michal, <i>CPE-Lyon / ST-Ericsson</i> ; Christophe Premont, <i>ST-Ericsson</i> ; Gael Pillonet, <i>CPE-Lyon</i> ; Nacer Abouchi, <i>CPE-Lyon</i>	
10:06	C1L-G.3	Minimum Hardware Serial PID Regulator for High Efficiency, Low Power Digital DC-DC Converters	2924
		Marco Meola, <i>University of Trieste</i> ; Sergio Carrato, <i>University of Trieste</i> ; Angelo Bovino, <i>Infineon Technologies</i> ; Jürgen Schäfer, <i>Infineon Technologies</i> ; Emanuele Bodano, <i>Infineon Technologies</i>	
10:24	C1L-G.4	A Frequency Domain Approach for Controlling Chaos in Switching Converters	2928
		E. Rodriguez, <i>UPC BarcelonaTech</i> ; E. Alarcón, <i>UPC BarcelonaTech</i> ; H.H.C. Iu, <i>The University of Western Australia</i> ; A. El Aroudi, <i>Universitat Rovira i Virgili</i>	
10:42	C1L-G.5	Bifurcation Behavior of a Boost Converter Under Voltage Controlled Pulse Skipping Modulation in the Light of 1-D Discontinuous Map Model	2932
		Santanu Kapat, <i>University of Illinois at Urbana-Champaign</i> ; Soumitro Banerjee, <i>Indian Institute of Science</i> ; Amit Patra, <i>Indian Institute of Technology Kharagpur</i>	
	C1L-H	Wireless Technologies for Medical Applications I (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 9:30 - 11:00	
	<i>Place:</i>	Salon D	
	<i>Chair(s):</i>	Philipp Häfliger, <i>University of Oslo</i> Franco Maloberti, <i>University of Pavia</i>	
9:30	C1L-H.1	A Mini-Invasive Multi-Function Biomedical Pressure Measurement System ASIC	2936
		Chua-Chin Wang, <i>National Sun Yat-Sen University</i> ; Chi-Chun Huang, <i>National Sun Yat-Sen University</i> ; Yi-Cheng Liu, <i>National Sun Yat-Sen University</i> ; Victor Pikov, <i>Huntington Medical Research Institute</i> ; Doron Shmilovitz, <i>Tel Aviv University</i>	
9:48	C1L-H.2	A Wireless Neural/EMG Telemetry System for Freely Moving Insects	2940
		Reid R. Harrison, <i>University of Utah</i> ; Ryan J. Kier, <i>University of Utah</i> ; Anthony Leonardo, <i>Howard Hughes Medical Institute</i> ; Haleh Fotowat, <i>Baylor College of Medicine</i> ; Raymond Chan, <i>Baylor College of Medicine</i> ; Fabrizio Gabbiani, <i>Baylor College of Medicine</i>	

10:06	C1L-H.3	A High-Gain Impedance Matching Technique for Efficient Power Harvesting of Passive Wireless Microsystems	2944
		Nima Soltani, <i>Ryerson University</i> ; Fei Yuan, <i>Ryerson University</i>	
10:24	C1L-H.4	A Multiband Concurrent Sampling based RF Front End for Biotelemetry Applications	2948
		Aravind Heragu, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Viswanathan Balasubramanian, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Christian Enz, <i>Swiss Center for Electronics and Microtechnology</i>	
10:42	C1L-H.5	Wireless Integrated Circuit for the Acquisition of Electrocardiogram Signals	2952
		Grant S. Anderson, <i>University of Utah</i> ; Reid R. Harrison, <i>University of Utah</i>	
	C1L-J	VLSI Circuits & Systems for Video Applications (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 9:30 - 11:00	
	<i>Place:</i>	Salon J	
	<i>Chair(s):</i>	Dimitrios Soudris, <i>National Technical University of Athens</i> Zhongfeng Wang, <i>Broadcom Corp.</i>	
9:30	C1L-J.1	A (256x256) Pixel 76.7mW CMOS Imager/ Compressor based on Real-Time In-Pixel Compressive Sensing	2956
		Vahid Majidzadeh, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Laurent Jacques, <i>Université Catholique de Louvain</i> ; Alexandre Schmid, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Pierre Vandergheynst, <i>Ecole Polytechnique Fédérale de Lausanne</i> ; Yusuf Leblebici, <i>Ecole Polytechnique Fédérale de Lausanne</i>	
9:48	C1L-J.2	Low Bandwidth Decoder Framework for H.264/AVC Scalable Extension	2960
		Tzu-Der Chuang, <i>National Taiwan University</i> ; Pei-Kuei Tsung, <i>National Taiwan University</i> ; Pin-Chih Lin, <i>National Taiwan University</i> ; Lo-Mei Chang, <i>National Taiwan University</i> ; Tsung-Chuan Ma, <i>National Taiwan University</i> ; Yi-Hau Chen, <i>National Taiwan University</i> ; Liang-Gee Chen, <i>National Taiwan University</i>	
10:06	C1L-J.3	Low-Cost Hardware Architecture Design for 3D Warping Engine in Multiview Video Applications	2964
		Pin-Chih Lin, <i>National Taiwan University</i> ; Pei-Kuei Tsung, <i>National Taiwan University</i> ; Liang-Gee Chen, <i>National Taiwan University</i>	
10:24	C1L-J.4	Video-Active Ram: A Processor-in-Memory Architecture for Video Coding Applications	2968
		Mohammed Sayed, <i>Zagazig University</i> ; Wael Badawy, <i>IntelliView Technologies Inc</i> ; Graham Jullien, <i>University of Calgary</i>	
10:42	C1L-J.5	A Low-Power VLSI Implementation for Variable Block Size Motion Estimation in H.264/AVC	2972
		Peng Li, <i>University of Minnesota Duluth</i> ; Hua Tang, <i>University of Minnesota Duluth</i>	

C1L-K Adaptive Signal Processing (Lecture)

Time: Wednesday, June 2, 2010, 9:30 - 11:00

Place: Salon K

Chair(s): Xinping Huang, *Communications Research Centre Canada*
Wu-Sheng Lu, *University of Victoria, Canada*

- 9:30
C1L-K.1 Least-Squares Adaptation of Affine Combinations of Multiple Adaptive Filters 2976
Luis A. Azpicueta-Ruiz, *Universidad Carlos III de Madrid*; Marcus Zeller, *University of Erlangen-Nuremberg*;
Aníbal R. Figueiras-Vidal, *Universidad Carlos III de Madrid*; Jerónimo Arenas-García, *Universidad Carlos III de Madrid*
- 9:48
C1L-K.2 An Improved Exponentiated Stochastic Gradient Algorithm 2980
Corneliu Rusu, *Technical University of Cluj-Napoca*; Colin F.N. Cowan, *The Queen's University of Belfast*
- 10:06
C1L-K.3 Reduced-Rank BEACON Algorithm based on Joint Iterative Optimization of Adaptive Filters 2984
Patrick Clarke, *University of York*; Rodrigo C de Lamare, *University of York*
- 10:24
C1L-K.4 Lyapunov-Based Stability Analysis of Supervised and Unsupervised Adaptive Algorithms 2988
Celso de Sousa Júnior, *University of Campinas*; Romis Attux, *University of Campinas*; Ricardo Suyama, *University of Campinas*; João M.T. Romano, *University of Campinas*
- 10:42
C1L-K.5 Color Video Denoising based on Adaptive Color Space Conversion 2992
Jingjing Dai, *Hong Kong University of Science and Technology*; Oscar C. Au, *Hong Kong University of Science and Technology*; Wen Yang, *Hong Kong University of Science and Technology*; Chao Pang, *Hong Kong University of Science and Technology*; Feng Zou, *Hong Kong University of Science and Technology*; Xing Wen, *Hong Kong University of Science and Technology*
- C1L-L Wireless Communications Circuits II (Lecture)**
Time: Wednesday, June 2, 2010, 9:30 - 11:00
Place: Salon L
Chair(s): Atila Alvandpour, *Linköping University*
Andrea Neviani, *University of Padova*
- 9:30
C1L-L.1 A 5-GHz Fractional-N Phase-Locked Loop with Spur Reduction Technique in 0.13- μ m CMOS 2996
Wei-Hao Chiu, *National Taiwan University*; Chien-Yuan Cheng, *National Taiwan University*;
Tsung-Hsien Lin, *National Taiwan University*
- 9:48
C1L-L.2 Direct DDFS FM Modulator with Baseband Interpolator 3000
Carlos Bernal, *University of Zaragoza*; Pilar Molina Gaudó, *University of Zaragoza*;
Arturo Mediano, *University of Zaragoza*
- 10:06
C1L-L.3 A 10Mb/s 4ns Jitter Direct Conversion Low Modulation Index FSK Demodulator for Low-Energy Body Sensor Network 3004
Taehwan Roh, *KAIST*; Joonsung Bae, *KAIST*; Hoi-Jun Yoo, *KAIST*
- 10:24
C1L-L.4 Phase Amplitude Converter with Conditional Shift Operation 3008
Hiroomi Hikawa, *Kansai University*; Taketo Namba, *Kansai University*

10:42

- C1L-L.5 System Level Power Optimizations for EPC RFID Tags to Improve Sensitivity using Load Power Shaping and Operation Scheduling** 3012
Yunxiao Ling, *The Hong Kong University of Science and Technology*; Jun Yi, *The Hong Kong University of Science and Technology*; Chi-Ying Tsui, *The Hong Kong University of Science and Technology*; Wing-Hung Ki, *The Hong Kong University of Science and Technology*

C1L-M Data Converter Techniques (Lecture)

Time: Wednesday, June 2, 2010, 9:30 - 11:00

Place: Salon M

Chair(s): Degang Chen, *Iowa State University*

- 9:30
C1L-M.1 A 0.22 pJ/Step Subsampling ADC with Fast Input-Tracking Sampling and Simplified OPAMP Sharing 3016
Guanghua Shu, *Fudan University*; Fan Ye, *Fudan University*; Yao Guo, *Fudan University*; Mingjun Fan, *Fudan University*; Junyan Ren, *Fudan University*; Jun Xu, *Fudan University*; Ning Li, *Fudan University*; Cheng Chen, *Cadence Design Systems*

- 9:48
C1L-M.2 Enhancement of Comparator Operation Speed by using Negative-Differential-Resistance Devices 3020
Tomohiko Ebata, *Sophia University*; Uichiro Omae, *Sophia University*; Kazuya Machida, *Sophia University*; Keita Hoshi, *Sophia University*; Takao Waho, *Sophia University*

- 10:06
C1L-M.3 A Fine-Resolution Time-to-Digital Converter for a 5GS/s ADC 3024
Kenneth A. Townsend, *University of Calgary*; Andrew R. Macpherson, *University of Calgary*; James W. Haslett, *University of Calgary*

- 10:24
C1L-M.4 INL based Dynamic Performance Estimation for ADC BIST 3028
Jingbo Duan, *Iowa State University*; Le Jin, *National Semiconductor*; Degang Chen, *Iowa State University*

- 10:42
C1L-M.5 Linearity Testing of ADCs using Low Linearity Stimulus and Kalman Filtering 3032
Bharath K Vasani, *Iowa State University*; Randall L. Geiger, *Iowa State University*; Degang J. Chen, *Iowa State University*

C1L-N SPECIAL SESSION: Directional Transforms for Image Coding (Lecture)

Time: Wednesday, June 2, 2010, 9:30 - 11:00

Place: Radio City Ballroom I

Chair(s): Jizheng Xu, *Microsoft Research Asia*

Bing Zeng, *Hong Kong University of Science & Technology*

- 9:30
C1L-N.1 An Overview of Directional Transforms in Image Coding 3036
Jizheng Xu, *Microsoft Research Asia*; Bing Zeng, *The Hong Kong University of Science and Technology*; Feng Wu, *Microsoft Research Asia*

- 9:48
C1L-N.2 Decoding of Directional DCT-Coded Images: A Total Variational Approach with Directionality 3040
Jingjing Fu, *The Hong Kong University of Science and Technology*; Bing Zeng, *The Hong Kong University of Science and Technology*

