



**IEEE Circuits and Systems Society
Analog Signal Processing Technical Committee**

Annual Activity Report

2007-2008

The Analog Signal Processing (ASP) Technical Committee serves to foster research, development, education and industrial dissemination of knowledge relating to the theory, analysis, design, and practical implementation of analog circuits. The scope of the ASP Committee spans from basic scientific theory to industrial application. More information on this committee can be found on the world-wide web at <http://ewh.ieee.org/soc/icss/committees/asptc>.

Committee members are experts in the analog signal processing arena that are committed to and active within this field. The committee currently has about 72 members. In 2007, Felix Lustenberger took over from Tony Chan Carusone as chair. Hanspeter Schmid serves as the chair-elect and Shahriar Mirabbasi serves as the secretary and web coordinator.

The following summarizes CASS-related activity by the ASP committee and its members during the year 2007-2008.

1. ISCAS 2008

The Analog Signal Processing (ASP) track will once again play an important role in ISCAS 2008 (<http://www.iscas2008.org>), and a great majority of ASPTC members assisted in the preparation of the technical program as well as paper evaluations. During the last ASPTC meeting in New Orleans, Louisiana at ISCAS 2007, Shahriar Mirabbasi was nominated and elected by the committee as the new secretary and web coordinator. In the following year, as Hanspeter Schmid is to serve as the chair, Shahriar Mirabbasi will serve as the chair-elect. A new secretary will be nominated and elected at our upcoming ASPTC meeting in Seattle, Washington at ISCAS 2008.

As we have done in the past, once again for ISCAS 2008, current ASPTC chair Felix Lustenberger, chair-elect Hanspeter Schmid, and last year's chair Tony Chan Carusone acted as Analog Signal Processing track co-chairs. These three coordinated the reviews of all papers submitted to this track. The total number of papers submitted to the Analog Signal Processing track was 362, representing 19% of all papers submitted to ISCAS 2008. Of this total, 163 papers were selected for the final program, including 42 poster presentations and 121 lecture presentations, for a 45% total acceptance rate.

The ISCAS 2008 review process for the ASP track went smoothly, primarily due to the tremendous service of the Review Committee Member (RCM) volunteers listed below:

Analog Signal Processing RCMs:

Name	Affiliation
Alyssa Apsel	Cornell University
Andreas Demosthenous	University College London
Apisak Worapishet	Mahanakorn University of Technology
Bradley Minch	Franklin W. Olin College of Engineering
Byunghoo Jung	Purdue University
Degang Chen	Iowa State University

Deukhyoun Heo	Washington State University
Felix Lustenberger	Espros Photonics Corporation
Gert Cauwenberghs	University of California, San Diego
Hanspeter Schmid	University of Applied Sciences NW Switzerland
Hoi Lee	University of Texas at Dallas
Igor Filanovsky	University of Alberta
Jaime Ramirez-Angulo	Klipsch School of Electrical and Computer Engineering
Jin Liu	University of Texas at Dallas
Jorge Fernandes	Instituto Superior Técnico / INESC-ID Lisboa
Jose Silva	Texas A&M University
Luis Hernandez Corporales	Carlos III University, Madrid
Markus Helfenstein	NXP Semiconductors
Maysam Ghovanloo	Georgia Institute of Technology
Mohamad Sawan	Ecole Polytechnique, Montreal
P.R. Mukund	Rochester Institute of Technology
Paul Hasler	Georgia Institute of Technology
Pavan Kumar Hanomulu	Oregon State University
Ralph Etienne-Cummings	The Johns Hopkins University
Ramesh Harjani	University of Minnesota
Randall Geiger	Iowa State University
Rob Fox	University of Florida
Salvatore Pennisi	Universita' degli Studi di Catania
Sameer Sonkusale	Tufts University
Shahriar Mirabbasi	University of British Columbia
Shanthi Pavan	Indian Institute of Technology
Shu-Chuan Huang	Tatung University, Taiwan ROC
Tony Chan Carusone	University of Toronto
Tuna B. Tarim	Texas Instruments
Vadim Ivanov	Texas Instruments
William R. Eisenstadt	University of Florida
Wouter Serdijn	University of Delft
Yichuang Sun	University of Hertfordshire
Anas A. Hamoui	McGill University
David Graham	West Virginia University
Dong-Young Chang	Bitwave Semiconductors
Min Gyu Kim	Broadcom Inc.
Rui Paulo da Silva Martins	University of Macau