10:06	C1L-N.3	Direction Scalability of Adaptive Directional Wavelet Transform: An Approach using Block-Lifting based DCT and SPIHT	3044
		Yuichi Tanaka, <i>Utsunomiya University</i> ; Madoka Hasegawa, <i>Utsunomiya University</i> ; Shigeo Kato, <i>Utsunomiya University</i> ; Taizo Suzuki, <i>Keio University</i> ; Masaaki Ikehara, <i>Keio University</i>	
10:24	C1L-N.4	Image Coding via Sparse Contourlet Representation	3048
		Jingyu Yang, <i>Tianjin University</i> ; Chunping Hou, <i>Tianjin University</i> ; Wenli Xu, <i>Tsinghua University</i>	
	C1L-P	SPECIAL SESSION: Digital Forensics (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 9:30 - 11:00	
	<i>Place:</i>	Radio City Ballroom II	
	<i>Chair(s):</i>	Anthony T. S. Ho, <i>University of Surrey</i> Chang-Tsun Li, <i>University of Warwick</i>	
9:30	C1L-P.1	Digital Camera Identification using Colour-Decoupled Photo Response Non-Uniformity Noise Pattern	3052
		Chang-Tsun Li, <i>University of Warwick</i> ; Yue Li, <i>Nankai University</i>	
9:48	C1L-P.2	Accurate Detection of Out-of-Control Variations from Digital Camera Devices	3056
		Philip Bateman, <i>University of Surrey</i> ; Anthony T.S. Ho, <i>University of Surrey</i> ; Alan Woodward, <i>Charteris PLC</i>	
10:06	C1L-P.3	Intrinsic Signatures for Scanned Documents Forensics: Effect of Font Shape and Size	3060
		Nitin Khanna, <i>Purdue University</i> ; Edward J. Delp, <i>Purdue University</i>	
10:24	C1L-P.4	New Developments in Color Image Tampering Detection	3064
		Patchara Sutthiwan, <i>New Jersey Institute of Technology</i> ; Yun-Qing Shi, <i>New Jersey Institute of Technology</i> ; Jing Dong, <i>Institute of Automation, Chinese Academy of Sciences</i> ; Tieniu Tan, <i>Institute of Automation, Chinese Academy of Sciences</i> ; Tian-Tsong Ng, <i>Institute for Infocomm Research</i>	
10:42	C1L-P.5	A Forensic Chip for Secure Digital Video Recording	3068
		L.M. Cheng, <i>City University of Hong Kong</i> ; L.L. Cheng, <i>City University of Hong Kong</i>	
	C2L-A	SPECIAL SESSION: Thinking out of the Box: Multimedia Processing Beyond Standards (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 11:20 - 12:50	
	<i>Place:</i>	Grand Ballroom E	
	<i>Chair(s):</i>	Eduardo A. B. da Silva, <i>Universidade Federal do Rio de Janeiro</i> Sergio L Netto, <i>Universidade Federal do Rio de Janeiro</i>	
11:20	C2L-A.1	Waveform Speech Coding using Multiscale Recurrent Patterns	3072
		Frederico S. Pinagé, <i>Federal University of Rio de Janeiro</i> ; Lara C.R.L. Feio, <i>Federal University of Rio de Janeiro</i> ; Eduardo A.B. da Silva, <i>Federal University of Rio de Janeiro</i> ; Sergio L. Netto, <i>Federal University of Rio de Janeiro</i>	
11:38	C2L-A.2	Another Look at the Retina as an Image Scalar Quantizer	3076
		Khaled Masmoudi, <i>Univ. Nice Sophia Antipolis</i> ; Marc Antonini, <i>Univ. Nice Sophia Antipolis</i> ; Pierre Kornprobst, <i>INRIA - NeuroMathComp</i>	

11:56	C2L-A.3	Massively Parallel Processing of Signals in Dense Microphone Arrays	3080
		Amir Said, <i>Hewlett-Packard Laboratories</i> ; Ton Kalker, <i>Hewlett-Packard Laboratories</i> ; Bowon Lee, <i>Hewlett-Packard Laboratories</i> ; Majid Fozunbal, <i>Hewlett-Packard Laboratories</i>	
12:14	C2L-A.4	On the Compression of ECG Records Employing Triangular Elements and Analysis-by-Synthesis Modeling	3084
		Fellipe Dos Santos Guimarães, <i>State University of Rio de Janeiro</i> ; Lisandro Lovisoló, <i>State University of Rio de Janeiro</i> ; Manuel Blanco-Velasco, <i>Universidad de Alcalá</i> ; Fernando Cruz-Roldán, <i>Universidad de Alcalá</i>	
	C2L-B	Interfaces for Wireless Sensor Networks (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 11:20 - 12:50	
	<i>Place:</i>	Grand Ballroom F	
	<i>Chair(s):</i>	Byunghoo Jung, <i>Purdue University</i>	
11:20	C2L-B.1	A Full-Scale CMOS Voltage-to-Frequency Converter for WSN Signal Conditioning	3088
		B. Calvo, <i>University of Zaragoza</i> ; N. Medrano, <i>University of Zaragoza</i> ; S. Celma, <i>University of Zaragoza</i>	
11:38	C2L-B.2	A Low Power Interface Circuit for Resistive Sensors with Digital Offset Compensation	3092
		El Mehdi Boujamaa, <i>University of Montpellier</i> ; Boris Alandry, <i>University of Montpellier</i> ; Souha Hacine, <i>University of Montpellier</i> ; Laurent Latorre, <i>University of Montpellier</i> ; Frederick Mailly, <i>University of Montpellier</i> ; Pascal Nouet, <i>University of Montpellier</i>	
11:56	C2L-B.3	A 0.5 V-1.4 V Supply-Independent Frequency-Based Analog-to-Digital Converter with Fast Start-Up Time for Wireless Sensor Networks	3096
		Wouter Volckaerts, <i>Katholieke Universiteit Leuven</i> ; Bart Marien, <i>Katholieke Universiteit Leuven</i> ; Hans Danneels, <i>Katholieke Universiteit Leuven</i> ; Valentijn De Smedt, <i>Katholieke Universiteit Leuven</i> ; Patrick Reynaert, <i>Katholieke Universiteit Leuven</i> ; Wim Dehaene, <i>Katholieke Universiteit Leuven</i> ; Georges Gielen, <i>Katholieke Universiteit Leuven</i>	
12:14	C2L-B.4	A $\Delta\Sigma$ ADC for Low Power Sensor Applications	3100
		Jarno Salomaa, <i>Helsinki University of Technology</i> ; Mikail Yucetas, <i>Helsinki University of Technology</i> ; Antti Kalanti, <i>Helsinki University of Technology</i> ; Lasse Aaltonen, <i>Helsinki University of Technology</i> ; Kari Halonen, <i>Helsinki University of Technology</i>	
12:32	C2L-B.5	A Wearable, Wireless Electronic Interface for Textile Sensors	3104
		Lin Shu, <i>The Hong Kong Polytechnic University</i> ; Xiao Ming Tao, <i>The Hong Kong Polytechnic University</i> ; David Dagan Feng, <i>The Hong Kong Polytechnic University</i>	
	C2L-C	Digital Signal Processing for Communications II (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 11:20 - 12:50	
	<i>Place:</i>	Grand Ballroom G	
	<i>Chair(s):</i>	Paulo Diniz, <i>Universidade Federal do Rio de Janeiro</i> Behrouz Nowrouzian, <i>University of Alberta</i>	
11:20	C2L-C.1	Robust Distributed Beamforming for Two-Way Wireless Relay Systems	3108
		Chunguo Li, <i>Southeast University</i> ; Luxi Yang, <i>Southeast University</i> ; Wei-Ping Zhu, <i>Concordia University</i>	

11:38	C2L-C.2	Pilot-Aided Designs of Memoryless Block Equalizers with Minimum Redundancy	3112
		Wallace A. Martins, <i>Federal University of Rio de Janeiro</i> ; Paulo S.R. Diniz, <i>Federal University of Rio de Janeiro</i>	
11:56	C2L-C.3	Compressive Sampling Hardware Reconstruction	3116
		Avi Septimus, <i>Technion Israel Institute of Technology</i> ; Raphael Steinberg, <i>Technion Israel Institute of Technology</i>	
12:14	C2L-C.4	Low Memory Cost Bilateral Filtering using Stripe-Based Sliding Integral Histogram	3120
		Po-Hsiung Hsu, <i>National Chiao-Tung University</i> ; Yu-Cheng Tseng, <i>National Chiao-Tung University</i> ; Tian-Sheuan Chang, <i>National Chiao-Tung University</i>	
12:32	C2L-C.5	Local Polynomial Modelling of Time-Varying Autoregressive Processes and its Application to the Analysis of Event-Related Electroencephalogram	3124
		Z.G. Zhang, <i>The University of Hong Kong</i> ; S.C. Chan, <i>The University of Hong Kong</i> ; Y.S. Hung, <i>The University of Hong Kong</i>	
	C2L-D	Circuits for Biomedical Systems II (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 11:20 - 12:50	
	<i>Place:</i>	Grand Ballroom H	
	<i>Chair(s):</i>	Yong Lian, <i>National University of Singapore</i> Andrew Mason, <i>Michigan State University, MI</i>	
11:20	C2L-D.1	Current-Limited Passive Charge Recovery for Implantable Neuro-Stimulators: Power Savings, Modelling and Characterisation	3128
		Torsten Lehmann, <i>The University of New South Wales</i> ; Hosung Chun, <i>The University of New South Wales</i> ; Phil Preston, <i>The University of New South Wales</i> ; Gregg Suaning, <i>The University of New South Wales</i>	
11:38	C2L-D.2	A 24nW, 0.65-V, 74-dB SNDR, 83-dB DR, Class-AB Current-Mode Sample and Hold Circuit	3132
		Chutham Sawigun, <i>Delft University of Technology</i> ; Wouter A. Serdijn, <i>Delft University of Technology</i>	
11:56	C2L-D.3	A Silicon Pancreatic Islet for the Treatment of Diabetes	3136
		MohamedFayes El Sharkawy, <i>Imperial College London</i> ; Pantelis Georgiou, <i>Imperial College London</i> ; Chris Toumazou, <i>Imperial College London</i>	
12:14	C2L-D.4	A Fully Integrated Multi-Channel Impedance Extraction Circuit for Biosensor Arrays	3140
		Xiaowen Liu, <i>Michigan State University</i> ; Daniel Rairigh, <i>Michigan State University</i> ; Andrew Mason, <i>Michigan State University</i>	
12:32	C2L-D.5	Towards an Adaptive Modified Quasi-Tripole Amplifier Configuration for EMG Neutralization in Neural Recording Tripoles	3144
		Ioannis Pachnis, <i>University College London</i> ; Andreas Demosthenous, <i>University College London</i> ; Nick Donaldson, <i>University College London</i>	

C2L-E Simulation & Modeling of Nano-Electronics & Giga-Scale Systems (Lecture)

Time: Wednesday, June 2, 2010, 11:20 - 12:50

Place: Salon A

Chair(s): Garrett Rose, *Polytechnic Institute of NYU*
Lan-Da Van, *National Chiao Tung University*

11:20

C2L-E.1 A New Modified Nodal Analysis for Nano-Scale Memristor Circuit Simulation 3148
Hao Yu, *Nanyang Technological University*; Wei Fei, *Nanyang Technological University*

11:38

C2L-E.2 A Novel Scalable Parallel Architecture for Biological Neural Simulations 3152
Peyman Pourhaj, *University of Saskatchewan*; Daniel H.-Y. Teng, *University of Saskatchewan*;
Khan Wahid, *University of Saskatchewan*; Seok-Bum Ko, *University of Saskatchewan*

11:56

C2L-E.3 Genetic Algorithm based Topology Generation for Application Specific Network-on-Chip 3156
Naveen Choudhary, *Malaviya National Institute of Technology*; M.S. Gaur, *Malaviya National Institute of Technology*;
V. Laxmi, *Malaviya National Institute of Technology*; V. Singh, *Indian Institute of Science*

12:14

C2L-E.4 FAST: A Simulation Framework for Solving Large-Scale Probabilistic Inverse Problems in Nano-Biomolecular Circuits 3160
Ming Gu, *Michigan State University*; Yang Liu, *Michigan State University*;
Shantanu Chakrabartty, *Michigan State University*

C2L-F Logic & High-Level Synthesis (Lecture)

Time: Wednesday, June 2, 2010, 11:20 - 12:50

Place: Salon B

Chair(s): Philippe Coussy, *Université de Bretagne-Sud*

11:20

C2L-F.1 Rapid Design Space Exploration for Multi Parametric Optimization of VLSI Designs 3164
Anirban Sengupta, *Ryerson University*; Reza Sedaghat, *Ryerson University*; Zhipeng Zeng, *Ryerson University*

11:38

C2L-F.2 A Memory Mapping Approach for Parallel Interleaver Design with Multiples Read and Write Accesses 3168
C. Chavet, *Université de Bretagne-Sud*; P. Coussy, *Université de Bretagne-Sud*

11:56

C2L-F.3 Improving Redundancy Addition and Removal using Unreachable States for Sequential Circuits 3172
Xiaoqing Yang, *The Chinese University of Hong Kong*; Zigang Xiao, *The Chinese University of Hong Kong*;
Y.L. Wu, *The Chinese University of Hong Kong*

12:14

C2L-F.4 A Framework for Fast Design Space Exploration using Fuzzy Search for VLSI Computing Architectures 3176
Zhipeng Zeng, *Ryerson University*; Reza Sedaghat, *Ryerson University*; Anirban Sengupta, *Ryerson University*

12:32

C2L-F.5 Register Relocation to Optimize Clock Network for Multi-Domain Clock Skew Scheduling 3180
Liang Yang, *Chinese Academy of Sciences*; Baoxia Fan, *Chinese Academy of Sciences*;
Ming Cong, *Chinese Academy of Sciences*; Jiye Zhao, *Chinese Academy of Sciences*

C2L-G Switched Capacitor Converters & Power Amplifiers (Lecture)

Time: Wednesday, June 2, 2010, 11:20 - 12:50

Place: Salon C

Chair(s): Adrian Ioinovici, *Holon Institute of Technology*
Marian Kazimierczuk, *Wright State University*

11:20

C2L-G.1 Analysis and Design of a Step-Down Switched-Capacitor-Based Converter for Low-Power Application 3184
Chia-Ling Wei, *National Cheng Kung University*; Hsiu-Hui Yang, *National Cheng Kung University*

11:38

C2L-G.2 A Switched-Capacitor Inverter using Series/Parallel Conversion 3188
Youhei Hinago, *Tokyo University of Science*; HirotaKa Koizumi, *Tokyo University of Science*

11:56

C2L-G.3 A New Visit to an Old Problem in Switched-Capacitor Converters 3192
Chun-Kit Cheung, *Hong Kong Polytechnic University*; Siew-Chong Tan, *Hong Kong Polytechnic University*;
Y.M. Lai, *Hong Kong Polytechnic University*; Chi K. Tse, *Hong Kong Polytechnic University*

12:14

C2L-G.4 An Enhanced Switching Policy for Buck-Derived Multi-Level Switching Power Amplifiers 3196
Albert Garcia i Tormo, *Technical University of Catalunya*; Alberto Poveda, *Technical University of Catalunya*;
Eduard Alarcón, *Technical University of Catalunya*; Henk Jan Bergveld, *NXP Semiconductors*; Berry Buter,
NXP Semiconductors; Ravi Karadi, *NXP Semiconductors*

12:32

C2L-G.5 Effect of MOSFET Gate-to-Drain Parasitic Capacitance on Class-E Power Amplifier 3200
Xiuqin Wei, *Chiba University*; Hiroo Sekiya, *Chiba University*; Shingo Kuroiwa, *Chiba University*;
Tadashi Suetsugu, *Fukuoka University*; Marian K. Kazimierczuk, *Wright State University*

C2L-H Layout, Interconnects & Clock/Supply Networks (Lecture)

Time: Wednesday, June 2, 2010, 11:20 - 12:50

Place: Salon D

Chair(s): Malgorzata Chrzanowska-Jeske, *Portland State University*
Mohamed Elgamel, *University of Louisiana at Lafayette*

11:20

C2L-H.1 Analysis of Layout Density in FinFET Standard Cells and Impact of Fin Technology 3204
Massimo Alioto, *University of Siena*

11:38

C2L-H.2 Methodology for Multi-Layer Interdigitated Power and Ground Network Design 3208
Renatas Jakushokas, *University of Rochester*; Eby G. Friedman, *University of Rochester*

11:56

C2L-H.3 A Clock Network of Distributed ADPLLs using an Asymmetric Comparison Strategy 3212
A. Korniienko, *CEA, LETI, MINATEC*; E. Colinet, *CEA, LETI, MINATEC*; G. Scorletti, *Ecole Centrale de Lyon*;
E. Blanco, *Ecole Centrale de Lyon*; D. Galayko, *Curie University*; J. Juillard, *SUPELEC*

12:14

C2L-H.4 A 1-Change-in-4 Delay-Insensitive Interchip Link 3216
Anand Chandrasekaran, *Stanford University*; Kwabena Boahen, *Stanford University*

12:32	C2L-H.5	Optimization of Clock-Gating Structures for Low-Leakage High-Performance Applications	3220
		Javier Castro, <i>Instituto de Microelectrónica de Sevilla-CNM-CSIC/Universidad de Sevilla</i> ; Pilar Parra, <i>Instituto de Microelectrónica de Sevilla-CNM-CSIC/Universidad de Sevilla</i> ; Antonio J. Acosta, <i>Instituto de Microelectrónica de Sevilla-CNM-CSIC/Universidad de Sevilla</i>	
	C2L-J	Networks on Chip (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon J	
	<i>Chair(s):</i>	Dimitrios Soudris, <i>National Technical University of Athens</i> Viktor Öwall, <i>Lund University</i>	
11:20	C2L-J.1	Power-Aware NoC Router using Central Forecasting-Based Dynamic Virtual Channel Allocation	3224
		Amir-Mohammad Rahmani, <i>University of Turku</i> ; Masoud Daneshtalab, <i>University of Turku</i> ; Pasi Liljeberg, <i>University of Turku</i> ; Hannu Tenhunen, <i>University of Turku</i>	
11:38	C2L-J.2	An Efficient Routing Algorithm for Irregular Mesh NoCs	3228
		Parisa Mahdavinia, <i>Sharif University of Technology</i> ; Hamid Sarbazi Azad, <i>Sharif University of Technology</i>	
11:56	C2L-J.3	Communication-Aware Application Mapping and Scheduling for NoC-Based MPSoCs	3232
		Heng Yu, <i>National University of Singapore</i> ; Yajun Ha, <i>National University of Singapore</i> ; Bharadwaj Veeravalli, <i>National University of Singapore</i>	
12:14	C2L-J.4	Improving the Performance of Deadlock Recovery based Routing in Irregular Mesh NoCs using Added Mesh-Like Links	3236
		Mahdieh Hosseingholi, <i>Sharif University of Technology</i> ; Ali Sharif Ahmadian, <i>Sharif University of Technology</i> ; Hamid Sarbazi-Azad, <i>Sharif University of Technology</i>	
12:32	C2L-J.5	Asynchronous BFT for Low Power Networks on Chip	3240
		Mohamed A. Abd El ghany, <i>German University in Cairo</i> ; Magdy A. El-Moursy, <i>Mentor Graphics</i> ; Darek Korzec, <i>German University in Cairo</i> ; Mohammed Ismail, <i>The Ohio State University</i>	
	C2L-K	3D Video & Multimedia Display Technologies (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon K	
	<i>Chair(s):</i>	Jen-Shiun Chiang, <i>Tamkang University</i> Xiaokang Yang, <i>Shanghai Jiaotong University</i>	
11:20	C2L-K.1	Correcting Unsynchronized Zoom in 3D Video	3244
		Colin Doutre, <i>University of British Columbia</i> ; Mahsa T. Pourazad, <i>University of British Columbia</i> ; Alexis Tourapis, <i>Dolby Laboratories</i> ; Panos Nasiopoulos, <i>University of British Columbia</i> ; Rabab K. Ward, <i>University of British Columbia</i>	
11:38	C2L-K.2	Depth Maps Interpolation from Existing Pairs of Keyframes and Depth Maps for 3D Video Generation	3248
		Hung-Ming Wang, <i>National Cheng Kung University</i> ; Chun-Hao Huang, <i>National Cheng Kung University</i> ; Jar-Ferr Yang, <i>National Cheng Kung University</i>	

11:56	C2L-K.3	Image-Based Rendering of Ancient Chinese Artifacts for Multi-View Displays – A Multi-Camera Approach	3252
		<i>Z.Y. Zhu, The University of Hong Kong; K.T. Ng, The University of Hong Kong; S.C. Chan, The University of Hong Kong; H.Y. Shum, Microsoft Corporation</i>	
12:14	C2L-K.4	Dynamic Clipping Ratio Determination for Global Backlight Dimming in LCD	3256
		<i>Philippe Lavole, Pohang University of Science and Technology; Sung-Kyu Lee, Pohang University of Science and Technology; Suk-Ju Kang, Pohang University of Science and Technology; Young Hwan Kim, Pohang University of Science and Technology</i>	
12:32	C2L-K.5	An Organic Complementary Differential Amplifier for Flexible AMOLED Applications	3260
		<i>Vaibhav Vaidya, University of Washington; Denise M. Wilson, University of Washington; Xiaohong Zhang, Georgia Institute of Technology; Bernard Kippelen, Georgia Institute of Technology</i>	
	C2L-M	MEMs Interfaces (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 11:20 - 12:50	
	<i>Place:</i>	Salon M	
	<i>Chair(s):</i>	Hanspeter Schmid, <i>Fachhochschule Nordwestschweiz</i>	
11:20	C2L-M.1	Drive and Sense Interface for Gyroscopes based on Bandpass Sigma-Delta Modulators	3264
		<i>T. Northemann, University of Freiburg; M. Maurer, University of Freiburg; S. Rombach, University of Freiburg; A. Buhmann, University of Freiburg; Y. Manoli, University of Freiburg</i>	
11:38	C2L-M.2	An Amplitude Regulation for Gyroscope Drive Loops based on Phase-Shifting	3268
		<i>T. Northemann, University of Freiburg; A. Ziegler, University of Freiburg; M. Maurer, University of Freiburg; Y. Manoli, University of Freiburg</i>	
11:56	C2L-M.3	A Tuning Procedure for the Electric Networks of PEM Systems	3272
		<i>Massimo Panella, University of Rome “La Sapienza”; Fabio Massimo Frattale Mascioli, University of Rome “La Sapienza”</i>	
12:14	C2L-M.4	A MEMS-Based Temperature-Compensated Vacuum Sensor for Low-Power Monolithic Integration	3276
		<i>M.A. Taghvaei, McGill University; P.-V. Cicek, McGill University; K. Allidina, McGill University; F. Nabki, McGill University; M.N. El-Gamal, McGill University</i>	
12:32	C2L-M.5	A Low-Noise High-Sensitivity Readout Circuit for MEMS Capacitive Sensors	3280
		<i>Jack Shiah, University of British Columbia; Hooman Rashtian, University of British Columbia; Shahriar Mirabbasi, University of British Columbia</i>	

C2L-N SPECIAL SESSION: Recent Advances in IR-UWB Transceivers (Lecture)

Time: Wednesday, June 2, 2010, 11:20 - 12:50

Place: Radio City Ballroom I

Chair(s): Jorge Fernandes, *INESC-ID*
David Wentzloff, *University of Michigan*

11:20

C2L-N.1 Recent Advances in IR-UWB Transceivers: An Overview 3284

Jorge R. Fernandes, *Inesc-ID*; David Wentzloff, *University of Michigan*

11:38

C2L-N.2 Challenges and Recent Advances in IR-UWB System Design 3288

Lutz Lampe, *University of British Columbia*; Klaus Witrisal, *Graz University of Technology*

11:56

C2L-N.3 Partially Coherent Signal Combination for Impulse Radio Synchronisation 3292

Dries Neiryneck, *IMEC*; Kathleen Philips, *IMEC*; Olivier Rousseaux, *IMEC*

12:14

C2L-N.4 IR-UWB Transmitters Synthesized from Standard Digital Library Components 3296

Youngmin Park, *University of Michigan*; David D. Wentzloff, *University of Michigan*

12:32

C2L-N.5 System and Circuit Considerations for Low-Complexity Constant-Envelope FM-UWB 3300