A total of 33 technical sessions will be co-chaired by ASPTC members at ISCAS 2008, as listed below:

Sessions sponsored by Analog Signal Processing:

Session Name	Co-Chair	Co-Chair
Amplifiers I	Gaetano Palumbo	Igor Filanovsky
Amplifiers II	Randall Geiger	Yichuang Sun
Analog Circuits & IC Technology I	Mohamad Sawan	Ralph Etienne-Cummings
Analog Signal Processing	Salvatore Pennisi	Dimitrios Loizos
CAD and Tools for Analog Design I	Tuna Tarim	Bradley Minch
CAD and Tools for Analog Design II	Paul Sotiriadis	Tuna Tarim

Circuit Theory	Igor Filanovsky	Hoi Lee
Comparators	Vadim Ivanov	Dimitrios Loizos
Continuous-time Filters I	Hoi Lee	Shanthi Pavan
Continuous-time Filters II	Wouter Serdijn	Salvatore Pennisi
Continuous-Time Sigma-Delta Converters	Byunghoo Jung	Alyssa Apsel
Data Converters I	Pavan Kumar Hanumolu	Sameer Sonkusale
Data Converters II	Albert Wang	Luis Hernandez Corporales
Data Converters IV	Shanthi Pavan	Randall Geiger
High-Speed Data Transmission	Shahriar Mirabbasi	Tony Chan Carusone
Oscillators	Alyssa Apsel	Paul Sotiriadis
PLLs	Felix Lustenberger	Pavan Kumar Hanumolu
Sensor & Actuator Interface Circuits I	Ralph Etienne-Cummings	Felix Lustenberger
Sigma-Delta Converters I	Gabor Temes	Mohamad Sawan
Sigma-Delta Converters II	Sameer Sonkusale	Gabor Temes
Sigma-Delta Converters III	Tony Chan Carusone	Luis Hernandez Corporales
Voltage Regulators & References I	Bradley Minch	Vadim Ivanov
Wireless Circuits and Systems I	Sylvester Chang	Albert Wang
Wireless Circuits and Systems II	Wouter Serdijn	Jorge Fernandes
Amplifiers III	Alyssa Apsel	
Analog Circuits & IC Technology II	Gaetano Palumbo	
Analog Techniques	Jorge Fernandes	
Continuous-time Filters III	Yichuang Sun	
Data Converters III	Luis Hernandez Corporales	
Mixed Signal Circuits	Byunghoo Jung	
Sensor & Actuator Interface Circuits II	Maysam Ghovanloo	
Voltage Regulators & References II	Maysam Ghovanloo	
Wireless Circuits and Systems III	Shahriar Mirabbasi	

Other activities:

Technical Program Co-Chair: Un-Ku Moon

TPC members: Felix Lustenberger, Hanspeter Schmid, Tony Chan Carusone

Special Sessions organizers: Pedram Mohseni, Orly Yadid-Pecht, Maysam Ghovanloo

2. Other conferences, meetings and committees

Members of ASPTC are active in organizing and coordinating many other conferences and meetings in the CAS field. These activities are summarized in the following list:

IEEE CASS Board of Governors
Ralph Etienne-Cummings
Tuna Tarim
Wouter Serdijn

IEEE CASS Constitution & Bylaws Co-Chair
Georges Gielen

IEEE CASS Distinguished Lecture Program
Tuna Tarim, Chair

IEEE CASS Conference Division
Wouter Serdijn

IEEE CASS Long Term Strategy Committee
Ralph Etienne-Cummings
Wouter Serdijn
Tuna Tarim

IEEE CASS Regional Activities/Membership Development committee member for R1-7
Tuna Tarim

IEEE CASS Nominations Committee
Orly Yadid-Pecht

IEEE CASS Women in CAS ad hoc Committee
Wouter Serdijn

IEEE CASS Women in Engineering Committee
Orly Yadid-Pecht

IEEE-CAS representative to the IEEE Technology Management Council (TMC) BoG
Tuna Tarim