John F.M. Gerrits, *CSEM SA*; Mina Danesh, *Delft University of Technology*; Yi Zhao, *Delft University of Technology*; Yunzhi Dong, *Delft University of Technology*; Gerrit van Veenendaal, *NXP Semiconductors*; John R. Long, *Delft University of Technology*; John R. Farserotu, *CSEM SA*

C2L-P SPECIAL SESSION: Piecewise Linear Circuits & Systems: Bridging Electronics & Control Systems (Lecture)

Time: Wednesday, June 2, 2010, 11:20 - 12:50

Place: Radio City Ballroom II

Chair(s): Pedro M Julian, *Universidad Nacional del Sur*
Marco Storace, *Università degli Studi di Genova*

11:20

C2L-P.1 Digital Architectures Implementing Piecewise-Affine Functions: An Overview 3304

Tomaso Poggi, *University of Genoa*; Marco Storace, *University of Genoa*

11:38

C2L-P.2 On the Synthesis of Piecewise Affine Control Laws 3308

A. Bemporad, *University of Siena*; W.P.M.H. Heemels, *Eindhoven University of Technology*; M. Lazar, *Eindhoven University of Technology*

11:56

C2L-P.3 PWL Cores for Nonlinear Array Processing 3312

Martin Di Federico, *Universidad Nacional del Sur*; Pedro Julián, *Universidad Nacional del Sur*; Pablo S. Mandolesi, *Universidad Nacional del Sur*; Andreas G. Andreou, *Johns Hopkins University*

12:14

C2L-P.4 An Automated Design Flow from Linguistic Models to Piecewise Polynomial Digital Circuits 3317

Illuminada Baturone, *Univ. of Seville*; Santiago Sánchez-Solano, *IMSE-CNM*; Andrés A. Gersnoviez, *University of Cordoba*; María Brox, *University of Cordoba*

12:32	C2L-P.5	Multicore Thermal Management using Approximate Explicit Model Predictive Control	3321
		Francesco Zanini, <i>Laboratory of Integrated Systems</i> ; Colin N. Jones, <i>Automatic Control Laboratory</i> ; David Atienza, <i>Embedded Systems Laboratory</i> ; Giovanni De Micheli, <i>Laboratory of Integrated Systems</i>	
	C3L-A	SPECIAL SESSION: New Frontiers in the Design of Communication Infrastructure for Adaptable Systems (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 14:10 - 15:40	
	<i>Place:</i>	Grand Ballroom E	
	<i>Chair(s):</i>	Luca Benini, <i>Università di Bologna</i> Marco D Santambrogio, <i>Massachusetts Institute of Technology</i>	
14:10	C3L-A.1	ATAC: Improving Performance and Programmability with On-Chip Optical Networks	3325
		James Psota, <i>Massachusetts Institute of Technology</i> ; Jason Miller, <i>Massachusetts Institute of Technology</i> ; George Kurian, <i>Massachusetts Institute of Technology</i> ; Henry Hoffman, <i>Massachusetts Institute of Technology</i> ; Nathan Beckmann, <i>Massachusetts Institute of Technology</i> ; Jonathan Eastep, <i>Massachusetts Institute of Technology</i> ; Anant Agarwal, <i>Massachusetts Institute of Technology</i>	
14:28	C3L-A.2	Run-Time Mapping of Applications on FPGA-Based Reconfigurable Systems	3329
		Ivan Beretta, <i>Embedded Systems Laboratory</i> ; Vincenzo Rana, <i>Politecnico di Milano</i> ; David Atienza, <i>Embedded Systems Laboratory</i> ; Donatella Sciuto, <i>Politecnico di Milano</i>	
14:46	C3L-A.3	High Level Specification of Embedded Listeners for Monitoring of Network-on-Chips	3333
		Christoph Puttmann, <i>University of Paderborn</i> ; Mario Pormann, <i>University of Paderborn</i> ; Paolo R. Grassi, <i>Politecnico di Milano</i> ; Marco D. Santambrogio, <i>Massachusetts Institute of Technology</i> ; Ulrich Rückert, <i>Bielefeld University</i>	
15:04	C3L-A.4	3D NoCs – Unifying Inter & Intra Chip Communication	3337
		Igor Loi, <i>University of Bologna</i> ; Pol Marchal, <i>IMEC</i> ; Antonio Pullini, <i>iNoCs</i> ; Luca Benini, <i>University of Bologna</i>	
15:22	C3L-A.5	Automated Placement of Reconfigurable Regions for Relocatable Modules	3341
		Tobias Becker, <i>Imperial College London</i> ; Markus Koester, <i>Imperial College London</i> ; Wayne Luk, <i>Imperial College London</i>	
	C3L-B	Digital to Analog Conversion Techniques (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 14:10 - 15:40	
	<i>Place:</i>	Grand Ballroom F	
	<i>Chair(s):</i>	Joseph Chang, <i>Nanyang Technological University</i>	
14:10	C3L-B.1	A 14-Bit 250MS/s Digital to Analog Converter with Binary Weighted Redundant Signed Digit Coding	3345
		B. Catteau, <i>Ghent University</i> ; B. De Vuyst, <i>Ghent University</i> ; P. Glenn Rombouts, <i>Ghent University</i> ; L. Weyten, <i>Ghent University</i>	
14:28	C3L-B.2	An Ultra Low-Energy DAC for Successive Approximation ADCs	3349
		Hande Vinayak Gopal, <i>Indian Institute of Technology Bombay</i> ; Maryam Shojaei Baghini, <i>Indian Institute of Technology Bombay</i>	

14:46	C3L-B.3	Multi-Rate Segmented Time-Interleaved Current Steering DAC with Unity-Elements Sharing	3353
		Devrim Aksin, <i>Istanbul Technical University</i> ; Gurer Ozbek, <i>Istanbul Technical University</i> ; Franco Maloberti, <i>University of Pavia</i>	
15:04	C3L-B.4	Output Impedance Linearization Technique for Current-Steering DACs	3357
		Tao Zeng, <i>Iowa State University</i> ; Degang Chen, <i>Iowa State University</i>	
15:22	C3L-B.5	Linearity Enhancement in Digital-to-Analog Converters using a Modified Decoding Architecture	3361
		S. Moslem Hokmabadi, <i>Ferdowsi University of Mashhad</i> ; Reza Lotfi, <i>Ferdowsi University of Mashhad</i>	
	C3L-C	Digital Image & Video Processing I (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 14:10 - 15:40	
	<i>Place:</i>	Grand Ballroom G	
	<i>Chair(s):</i>	Oscar Au, <i>Hong Kong University of Science & Technology</i> Tokunbo Ogunfunmi, <i>Santa Clara University</i>	
14:10	C3L-C.1	Hardware-Efficient Image Enhancement with Bilateral Tone Adjustment	3365
		Wei-Ming Ke, <i>National Tsing Hua University</i> ; Ching-Te Chiu, <i>National Tsing Hua University</i>	
14:28	C3L-C.2	Shadow Removal from Natural Images	3369
		Ya-Fan Su, <i>National Taiwan University and Chunghwa Telecom Co, Ltd</i> ; Homer H. Chen, <i>National Taiwan University</i>	
14:46	C3L-C.3	Subtractive Impairment, Additive Impairment and Image Visual Quality	3373
		Songnan Li, <i>The Chinese University of Hong Kong</i> ; King Ngi Ngan, <i>The Chinese University of Hong Kong</i>	
15:04	C3L-C.4	Saturated-Pixel Enhancement for Color Images	3377
		Di Xu, <i>University of British Columbia</i> ; Colin Doutre, <i>University of British Columbia</i> ; Panos Nasiopoulos, <i>University of British Columbia</i>	
15:22	C3L-C.5	In-Service Video Quality Monitoring	3381
		Ee Ping Ong, <i>Institute for Infocomm Research</i> ; Shiqian Wu, <i>Institute for Infocomm Research</i> ; Mei Hwan Loke, <i>Institute for Infocomm Research</i>	
	C3L-D	Nonlinear Oscillators & PLL I (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 14:10 - 15:40	
	<i>Place:</i>	Grand Ballroom H	
	<i>Chair(s):</i>	Fernando Corinto, <i>Politecnico di Torino</i>	
14:10	C3L-D.1	A Phase Model Approach for Synchronization Analysis of Coupled Nonlinear Oscillators	3385
		Michele Bonnin, <i>Politecnico di Torino</i> ; Fernando Corinto, <i>Politecnico di Torino</i> ; Marco Gilli, <i>Politecnico di Torino</i>	
14:28	C3L-D.2	On the Synchronization Condition of Second-Harmonic Coupled QVCOs	3389
		Antonio Buonomo, <i>Seconda Università degli Studi di Napoli</i> ; Michael Peter Kennedy, <i>University College Cork</i> ; Alessandro Lo Schiavo, <i>Seconda Università degli Studi di Napoli</i>	

14:46	C3L-D.3	Magnetic (RL-) Multivibrator using Transconductance Amplifier	3393
		I.M. Filanovsky, <i>University of Alberta</i> ; C.J.M. Verhoeven, <i>Technical University of Delft</i>	
15:04	C3L-D.4	Spur Reduction in Wideband PLLs by Random Positioning of Charge Pump Current Pulses	3397
		Chembiyan Thambidurai, <i>Indian Institute of Technology Madras</i> ; Nagendra Krishnapura, <i>Indian Institute of Technology Madras</i>	
15:22	C3L-D.5	A Background K_{DCO} Compensation Technique for Constant Bandwidth in All-Digital Phase-Locked Loop	3401
		Sung-Pah Lee, <i>KAIST</i> ; SeongHwan Cho, <i>KAIST</i>	
	C3L-E	Reliability Design for Nano-Electronics & Circuits (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 14:10 - 15:40	
	<i>Place:</i>	Salon A	
	<i>Chair(s):</i>	Pamela Abshire, <i>University of Maryland</i> Ming-Dou Ker, <i>National Chiao Tung University</i>	
14:10	C3L-E.1	SOS Current Mirror Matching at 4K: A Brief Study	3405
		Kushal Das, <i>The University of New South Wales</i> ; Torsten Lehmann, <i>The University of New South Wales</i>	
14:28	C3L-E.2	Mismatch Compensation of a Subthreshold CMOS Current Normalizer	3409
		David Sander, <i>University of Maryland College Park</i> ; Timir Datta, <i>University of Maryland College Park</i> ; Pamela Abshire, <i>University of Maryland College Park</i>	
14:46	C3L-E.3	Double-Via Insertion Enhanced X-Architecture Clock Routing for Reliability	3413
		Chia-Chun Tsai, <i>Nanhua University</i> ; Chung-Chieh Kuo, <i>National Taipei University of Technology</i> ; Lin-Jeng Gu, <i>National Taipei University of Technology</i> ; Trong-Yen Lee, <i>National Taipei University of Technology</i>	
15:04	C3L-E.4	2×VDD-Tolerant Power-Rail ESD Clamp Circuit with Low Standby Leakage in 65-nm CMOS Process	3417
		Chun-Yu Lin, <i>National Chiao-Tung University</i> ; Ming-Dou Ker, <i>National Chiao-Tung University</i>	
15:22	C3L-E.5	A 125-MHz Wide-Range Mixed-Voltage I/O Buffer using Gated Floating N-Well Circuit	3421
		Chua-Chin Wang, <i>National Sun Yat-Sen University</i> ; Szu-Chia Liao, <i>National Sun Yat-Sen University</i> ; Yi-Cheng Liu, <i>National Sun Yat-Sen University</i>	
	C3L-F	Multimedia Analysis (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 14:10 - 15:40	
	<i>Place:</i>	Salon B	
	<i>Chair(s):</i>	Homer Chen, <i>National Taiwan University</i> Chia-Wen Lin, <i>National Tsing-Hua University</i>	
14:10	C3L-F.1	Is Physics-Based Liveness Detection Truly Possible with a Single Image?	3425
		Jiamin Bai, <i>University of California, Berkeley</i> ; Tian-Tsong Ng, <i>Institute for Infocomm Research</i> ; Xinting Gao, <i>Institute for Infocomm Research</i> ; Yun-Qing Shi, <i>New Jersey Institute of Technology</i>	