IEEE Connections
Tuna Tarim, Mentor

Dallas Chapter of CAS
Tuna Tarim, Member Officer

Swiss Chapter of CAS/EDS
Hanspeter Schmid, Chair

IEEE Biomedical Circuits and Systems Conference (BioCAS)
Mohamad Sawan, General Chair
Ralph Etienne-Cummings, Program Co-chair
Pedram Mohseni, Technical Program Committee
Orly Yadid-Pecht, Technical Program Committee
Maysam Ghovanloo, Technical Program Committee

IEEE ICECS
Orly Yadid-Pecht, Steering Committee
Mohamad Sawan, Steering Committee and Special Session Presenter
Igor Filanovski, Tutorial Presenter
Alyssa Apsel, Tutorial Presenter

IEEE Custom Integrated Circuits Conference (CICC)
Ramesh Harjani, Technical Program Committee

Tony Chan Carusone, Technical Program Committee
Shahriar Mirabbasi, Technical Program Committee

Asia Pacific Microwave Conference 2007
Apisak Worapishet, Exhibition Chair

ICCAD Conference 2007
Georges Gielen, General Chair

European Conference on Circuit Theory and Design (ECCTD)
Jose Silva-Martinez, Technical Program Committee
Luis Hernandez, Technical Program Committee

Symposium on Integrated Circuits and Systems Design (SBCCI)
Jose Silva-Martinez, Technical Program Committee

Design of Circuits and Integrated Systems Conference (DCIS)
Jorge Fernandes, Technical Program Committee

IASTED International Conference on Circuits Signals and Systems
Jose Silva-Martinez, Technical Program Committee

IEEE International Solid-State Circuits Conference (ISSCC)
Ralph Etienne-Cummings, Technical Program Committee
Un-Ku Moon, Technical Program Committee

VLSI Circuits Symposium
Un-Ku Moon, Technical Program Committee

IEEE European Solid-State Circuits Conference (ESSCIRC)
Luis Hernandez, Technical Program Committee
Markus Helfenstein, Technical Program Committee
Andreas Demosthenous, Technical Program Committee

IEEE Portable Information Devices
Ramesh Harjjani, Technical Program Committee

IEEE International Conference on Ultra-Wideband
Ramesh Harjjani, Technical Program Committee

IEEE SOC Conference
Sameer Sonkusale, Technical Program Committee

IEEE Sensors 2008
Sameer Sonkusale, Technical Program Committee

SPIE Solid State Sensor Arrays Conference
Orly Yadid-Pecht, Technical Program Committee

OSA Science and Engineering Council 2007
Alyssa Apse, Chair of the Optics in Digital Systems Group

SPIE, BIS, NIPS, COSI

Ralph Etienne-Cummings

IEEE Midwest Symposium on Circuits and Systems (MWCAS)

Mohamad Sawan, General Chair

Igor Filanovski, Steering Committee

Gabriel A. Rincón-Mora, Technical Program Chair

Maysam Ghovanloo, Technical Program Committee

IEEE International Microwave symposium (IMS 2008)

Deuk Heo, Technical Program Committee

IEEE International Caribbean Conference on Devices, Circuits and Systems (ICCDCS)

Gabriel A. Rincón-Mora, Circuit Design Vice Chair

IEEE Workshop on CCDs and Advanced Image Sensors

Felix Lustenberger, Technical Program Committee

IEEE Engineering in Medicine and Biology Conference

Maysam Ghovanloo, Special Sessions Organizer

Integrated Circuits and Systems Design

Gert Cauwenberghs, Program Co-Chair

International NEWCAS conference 2008

Mohamad Sawan, General Chair

Design Automation Conference

Tertulien Ndjountche, Technical Program Committee

International Conference On Audio, Language And Image Processing (ICALIP)

Tertulien Ndjountche, Technical Program Committee

IEEE-NIH BISTI Workshop 2007

Joseph Sylvester Chang, General Chair

Nano-Nets 08

Paul Sotiriadis, Technical Program Committee

PITTI 08

Paul Sotiriadis, Technical Program Committee

NSF Telluride Neuromorphic Engineering Workshop

Ralph Etienne-Cummings, Organizer

3. Editorial boards and publications

Of particular interest to the ASPTC this year was a special section of the April 2008 IEEE Transactions on Circuits and Systems I: Regular papers, in which four analog signal processing papers appeared. Each paper is an extended version of an ISCAS 2007 publication that was solicited for the special section on the basis of excellent reviews through the regular ISCAS review process plus specific nomination by an ASPTC member. The special section was co-edited by ASPTC members Tuna Tarim and Hanspeter Schmid.