14:28	C3L-F.2	Unsupervised Classification of Digital Images using Enhanced Sensor Pattern Noise	3429
		Chang-Tsun Li, <i>University of Warwick</i>	
14:46	C3L-F.3	Occluded Human Body Segmentation and its Application to Behavior Analysis	3433
		Jun-Wei Hsieh, <i>National Taiwan Ocean University</i> ; Sin-Yu Chen, <i>Yuan Ze University</i> ; Chi-Hung Chuang, <i>Fo Guang University</i> ; Miao-Fen Chueh, <i>Institute of Information Industry</i> ; Shiaw-Shian Yu, <i>Industrial Technology Research Institute</i>	
15:04	C3L-F.4	Unsupervised Action Classification using Space-Time Link Analysis	3437
		Haowei Liu, <i>University of Washington</i> ; Rogerio Feris, <i>IBM</i> ; Volker Kruger, <i>Aalborg University</i> ; Ming-Ting Sun, <i>University of Washington</i>	
15:22	C3L-F.5	Accurate Playfield Detection using Area-of-Coverage	3441
		Viet Anh Ngo, <i>Nanyang Technological University</i> ; Wenxian Yang, <i>Nanyang Technological University</i> ; Jianfei Cai, <i>Nanyang Technological University</i>	
	C3L-G	Power Systems Tools & Analysis (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 14:10 - 15:40	
	<i>Place:</i>	Salon C	
	<i>Chair(s):</i>	Ali Abur, <i>Northeastern University</i> Juri Jatskevich, <i>University of British Columbia</i>	
14:10	C3L-G.1	Impact of Network Sparsity on Strategic Placement of Phasor Measurement Units with Fixed Channel Capacity	3445
		Mert Korkali, <i>Northeastern University</i> ; Ali Abur, <i>Northeastern University</i>	
14:28	C3L-G.2	Joint Optimal Placement of PMU and Conventional Measurements in Power Systems	3449
		Rajesh Kavasseri, <i>North Dakota State University</i> ; Sudarshan K. Srinivasan, <i>North Dakota State University</i>	
14:46	C3L-G.3	Boundary Properties of the BCU Method for Power System Transient Stability Assessment	3453
		Chia-Chi Chu, <i>National Tsing Hua University</i> ; Hsiao-Dong Chiang, <i>Cornell University</i>	
15:04	C3L-G.4	A Multi-Objective Meta-Heuristic Method for Distribution Network Optimization	3457
		Hiroyuki Mori, <i>Meiji University</i> ; Kojiro Shimomugi, <i>Tokyo Electric Power Company</i>	
15:22	C3L-G.5	Multi-Agent Design for Power Distribution System Reconfiguration based on the Artificial Immune System Algorithm	3461
		Rabie Belkacemi, <i>West Virginia University</i> ; Ali Feliachi, <i>West Virginia University</i>	

C3L-H Wearable & Implantable/Injectable Medical Devices (Lecture)

Time: Wednesday, June 2, 2010, 14:10 - 15:40

Place: Salon D

Chair(s): Timothy Constandinou, *Imperial College London*
Guoxing Wang, *Shanghai Jiaotong University*

14:10

C3L-H.1 Comparison of Methods for Interference Neutralisation in Tripolar Nerve Recording Cuffs 3465

Dominik Cirmirakis, *University College London*; Andreas Demosthenous, *University College London*;
Nick Donaldson, *University College London*

14:28

C3L-H.2 Performance Comparison of Low Current Measurement Systems for Biomedical Applications 3469

Dongsoo Kim, *Yale University*; Wei Tang, *Yale University*; Brian Goldstein, *Yale University*;
Pujitha Weerakoon, *Yale University*; Hazael Montanaro, *Yale University*; Berin Martini, *Yale University*;
Eugenio Culurciello, *Yale University*

14:46

C3L-H.3 Design of a Configurable Neural Data Compression System for Intra-Cortical Implants 3473

Awais M. Kamboh, *Michigan State University*; Yuning Yang, *Michigan State University*;
Karim G. Oweiss, *Michigan State University*; Andrew J. Mason, *Michigan State University*

15:04

C3L-H.4 Low-Power Low-Complexity Carrier-Based UWB Transmitter in 90nm CMOS for Wireless Biomedical Radar Sensing Applications 3477

Xubo Wang, *University of Saskatchewan*; Anh Dinh, *University of Saskatchewan*;
Daniel Teng, *University of Saskatchewan*

15:22

C3L-H.5 Stimulation Management for a Multichannel Vestibular Neural Prosthesis 3481

Dai Jiang, *University College London*; Andreas Demosthenous, *University College London*;
Timothy Perkins, *University College London*; Nick Donaldson, *University College London*

C3L-J Memory Circuits (Lecture)

Time: Wednesday, June 2, 2010, 14:10 - 15:40

Place: Salon J

Chair(s): Gaetano Palumbo, *University of Catania*
Dimitrios Soudris, *National Technical University of Athens*

14:10

C3L-J.1 A 16Kb 10T-SRAM with 4x Read-Power Reduction 3485

Kong Zhi Hui, *Nanyang Technological University*; Do Ahn Tuan, *Nanyang Technological University*

14:28

C3L-J.2 Implementation of Adaptive Grain Signatures for Transactional Memories 3489

Woojin Choi, *University of Southern California / Information Sciences Institute*; Young Hoon Kang, *University of Southern California / Information Sciences Institute*; Taek-Jun Kwon, *University of Southern California / Information Sciences Institute*; Jeff Draper, *University of Southern California / Information Sciences Institute*

14:46

C3L-J.3 Fast Low Power Translation Lookaside Buffers using Hierarchical NAND Match Lines 3493

Lawrence T. Clark, *Arizona State University*; Vikas Chaudhary, *Intel Corporation*

15:04

C3L-J.4 Scalability of Weak Consistency in NoC based Multicore Architectures 3497

Abdul Naeem, *Royal Institute of Technology*; Xiaowen Chen, *Royal Institute of Technology*;
Zhonghai Lu, *Royal Institute of Technology*; Axel Jantsch, *Royal Institute of Technology*

- 15:22
C3L-J.5 **Sense Amplifier with Offset Mismatch Calibration for Sub 1-V DRAM Core Operation** 3501
 Jinyeong Moon, *Hynix Semiconductor Inc*; Byongtae Chung, *Hynix Semiconductor Inc*
- C3L-K** **Statistical & Nonlinear Signal Processing** (Lecture)
Time: Wednesday, June 2, 2010, 14:10 - 15:40
Place: Salon K
Chair(s): Xiping Huang, *Communications Research Centre Canada*
 Wei Xing Zheng, *University of Western Sydney*
- 14:10
C3L-K.1 **On Design of Robust H_{∞} Filters for Uncertain Markovian Stochastic Systems** 3505
 Xiuming Yao, *Harbin Institute of Technology*; Ligang Wu, *Harbin Institute of Technology*;
 Wei Xing Zheng, *University of Western Sydney*
- 14:28
C3L-K.2 **Unsupervised Identification of Nonstationary Dynamical Systems using a Gaussian Mixture Model based on EM Clustering of SOMs** 3509
 Giorgio Biagetti, *Università Politecnica delle Marche*; Paolo Crippa, *Università Politecnica delle Marche*;
 Alessandro Curzi, *Università Politecnica delle Marche*; Claudio Turchetti, *Università Politecnica delle Marche*
- 14:46
C3L-K.3 **Compressive Sensing of Localized Signals: Application to Analog-to-Information Conversion** 3513
 Juri Ranieri, *Università di Bologna*; Riccardo Rovatti, *Università di Bologna*; Gianluca Setti, *Università di Ferrara*
- 15:04
C3L-K.4 **Low Rank Approximation of a Set of Matrices** 3517
 Mohammed A. Hasan, *University of Minnesota Duluth*
- 15:22
C3L-K.5 **Robust Signal Recovery Approach for Compressive Sensing using Unconstrained Optimization** .. 3521
 Fl'ávio C.A. Teixeira, *University of Victoria*; Stuart W.A. Bergen, *University of Victoria*;
 Andreas Antoniou, *University of Victoria*
- C3L-L** **MIMO Communications Systems** (Lecture)
Time: Wednesday, June 2, 2010, 14:10 - 15:40
Place: Salon L
Chair(s): Wee Ser, *Nanyang Technological University*
 Zhiyuan Yan, *Lehigh University*
- 14:10
C3L-L.1 **ZF-DFE Transceiver for Time-Varying MIMO Channels with Channel-Independent Temporal Precoder** 3525
 Chih-Hao Liu, *California Institute of Technology*; P.P. Vaidyanathan, *California Institute of Technology*
- 14:28
C3L-L.2 **VLSI Implementation of a Quasi-ML, Energy Efficient Fixed Complexity Sphere Decoder for MIMO Communication System** 3529
 Kelvin Lee, *University of California, Los Angeles*; Babak Daneshrad, *University of California, Los Angeles*
- 14:46
C3L-L.3 **A Best-First Tree-Searching Approach for ML Decoding in MIMO System** 3533
 Chung-An Shen, *University of California, Irvine*; Ahmed M. Eltawil, *University of California, Irvine*;
 Sudip Mondal, *Cypress Semiconductors Corporation*; Khaled N. Salama, *King Abdullah University of Science and Technology*

15:04	C3L-L.4	List based Soft-Decision MIMO Detection by the MCTS Algorithm	3537
		<i>Xuebin Wu, Lehigh University; Yongmei Dai, Lehigh University; Zhiyuan Yan, Lehigh University</i>	
15:22	C3L-L.5	VLSI Implementation of a Hardware-Optimized Lattice Reduction Algorithm for WiMAX/LTE MIMO Detection	3541
		<i>Ameer Youssef, University of Toronto; Mahdi Shabany, University of Toronto; P. Glenn Gulak, University of Toronto</i>	
	C3L-M	Mixed-Signal Test II (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 14:10 - 15:40	
	<i>Place:</i>	Salon M	
	<i>Chair(s):</i>	P.R. Mukund, Rochester Institute of Technology	
14:10	C3L-M.1	Novel Programmable Built-In Current-Sensor for Analog, Digital and Mixed-Signal Circuits	3545
		<i>Osman Kubilay Ekekon, University of Massachusetts Lowell; Samed Maltabas, University of Massachusetts Lowell; Martin Margala, University of Massachusetts Lowell</i>	
14:28	C3L-M.2	Two-Tone PLL for On-Chip IP3 Test	3549
		<i>Shakeel Ahmad, Linköping University; Kaveh Azizi, Linköping University; Iman Esmacil Zadeh, Linköping University; Jerzy Dąbrowski, Linköping University</i>	
14:46	C3L-M.3	Scan based Process Parameter Estimation Through Path-Delay Inequalities	3553
		<i>Takumi Uezono, Tokyo Institute of Technology; Tomoyuki Takahashi, Tokyo Institute of Technology; Michihiro Shintani, Semiconductor Technology Academic Research Center; Kazumi Hatayama, Semiconductor Technology Academic Research Center; Kazuya Masu, Tokyo Institute of Technology; Hiroyuki Ochi, Kyoto University; Takashi Sato, Kyoto University</i>	
15:04	C3L-M.4	An On-Chip Waveform Capturing Technique Pursuing Minimum Cost of Integration	3557
		<i>Yuuki Araga, Kobe University; Takushi Hashida, Kobe University; Makoto Nagata, Kobe University</i>	
15:22	C3L-M.5	A Cyclic Vernier Time-to-Digital Converter Synthesized from a 65nm CMOS Standard Library	3561
		<i>Youngmin Park, University of Michigan; David D. Wentzloff, University of Michigan</i>	
	C3L-N	SPECIAL SESSION: Circuits, Systems & Algorithms for Next Generation GNSS (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 14:10 - 15:40	
	<i>Place:</i>	Radio City Ballroom I	
	<i>Chair(s):</i>	Andrew Dempster, University of New South Wales Izzet Kale, University of Westminster	
14:10	C3L-N.1	On the Baseband Hardware Complexity of Modernized GNSS Receivers	3565
		<i>Nagaraj C Shivaramaiah, University of New South Wales; Andrew G Dempster, University of New South Wales</i>	
14:28	C3L-N.2	RFID-Based Positioning for Building Management Systems	3569
		<i>Artur Krukowski, Intracom S.A. Telecom Solutions; Dusan Arsenijevic, UNIBRAIN S.A.</i>	

14:46	C3L-N.3	A Slope-Based Multipath Estimation Technique for Mitigating Short-Delay Multipath in GNSS Receivers	3573
		Mohammad Zahidul H Bhuiyan, <i>Tampere University of Technology</i> ; Elena Simona Lohan, <i>Tampere University of Technology</i> ; Markku Renfors, <i>Tampere University of Technology</i>	
15:04	C3L-N.4	Design for Test of a Low Power Multi-Standard GPS/GALILEO RF Front-End	3577
		J. Mendizabal, <i>CEIT and Tecnun University of Navarra</i> ; U. Alvarado, <i>CEIT and Tecnun University of Navarra</i> ; I. Adin, <i>CEIT and Tecnun University of Navarra</i> ; G. Bistue, <i>CEIT and Tecnun University of Navarra</i> ; J. Melendez, <i>CEIT and Tecnun University of Navarra</i> ; R. Berenguer, <i>CEIT and Tecnun University of Navarra</i>	
	C3L-P	SPECIAL SESSION: Ultralow-Power Sensor Interface for Biomedical Applications (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 14:10 - 15:40	
	<i>Place:</i>	Radio City Ballroom II	
	<i>Chair(s):</i>	Christian Enz, <i>Centre Suisse d'Electronique et Microtechnique SA</i> Gilles Sicard, <i>Joseph Fourier University</i>	
14:10	C3L-P.1	Event-Driven, Continuous-Time ADCs and DSPs for Adapting Power Dissipation to Signal Activity	3581
		Yannis Tsividis, <i>Columbia University</i>	
14:28	C3L-P.2	Targeting Ultra-Low Power Consumption with Non-Uniform Sampling and Filtering	3585
		Laurent Fesquet, <i>TIMA CNRS-Grenoble INP-UJF</i> ; Gilles Sicard, <i>TIMA CNRS-Grenoble INP-UJF</i> ; Brigitte Bidégaray-Fesquet, <i>CNRS- UJF-Grenoble INP</i>	
14:46	C3L-P.3	Adaptive Signal Acquisition and Wireless Power Transfer for an Implantable Prosthesis Processor	3589
		Stephen O'Driscoll, <i>University of California, Davis</i> ; Teresa H. Meng, <i>Stanford University</i>	
15:04	C3L-P.4	Analysis of Ultralow-Power Asynchronous ADCs	3593
		Viswanathan Balasubramanian, <i>Ecole Polytechnique Federale de Lausanne</i> ; Aravind Heragu, <i>Ecole Polytechnique Federale de Lausanne</i> ; Christian Enz, <i>Swiss Center for Electronics and Microtechnology</i>	
	C4L-A	SPECIAL SESSION: On-Chip Optical Interconnect for Manycore Computing Architectures (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 16:00 - 17:30	
	<i>Place:</i>	Grand Ballroom E	
	<i>Chair(s):</i>	Ian O'Connor, <i>Centrale Lyon</i> Dries Van Thourhout, <i>Universiteit Gent</i>	
16:00	C4L-A.1	Rationale for Optical Interconnect	3597
		Alberto Scandurra, <i>STMicroelectronics</i>	
16:18	C4L-A.2	State of the Art in Optical Interconnect Technology	3601
		Dries Van Thourhout, <i>Ghent University / IMEC</i>	

16:36	C4L-A.3	Tools and Methodologies for Designing Energy-Efficient Photonic Networks-on-Chip for High-Performance Chip Multiprocessors	3605
		Johnnie Chan, <i>Columbia University</i> ; Gilbert Hendry, <i>Columbia University</i> ; Aleksandr Biberman, <i>Columbia University</i> ; Keren Bergman, <i>Columbia University</i>	
16:54	C4L-A.4	Optical Network-on-Chip Reconfigurable Model for Multi-Level Analysis	3609
		Atef Allam, <i>University of Lyon</i> ; Ian O'Connor, <i>University of Lyon</i> ; Alberto Scandurra, <i>STMicroelectronics</i>	
17:12	C4L-A.5	A System-Level Exploration Flow for Optical Network on Chip (ONoC) in 3D MPSoC	3613
		Sébastien Le Beux, <i>École Polytechnique de Montréal</i> ; Gabriela Nicolescu, <i>École Polytechnique de Montréal</i> ; Guy Bois, <i>École Polytechnique de Montréal</i> ; Pierre Paulin, <i>ST Microelectronics</i>	
	C4L-B	Gm-C & Active-RC Filters (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 16:00 - 17:30	
	<i>Place:</i>	Grand Ballroom F	
	<i>Chair(s):</i>	Robert Sobot, <i>University of Western Ontario</i>	
16:00	C4L-B.1	Switched-Resistor Tuning Technique for Highly Linear gm-C Filter Design	3617
		Tao Wang, <i>Oregon State University</i> ; Gabor C. Temes, <i>Oregon State University</i>	
16:18	C4L-B.2	Analysis of the Common-Mode Induced Differential-Mode Distortion in Gm-C Filters	3621
		Terdpun Choogorn, <i>Mahanakorn University of Technology</i> ; Jirayuth Mahattanakul, <i>Mahanakorn University of Technology</i> ; Apisak Worapishet, <i>Mahanakorn University of Technology</i>	
16:36	C4L-B.3	Bandwidth-Enhancement gm-C Filter with Independent ω_0 and Q Tuning Mechanisms in Both Topology and Control Loops	3625
		Herminio Martínez, <i>Technical Univ. of Catalonia</i> ; Eva Vidal, <i>Technical Univ. of Catalonia</i> ; Andrea Cantó, <i>Technical Univ. of Catalonia</i> ; Alberto Poveda, <i>Technical Univ. of Catalonia</i> ; Francesc Guinjoan, <i>Technical Univ. of Catalonia</i>	
16:54	C4L-B.4	Source-Follower-Based Bi-Quad Cell for Continuous-Time Zero-Pole Type Filters	3629
		Yong Chen, <i>Institute of Microelectronics of Chinese Academy of Sciences</i> ; Pui-In Mak, <i>University of Macau</i> ; Yumei Zhou, <i>Institute of Microelectronics of Chinese Academy of Sciences</i>	
17:12	C4L-B.5	A Compensation Technique for Compact Low-Voltage Low-Power Active-RC Filters	3633
		Chairat Upathamkuekool, <i>Mahanakorn University of Technology</i> ; Amorn Jiraseree-Amornkun, <i>Mahanakorn University of Technology</i> ; Jirayuth Mahattanakul, <i>Mahanakorn University of Technology</i>	
	C4L-C	Digital Image & Video Processing II (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 16:00 - 17:30	
	<i>Place:</i>	Grand Ballroom G	
	<i>Chair(s):</i>	Moncef Gabbouj, <i>Tampere University of Technology</i> Kai-Kuang Ma, <i>Nanyang Technological University</i>	
16:00	C4L-C.1	An Adaptive Speed Function of Level Set Method for Moving Object Extraction	3637
		Kousuke Imamura, <i>Kanazawa University</i> ; Hideo Hashimoto, <i>Kanazawa University</i>	

16:18	C4L-C.2	Subpixel-Based Down-Sampling via Min-Max Directional Error	3641
		Lu Fang, <i>Hong Kong University of Science and Technology</i> ; Oscar C. Au, <i>Hong Kong University of Science and Technology</i>	
16:36	C4L-C.3	Improved Mode Selection in Hybrid Error Concealment for Multi-Broadcast-Reception	3645
		Tobias Tröger, <i>University of Erlangen-Nuremberg</i> ; Henning Heiber, <i>Development Infotainment</i> ; Andreas Schmitt, <i>Development Infotainment</i> ; André Kaup, <i>University of Erlangen-Nuremberg</i>	
16:54	C4L-C.4	A New Motion Vector Composition Algorithm for Fast-Forward Video Playback in H.264	3649
		Tsz-Kwan Lee, <i>The Hong Kong Polytechnic University</i> ; Chang-Hong Fu, <i>The Hong Kong Polytechnic University</i> ; Yui-Lam Chan, <i>The Hong Kong Polytechnic University</i> ; Wan-Chi Siu, <i>The Hong Kong Polytechnic University</i>	
17:12	C4L-C.5	Optimized Inpainting-Based Macroblock Prediction in Video Compression	3653
		Yang Xu, <i>Shanghai Jiao Tong University</i> ; Hongkai Xiong, <i>Shanghai Jiao Tong University</i>	
	C4L-D	Yield & Reliability (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 16:00 - 17:30	
	<i>Place:</i>	Grand Ballroom H	
	<i>Chair(s):</i>	Kewal K. Saluja, <i>University of Wisconsin at Madison</i>	
16:00	C4L-D.1	AMS and RF Design for Reliability Methodology	3657
		Pietro M. Ferreira, <i>TELECOM ParisTech</i> ; Hervé Petit, <i>TELECOM ParisTech</i> ; Jean-François Naviner, <i>TELECOM ParisTech</i>	
16:18	C4L-D.2	Fast Algorithms for Power Grid Analysis based on Effective Resistance	3661
		Selçuk Köse, <i>University of Rochester</i> ; Eby G. Friedman, <i>University of Rochester</i>	
16:36	C4L-D.3	Scaling Analysis of Yield Optimization Considering Supply and Threshold Voltage Variations	3665
		Kian Haghdad, <i>University of Waterloo</i> ; Mohab Anis, <i>University of Waterloo</i>	
16:54	C4L-D.4	Signal Integrity Verification of Coupled Interconnect Lines using Efficient Eye-Diagram Determination	3669
		Dongchul Kim, <i>Hanyang University</i> ; Hyewon Kim, <i>Hanyang University</i> ; Yungseon Eo, <i>Hanyang University</i>	
17:12	C4L-D.5	Monte-Carlo-Based Statistical Soft Error Rate (SSER) Analysis for the Deep Sub-Micron Era	3673
		Yu-Shin Kuo, <i>National Chiao Tung University</i> ; Huan-Kai Peng, <i>National Chiao Tung University</i> ; Charles H.-P. Wen, <i>National Chiao Tung University</i>	

C4L-F Multimedia Understanding & Retrieval (Lecture)*Time:* Wednesday, June 2, 2010, 16:00 - 17:30*Place:* Salon B*Chair(s):* Moncef Gabbouj, *Tampere University of Technology*
Ling Guan, *Ryerson University*

16:00

C4L-F.1 Efficient Discovery of Unknown Ads for Audio Podcast Content 3677M.N. Nguyen, *Nanyang Technological University*; Qi Tian, *Institute for Infocomm Research*;
Ping Xue, *Nanyang Technological University*

16:18

C4L-F.2 Extraction of Robust Visual Phrases using Graph Mining for Image Retrieval 3681Jun-Bin Yeh, *National Cheng Kung University*; Chung-Hsien Wu, *National Cheng Kung University*

16:36

C4L-F.3 High-Level Knowledge Inference for Human Image Classification in Multimedia Retrieval 3685Saad M. Khan, *Sarnoff Corporation*; Qian Yu, *Sarnoff Corporation*; Hui Cheng, *Sarnoff Corporation*

16:54

C4L-F.4 Audio Onset Detection using Energy-Based and Pitch-Based Processing 3689Hui Li Tan, *Institute for Infocomm Research / A*STAR*; Yongwei Zhu, *Institute for Infocomm Research / A*STAR*; Lekha Chaisorn, *Institute for Infocomm Research / A*STAR*; Susanto Rahardja, *Institute for Infocomm Research / A*STAR*

17:12

C4L-F.5 Video Activity Detection using Compressed Domain Motion Trajectories for H.264 Videos 3693Haowei Liu, *University of Washington*; Ming-Ting Sun, *University of Washington*; Ruei-Cheng Wu, *Industrial Technology Research Institute*; Shiau-Shian Yu, *Industrial Technology Research Institute***C4L-G AC & DC Converter Circuits (Lecture)***Time:* Wednesday, June 2, 2010, 16:00 - 17:30*Place:* Salon C*Chair(s):* Adrian Ioinovici, *Holon Institute of Technology*
Tsorng-Juu Peter Liang, *National Cheng Kung University*

16:00

C4L-G.1 Analysis and Implementation of a DC-DC Step-Down Converter for Low Output-Voltage and High Output-Current Applications 3697Chih-Hsien Hsieh, *National Cheng Kung University*; Tsorng-Juu Liang, *National Cheng Kung University*;
Lung-Sheng Yang, *National Cheng Kung University*; Ray-Lee Lin, *National Cheng Kung University*;
Kai-Hui Chen, *National Cheng Kung University*