Members of the ASPTC were also active on the editorial boards of IEEE and CAS-related journals and transactions, and in promoting ASP and CAS in other publications generally, as summarized below:

Editorial boards

IEEE Transactions on Circuits and Systems I

Deputy Editor in Chief : Wouter Serdijn

Associate Editors: Joseph Sylvester Chang, Andreas Demosthenous, Felix Lustenberger, Shahriar Mirabbasi, Hanspeter Schmid, Jose Silva-Martinez, Gaetano Palumbo, Shanthi Pavan, Paul Sotiriadis, Tuna Tarim, Andre van Schaik

Guest Editor : Tuna Tarim, Hanspeter Schmid

IEEE Transactions on Circuits and Systems II

Editor-in-Chief : Un-Ku Moon

Deputy Editor-in-Chief : Tony Chan Carusone

Associate Editors: Joseph Sylvester Chang, Deuk Heo, Maysam Ghovanloo, Pavan Kumar Hanumolu Salvatore Pennisi, Gabriel A. Rincón-Mora, Shanthi Pavan, Wouter Serdijn, Andreas Demosthenous

Guest Editor: Wouter Serdijn

IEEE CASS Transactions on Biomedical Circuits and Systems

Steering Committee: Mohamad Sawan

Associate Editor: Gert Cauwenberghs, Mohamad Sawan, Ralph Etienne-Cummings

IEEE Transactions on CAD

Associate Editor : Georges Gielen

IEEE Proceedings

Associate Editor Special Issue : Joseph Sylvester Chang

IEEE Journal of Solid-State Circuits

Associate Editor: Un-Ku Moon

IEEE Sensors Journal

Senior Associate Editor : Gert Cauwenberghs

Associate Editor: Ralph Etienne-Cummings

IEEE Trans. Neural Systems and Rehabilitation Engineering

Associate Editor : Gert Cauwenberghs

Journal of Applied Research and Technology

Member of editorial board: Jose Silva-Martinez

Journal Analog ICs and Signal Processing

Member of editorial board: Wouter Serdijn

Associate Editor : Gabor Temes

Guest Editor : Gabriel A. Rincón-Mora, Mohamad Sawan

International Microelectronics Journal

Guest Editor : Mohamad Sawan

International Journal of Low-Power Electronics

Member of editorial board: Wouter Serdijn

VLSI Design

Member of editorial board: Jose Silva-Martinez

INE The Neuromorphic Engineer

Member of editorial board: Ralph Etienne-Cummings

Recent Patents on Electrical Engineering

Member of editorial board: Jose Silva-Martinez

Research Letters in Electronics (by Hindawi Publishing Corporation)

Member of editorial board: Jose Silva-Martinez

Books and book chapters

A. Chan Carusone, "Equalization and Multilevel Modulation for Multi-Gbps Chip-to-chip Links," in Circuits for Nanotechnology: Communications, Imaging, and Sensing, Editor K. Iniewski, CRC Press, 2008.

Van Spengen, W., Modlinski, R., Puers, R. and Jourdain, A., Failure mechanisms in MEMS/NEMS devices, Article in /Springer Handbook of Nanotechnology/, Springer, 2007.

H.P. Schmid, "Offset, Flicker Noise, and Ways to Deal with Them" in Circuits for Nanotechnology: Communications, Imaging, and Sensing, Editor K. Iniewski, CRC Press, 2008.

A. Fish and O. Yadid-Pecht, "Low Power Smart Image Sensors", in "CMOS Emerging Technologies", edited by Kris Iniewski, CRC Press, planned for 2008.

"Switched-capacitor filters" (Chapter 85 of the Handbook on Analog Circuits and Filters; W. Kai Chen, Editor-in-Chief), José Silva-Martínez and Edgar Sánchez-Sinencio; 3rd edition, to be published 2009.

"Recent Advances in High Frequency Filters," (Chapter 6 of the Book "Circuits for Emerging Technologies: CMOS and Beyond", edited by Kris Iniewski) Manisha Gambhir, Vijay Dhanasekaran, Jose Silva-Martinez and Edgar Sanchez-Sinencio. To be published by CRC Press, 2008.