16:18

C4L-G.2 Three-Phase Single-Stage AC-DC Converters 3701Dunisha Wijeratne, *University of Western Ontario*; Gerry Moschopoulos, *University of Western Ontario*

16:36

C4L-G.3 Two-Switch Flyback-Forward PWM DC-DC Converter with Reduced Switch Voltage Stress 3705Dakshina Murthy-Bellur, *Wright State University*; Marian K. Kazimierczuk, *Wright State University*

16:54

C4L-G.4 Dual Modulation Technique for High Efficiency in High Switching Buck Converters Over a Wide Load Range 3709Jen-Chieh Tsai, *National Chiao Tung University*; Tsung-Ying Huang, *National Chiao Tung University*;
Wang-Wei Lai, *National Chiao Tung University*; Ke-Horng Chen, *National Chiao Tung University*

17:12	C4L-G.5	Design and Implementation of High Frequency AC-LED Driver with Digital Dimming	3713
		Chao-Lung Kuo, <i>National Cheng Kung University</i> ; Tsorng-Juu Liang, <i>National Cheng Kung University</i> ; Kai-Hui Chen, <i>National Cheng Kung University</i> ; Jiann-Fuh Chen, <i>National Cheng Kung University</i>	
	C4L-H	VLSI Design Techniques & Algorithms II (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon D	
	<i>Chair(s):</i>	Wael Badawy, <i>IntelliView Technologies Inc.</i> Mohammed Y. Niamat, <i>University of Toledo</i>	
16:00	C4L-H.1	DSTN Sleep Transistor Sizing with a New Approach to Estimate the Maximum Instantaneous Current	3717
		Yu Sun, <i>Harbin Institute of Technology</i> ; Li-Yi Xiao, <i>Harbin Institute of Technology</i> ; Cong Shi, <i>Harbin Institute of Technology</i>	
16:18	C4L-H.2	Power Characteristics of Networks on Chip	3721
		Mohamed A. Abd El ghany, <i>German University in Cairo</i> ; Magdy A. El-Moursy, <i>Mentor Graphics Corporation</i> ; Darek Korzec, <i>German University in Cairo</i> ; Mohammed Ismail, <i>The Ohio State University</i>	
16:36	C4L-H.3	Multi-Objective Optimization for Networks-on-Chip Architectures using Genetic Algorithms	3725
		Ahmed A. Morgan, <i>University of Victoria</i> ; Haytham Elmiligi, <i>University of Victoria</i> ; M. Watheq El-Kharashi, <i>Mentor Graphics Egypt</i> ; Fayez Gebali, <i>University of Victoria</i>	
16:54	C4L-H.4	Efficient Partitioning Technique on Multiple Cores based on Optimal Scheduling and Mapping Algorithm	3729
		Hassan Youness, <i>Minia University</i> ; Abdel-Moniem Wahdan, <i>Ain Shams University</i> ; Mohammed Hassan, <i>Mentor Graphics Egypt</i> ; Ashraf Salem, <i>Mentor Graphics Egypt</i> ; Mohammed Moness, <i>Minia University</i> ; Keishi Sakanushi, <i>Osaka University</i> ; Yoshinori Takeuchi, <i>Osaka University</i> ; Masaharu Imai, <i>Osaka University</i>	
17:12	C4L-H.5	Distinguishable Error Detection Method for Network on Chip	3733
		Chung-Huang Jiang, <i>National Taiwan University</i> ; Kun-Lin Tsai, <i>Tunghai Univeristy</i> ; Feipei Lai, <i>National Taiwan University</i> ; Shun-Hung Tsai, <i>National Taipei University of Technology</i>	
	C4L-J	VLSI Design Techniques & Algorithms I (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon J	
	<i>Chair(s):</i>	Zhongfeng Wang, <i>Broadcom Corp.</i> Lars Wanhammar, <i>Linköping University</i>	
16:00	C4L-J.1	Efficient Memory Management for FFT Processors	3737
		Hsin-Fu Luo, <i>National Cheng Kung University</i> ; Ming-Der Shieh, <i>National Cheng Kung University</i> ; Yi-Jun Liu, <i>National Applied Research Laboratories</i> ; Chien-Ming Wu, <i>National Applied Research Laboratories</i>	
16:18	C4L-J.2	Parallel Scalable Hardware Architecture for Hard Raptor Decoder	3741
		T. Mladenov, <i>Gwangju Institute of Science and Technology</i> ; S. Nooshabadi, <i>Gwangju Institute of Science and Technology</i> ; K. Kim, <i>Gwangju Institute of Science and Technology</i> ; A. Dassatti, <i>Politecnico di Torino</i>	

16:36	C4L-J.3	VLSI Implementation of a Low-Complexity LLL Lattice Reduction Algorithm for MIMO Detection	3745
		L. Bruderer, <i>ETH Zurich</i> ; C. Studer, <i>ETH Zurich</i> ; M. Wenk, <i>ETH Zurich</i> ; D. Seethaler, <i>ETH Zurich</i> ; A. Burg, <i>ETH Zurich</i>	
16:54	C4L-J.4	Impact of Module Design on the Signal-Isolation of Mixed-Signal RF Applications	3749
		Radu M. Secareanu, <i>Freescale Semiconductor Inc.</i> ; Jian Yang, <i>Freescale Semiconductor Inc.</i> ; Qiang Li, <i>Freescale Semiconductor Inc.</i> ; Luis Briones, <i>Freescale Semiconductor Inc.</i> ; Salem Eid, <i>Freescale Semiconductor Inc.</i> ; Vigier Jean-Stephane, <i>Freescale Semiconductor Inc.</i> ; Olin Hartin, <i>Freescale Semiconductor Inc.</i>	
17:12	C4L-J.5	Low-Cost Class Caching Mechanism for Java SoC	3753
		Chien-Feng Hwang, <i>National Chiao Tung University</i> ; Kuan-Nian Su, <i>National Chiao Tung University</i> ; Chun-Jen Tsai, <i>National Chiao Tung University</i>	
	C4L-L	Wireless Communications Circuits III (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon L	
	<i>Chair(s):</i>	James Haslett, <i>University of Calgary</i>	
16:00	C4L-L.1	Continuous-Time CMOS Quantizer for Ultra-Wideband Applications	3757
		Tuan Anh Vu, <i>University of Oslo</i> ; Shanthi Sudalaiyandi, <i>University of Oslo</i> ; Malihe Zarre Dooghabadi, <i>University of Oslo</i> ; Håkon A. Hjortland, <i>University of Oslo</i> ; Øivind Næss, <i>University of Oslo</i> ; Tor Sverre Lande, <i>University of Oslo</i> ; Svein Erik Hamran, <i>University of Oslo</i>	
16:18	C4L-L.2	Performance Improvement of Autocorrelation Detector Used in UWB Impulse Radio	3761
		Tamás Krébesz, <i>Budapest University of Technology and Economics</i> ; Géza Kolumbán, <i>Pázmány Péter Catholic University</i> ; Chi K. Tse, <i>The Hong Kong Polytechnic University</i> ; Francis C. M. Lau, <i>The Hong Kong Polytechnic University</i>	
16:36	C4L-L.3	A Sign-Bit Auto-Correlation Architecture for Fractional Frequency Offset Estimation in OFDM	3765
		Isael Diaz, <i>Lund University</i> ; Leif Wilhelmsson, <i>Ericsson Research</i> ; Joachim Rodrigues, <i>Lund University</i> ; Johan Löfgren, <i>Lund University</i> ; Thomas Olsson, <i>Ericsson Research</i> ; Viktor Öwall, <i>Lund University</i>	
16:54	C4L-L.4	Rapid Design and Prototyping of Universal Soft Demapper	3769
		Atif Raza Jafri, <i>Telecom Bretagne</i> ; Amer Baghdadi, <i>Telecom Bretagne</i> ; Michel Jézéquel, <i>Telecom Bretagne</i>	
	C4L-M	SPECIAL SESSION: Recent Advances in Complex Networks: Theories & Application (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 16:00 - 17:30	
	<i>Place:</i>	Salon M	
	<i>Chair(s):</i>	Guanrong Chen, <i>City University of Hong Kong</i> Mario di Bernardo, <i>University of Bristol</i>	
16:00	C4L-M.1	On Some Recent Advances in Synchronization and Control of Complex Networks	3773
		Jinhu Lü, <i>Chinese Academy of Sciences</i> ; Guanrong Chen, <i>City University of Hong Kong</i> ; Mario di Bernardo, <i>University of Bristol</i>	

16:18	C4L-M.2	Community Detection Enhancement in Networks using Proper Weighting and Partial Synchronization	3777
		<i>Alireza Khadivi, Ecole Polytechnique Fédérale de Lausanne; Ali Ajdari Rad, Ecole Polytechnique Fédérale de Lausanne; Martin Hasler, Ecole Polytechnique Fédérale de Lausanne</i>	
16:36	C4L-M.3	Constructing High-Rate Scale-Free LDPC Codes	3781
		<i>X. Zheng, Hong Kong Polytechnic University; F.C.M. Lau, Hong Kong Polytechnic University; C.K. Tse, Hong Kong Polytechnic University</i>	
16:54	C4L-M.4	On Control of Networks of Dynamical Systems	3785
		<i>Chai Wah Wu, IBM T. J. Watson Research Center</i>	
	C4L-N	SPECIAL SESSION: Designing Hardware Accelerators for Biocomputing (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 16:00 - 17:30	
	<i>Place:</i>	Radio City Ballroom I	
	<i>Chair(s):</i>	Ananth Kalyanaraman, <i>Washington State University</i> Partha Pratim Pande, <i>Washington State University</i>	
16:00	C4L-N.1	Hardware Accelerators for Biocomputing: A Survey	3789
		<i>Souradip Sarkar, Washington State University; Turbo Majumder, Washington State University; Ananth Kalyanaraman, Washington State University; Partha Pratim Pande, Washington State University</i>	
16:18	C4L-N.2	Evaluating Cell/B.E Software Cache for ClustalW	3793
		<i>Vipin Sachdeva, IBM Systems and Technology Group; Michael Kistler, IBM Austin Research Lab; David A. Bader, Georgia Institute of Technology</i>	
16:36	C4L-N.3	CAAD BLASTn: Accelerated NCBI BLASTn with FPGA Prefiltering	3797
		<i>Jin H. Park, Boston University; Yunfei Qiu, Boston University; Martin C. Herbordt, Boston University</i>	
16:54	C4L-N.4	To GPU Synchronize or Not GPU Synchronize?	3801
		<i>Wu-Chun Feng, Virginia Tech; Shucaai Xiao, Virginia Tech</i>	
17:12	C4L-N.5	High Performance Molecular Dynamic Simulation on Single and Multi-GPU Systems	3805
		<i>Oreste Villa, Pacific Northwest National Laboratory; Long Chen, University of Delaware; Sriram Krishnamoorthy, Pacific Northwest National Laboratory</i>	
	C4L-P	SPECIAL SESSION: Advances in Auditory Modeling & Design (Lecture)	
	<i>Time:</i>	Wednesday, June 2, 2010, 16:00 - 17:30	
	<i>Place:</i>	Radio City Ballroom II	
	<i>Chair(s):</i>	Emmanuel Drakakis, <i>Imperial College London</i> Andreas Katsiamis, <i>Toumaz Technology Ltd.</i>	
16:00	C4L-P.1	History and Future of Auditory Filter Models	3809
		<i>Richard F. Lyon, Google, Inc; Andreas G. Katsiamis, Toumaz Technology, Ltd; Emmanuel M. Drakakis, Imperial College London</i>	

16:18

- C4L-P.2 Auditory Speech Processing for Scale-Shift Covariance and its Evaluation in Automatic Speech Recognition** 3813
Roy D. Patterson, *University of Cambridge*; Thomas C. Walters, *University of Cambridge*; Jessica Monaghan, *MRC Institute of Hearing Research*; Christian Feldbauer, *Graz University of Technology*; Toshio Irino, *Wakayama University*

16:36

- C4L-P.3 Investigating the Implications of Outer Hair Cell Connectivity using a Silicon Cochlea** 3817
Tara Julia Hamilton, *University of New South Wales*; Jonathan Tapson, *University of Cape Town*;
Craig Jin, *University of Sydney*; André van Schaik, *University of Sydney*

16:54

- C4L-P.4 Real-Time, High-Resolution Simulation of the Auditory Pathway, with Application to Cell-Phone Noise Reduction** 3821
Lloyd Watts, *Audience, Inc*

17:12

- C4L-P.5 A Cochlear Heterodyning Architecture for an RF Fovea** 3825
Soumyajit Mandal, *Massachusetts Institute of Technology*; Rahul Sarpeshkar, *Massachusetts Institute of Technology*

C5P-Q Low Power Circuits (Poster)

Time: Wednesday, June 2, 2010, 9:30 - 11:00

Place: Times Square 1

Chair(s): Masud Chowdhury, *University of Illinois at Chicago*
Robert Rieger, *National Sun Yat-sen University*

- C5P-Q.1 Energy Model of CMOS Gates using a Piecewise Linear Model** 3829
Cheng C. Liu, *University of Wisconsin-Stout*; Jian Chang, *Texas Instruments*;
Louis G. Johnson, *Oklahoma State University*

- C5P-Q.2 Low-Voltage SOI CMOS DT MOS/MTCMOS Circuit Technique for Design Optimization of Low-Power SOC Applications** 3833
W.C.H. Lin, *National Taiwan University*; J.B. Kuo, *National Taiwan University*

- C5P-Q.3 Energy-Efficient Asynchronous Delay Element with Wide Controllability** 3837
Mariya Kurchuk, *Columbia University*; Yannis Tsvividis, *Columbia University*

- C5P-Q.4 Energy Profile of a Microcontroller for Neural Prosthetic Application** 3841
Spencer Kellis, *University of Utah*; Nathaniel Gaskin, *University of Utah*; Bennion Redd, *University of Utah*;
Jeff Campbell, *University of Utah*; Richard Brown, *University of Utah*

- C5P-Q.5 Smooth Awakenings: Reactivation Noise Suppressed Low-Leakage and Robust MTCMOS Flip-Flops** 3845
Hailong Jiao, *The Hong Kong University of Science and Technology*;
Volkan Kursun, *The Hong Kong University of Science and Technology*

C5P-R Memory & SIMD Circuits (Poster)

Time: Wednesday, June 2, 2010, 9:30 - 11:00

Place: Times Square 2

Chair(s): Mladen Berekovic, *Technische Universität Braunschweig*
Malgorzata Chrzanowska-Jeske, *Portland State University*

- C5P-R.1 Permutation Optimization for SIMD Devices** 3849
Libo Huang, *National University of Defense Technology*; Li Shen, *National University of Defense Technology*;
Zhiying Wang, *National University of Defense Technology*

C5P-R.2	A Scalable Offset-Cancelled Current/Voltage Sense Amplifier	3853
	Hourieh Attarzadeh, <i>Sharif University of Technology</i> ; Mohammad SharifKhani, <i>Sharif University of Technology</i> ; Shah M. Jahinuzzaman, <i>Concordia University</i>	
C5P-R.3	Architecture of a Multi-Slot Main Memory System for 3.2 Gbps Operation	3857
	Jaejun Lee, <i>Seoul National University</i> ; SungHo Lee, <i>Seoul National University</i> ; Joontae Park, <i>Seoul National University</i> ; Sangwook Nam, <i>Seoul National University</i>	
C5P-R.4	A 7.7mW/1.0ns/1.35V Delay Locked Loop with Racing Mode and OA-DCC for DRAM Interface ..	3861
	Hyun-Woo Lee, <i>Hynix Semiconductor Inc</i> ; Yong-Hoon Kim, <i>Hynix Semiconductor Inc</i> ; Won-Joo Yun, <i>Hynix Semiconductor Inc</i> ; Eun Young Park, <i>Hynix Semiconductor Inc</i> ; Kang Youl Lee, <i>Hynix Semiconductor Inc</i> ; Jaeil Kim, <i>Hynix Semiconductor Inc</i> ; Kwang Hyun Kim, <i>Hynix Semiconductor Inc</i> ; Jong Ho Jung, <i>Hynix Semiconductor Inc</i> ; Kyung Whan Kim, <i>Hynix Semiconductor Inc</i> ; Nam Gyu Rye, <i>Hynix Semiconductor Inc</i> ; Kwan-Weon Kim, <i>Hynix Semiconductor Inc</i> ; Jun Hyun Chun, <i>Hynix Semiconductor Inc</i> ; Chulwoo Kim, <i>Korea University</i> ; Young-Jung Choi, <i>Hynix Semiconductor Inc</i> ; Byong-Tae Chung, <i>Hynix Semiconductor Inc</i> ; Joong Sik Kih, <i>Hanyang University</i>	
C5P-R.5	SRAM Portless Bitcell and Current-Mode Reading	3865
	Lahcen Hamouche, <i>STMicroelectronics</i> ; Bruno Allard, <i>Université de Lyon & INSA-Lyon</i>	
C5P-S	Arithmetic Circuits & Systems on Chip (Poster)	
<i>Time:</i>	Wednesday, June 2, 2010, 9:30 - 11:00	
<i>Place:</i>	Times Square 3	
<i>Chair(s):</i>	Oscar Gustafsson, <i>Linköping University</i> Xinmiao Zhang, <i>Case Western Reserve University</i>	
C5P-S.1	Recursive Architectures for 2DLNS Multiplication	3869
	Mahzad Azarmehr, <i>University of Windsor</i> ; Majid Ahmadi, <i>University of Windsor</i> ; Graham A. Jullien, <i>University of Windsor</i>	
C5P-S.2	Application-Level Pipelining on Hierarchical NoC	3873
	Yi Wei, <i>Nanjing University</i> ; Pan Hongbin, <i>Nanjing University</i> ; Pan Peng, <i>Nanjing University</i> ; Li Li, <i>Nanjing University</i> ; Gao Minglun, <i>Nanjing University</i> ; Hou Ning, <i>Hefei University of Technology</i> ; Du Gaoming, <i>Hefei University of Technology</i> ; Zhang Duoli, <i>Hefei University of Technology</i>	
C5P-S.3	Full System Simulation with QEMU: An Approach to Multi-View 3D GPU Design	3877
	Shye-Tzeng Shen, <i>National Cheng Kung University</i> ; Shin-Ying Lee, <i>National Cheng Kung University</i> ; Chung-Ho Chen, <i>National Cheng Kung University</i>	
C5P-S.4	Truncated MCM using Pattern Modification for FIR Filter Implementation	3881
	Rui Guo, <i>Florida State University</i> ; Linda S. DeBrunner, <i>Florida State University</i> ; Kenny Johansson, <i>Florida State University</i>	
C5P-S.5	Residue Arithmetic Bases for Reducing Delay Variation	3885
	I. Kouretas, <i>University of Patras</i> ; V. Paliouras, <i>University of Patras</i>	
C5P-T	Interconnects, Noise Immunity & ESD Protection (Poster)	
<i>Time:</i>	Wednesday, June 2, 2010, 9:30 - 11:00	
<i>Place:</i>	Times Square 4	
<i>Chair(s):</i>	Mohamed Elgamel, <i>University of Louisiana at Lafayette</i> Gwee Bah Hwee, <i>Nanyang Technological University</i>	
C5P-T.1	Modeling of RLC Interconnect Lines	3889
	Heba A. Shawkey, <i>Electronics Research Institute</i> ; Magdy A. El-Moursy, <i>Mentor Graphics Corporation</i>	

C5P-T.2	Error Control Integration Scheme for Reliable NoC	3893
	Qiaoyan Yu, <i>University of Rochester</i> ; Bo Zhang, <i>University of Rochester</i> ; Yan Li, <i>University of Rochester</i> ; Paul Ampadu, <i>University of Rochester</i>	
C5P-T.3	Microarchitecture Support for Interconnect Power-Aware Instruction Permutation	3897
	Hui Lin, <i>University of Illinois at Chicago</i> ; Md. Sajjad Rahaman, <i>University of Illinois at Chicago</i> ; Masud H Chowdhury, <i>University of Illinois at Chicago</i>	
C5P-T.4	An Analytical Model for Self-Capacitance in High Performance Integrated Circuits	3901
	Abinash Roy, <i>University of Illinois at Chicago</i> ; Masud H. Chowdhury, <i>University of Illinois at Chicago</i>	
C5P-T.5	Analysis and Test of Electromigration Failures in FPGAs	3905
	Barath Vasudevan, <i>University of Toledo</i> ; Mohammed Niamat, <i>University of Toledo</i> ; Mansoor Alam, <i>University of Toledo</i> ; Srinivasa Vemuru, <i>Ohio Northern University</i>	
C5P-U	Communications System Design (Poster)	
<i>Time:</i>	Wednesday, June 2, 2010, 9:30 - 11:00	
<i>Place:</i>	Times Square 5	
<i>Chair(s):</i>	Tokunbo Ogunfunmi, <i>Santa Clara University</i>	
C5P-U.1	Prototype Design and Implementation of a Load-Balanced Birkhoff-Von Neumann Switch	3909
	Hung-Shih Chueh, <i>National Tsing Hua University</i> ; Ching-Min Su, <i>National Tsing Hua University</i> ; Chia-Tung Kuo, <i>National Tsing Hua University</i> ; Cheng-Shang Chang, <i>National Tsing Hua University</i> ; Duan-Shin Lee, <i>National Tsing Hua University</i>	
C5P-U.2	Distributed Control for Link Failure based on Tie-Sets in Information Networks	3913
	Kiyoshi Nakayama, <i>Soka University</i> ; Norihiko Shinomiya, <i>Soka University</i> ; Hitoshi Watanabe, <i>Soka University</i>	
C5P-U.3	A Complete System-Level Behavioural Model for IEEE 802.15.4 Wireless Sensor Network Simulations	3917
	D. Navarro, <i>Université de Lyon</i> ; W. Du, <i>Université de Lyon</i> ; F. Mieyeville, <i>Université de Lyon</i> ; F. Gaffiot, <i>Université de Lyon</i>	
C5P-U.4	Bandpass Sampling Rx System Design Issues and Architecture Comparison for Low Power RF Standards	3921
	L. Lolis, <i>CEA, LETI, MINATEC</i> ; C. Bernier, <i>CEA, LETI, MINATEC</i> ; M. Pelissier, <i>CEA, LETI, MINATEC</i> ; D. Dallet, <i>Bordeaux I University</i> ; J.B. Bégueret, <i>Bordeaux I University</i>	
C5P-U.5	Design and Implementation of a Direct RF-to-Digital UHF-TV Multichannel Transceiver	3925
	Mikel Sanchez, <i>TECNALIA-Telecom</i> ; Javier Del Ser, <i>TECNALIA-Telecom</i> ; Pablo Prieto, <i>TECNALIA-Telecom</i> ; David Dominguez, <i>IKUSI-Angel Iglesias, S.A.</i>	
C5P-V	Coding & Security (Poster)	
<i>Time:</i>	Wednesday, June 2, 2010, 9:30 - 11:00	
<i>Place:</i>	Times Square 6	
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Time: Wednesday, June 2, 2010, 14:10 - 15:40

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Chair(s): Zhibo Chen, *Thomson R&D Center*

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Chair(s): Tian-Sheuan Chang, *National Chiao Tung University*

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Chair(s): Shoushun Chen, *Nanyang Technological University*
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Chair(s): Piotr Dudek, *University of Manchester*
Andre van Schaik, *Sydney University*

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Raphael Njuguna, *Washington University in St Louis*; Viktor Gruev, *Washington University in St Louis*

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Chair(s): Igor Filanovsky, *University of Alberta*

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C7P-W.3 Roles and Limitations of Two Widely Publicized Equations in Predicting Phase Shift Impulse Response of a Simple 2-D Oscillator 4277
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M. Sawan, *Ecole Polytechnique de Montréal*; S. Mirabbasi, *University of British Columbia*

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Time: Wednesday, June 2, 2010, 14:10 - 15:40

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Chair(s): Gregorio Cappuccino, *University of Calabria*

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Chin-Long Wey, *National Chip Implementation Center*; Ying-Zong Juang, *National Chip Implementation Center*;
Chun-Ming Huang, *National Chip Implementation Center*

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Jen-Ming Wu, *National Tsing Hua University*; Shuo-Hung Hsu, *National Tsing Hua University*;
Yar-Sun Hsu, *National Tsing Hua University*