"On-chip testing techniques for RF wireless transceiver systems and components," (Chapter 10 of the Book Test and Diagnosis of Analogue and Mixed-Signal Integrated Circuits: The System on Chip Approach, Edited by Y. Sun), Alberto Valdes-Garcia, Jose Silva-Martinez, Edgar Sanchez-Sinencio, To be published by The Institution of Engineering and Technology, 2008.

L. B. Oliveira, J. R. Fernandes, C. J. M. Verhoeven, I. M. Filanovsky, and M. Silva, "Analysis and Design of Quadrature Oscillators", Springer, 2008.

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G. Temes, R. Schreier, "Understanding D-S Data Converters", translated into Japanese and Chinese

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Journal publications

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"CMOS Camera with In-Pixel Temporal Change Detection and ADC," Y. Chi, U. Mallik, M. Clapp, E. Choi, G. Cauwenberghs and R. Etienne-Cummings, IEEE J. Solid-State Circuits, vol. 42 (10), pp. 2187-2196, 2007.

"Robust Speech Feature Extraction by Growth Transformation in Reproducing Kernel Hilbert Space," S. Chakrabarty, Y. Deng and G. Cauwenberghs, IEEE Trans. Audio, Speech, and Language Processing, vol. 15 (6), pp. 1842-1849, 2007.

"A Multi-Chip Neuromorphic System for Spike-Based Visual Information Processing,," R.J. Vogelstein, U. Mallik, E. Culurciello, G. Cauwenberghs and R. Etienne-Cummings, Neural Computation, vol. 19 (9), pp. 2281-2300, 2007.

"Gini-Support Vector Machine: Quadratic Entropy Based Multi-class Probability Regression,," S. Chakrabarty and G. Cauwenberghs, J. Machine Learning Research, vol. 8 (4), pp. 813-839, 2007.

"Sub-Microwatt Analog VLSI Trainable Pattern Classifier," S. Chakrabarty and G. Cauwenberghs, IEEE J. Solid-State Circuits, vol. 42 (5), pp. 1169-1179, 2007.

"VLSI Potentiostat Array With Oversampling Gain Modulation for Wide-Range Neurotransmitter Sensing," M. Stanacevic, K. Murari, A. Rege, G. Cauwenberghs and N.V. Thakor, IEEE Trans. Biomedical Circuits and Systems, vol. 1 (1), pp. 63-72, 2007.

"Dynamically Reconfigurable Silicon Array of Spiking Neurons With Conductance-Based Synapses," R.J. Vogelstein, U. Mallik, J.T. Vogelstein and G. Cauwenberghs, IEEE Trans. Neural Networks, vol. 18 (1), pp. 253-265, 2007.

Belenky, A. Fish, and O. Yadid-Pecht, "Global Shutter CMOS Image Sensor with Wide Dynamic Range", accepted to IEEE Transactions on Circuits and Systems II, July 2007.

V. Milirud, G. Jullien, O. Yadid-Pecht, "A Wide Dynamic Range Sensor with Motion detection", accepted to IEEE Sensors journal, May 2007.

- M. Biderman, T. Tam, G. Jullien, O. Yadid-Pecht, "A low light level image sensor for bio medical applications", invited to Transactions on Biomedical Circuits and Systems", August 2007.
- Y. Shoshan, A. Fish, X. Li, G. Jullien, O. Yadid-Pecht, "VLSI Watermark implementations and applications", to appear in the International Journal on Information Theory and Applications, Vol. 2, 2008.
- M. Roham, J. M. Halpern, H. B. Martin, H. J. Chiel, and P. Mohseni, "Wireless amperometric neurochemical monitoring using an integrated telemetry circuit," IEEE Trans. Biomed. Eng., 2008.
- M. Roham, D. P. Daberkow, E. S. Ramsson, D. P. Covey, S. Pakdeeronachit, P. A. Garris, and P. Mohseni, "A wireless IC for wide-range neurochemical monitoring using amperometry and fast-scan cyclic voltammetry," IEEE Trans. Biomed. Circuits and Systems, 2008 (Invited Paper).
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- P. Sun, P. Upadhyaya, D. Jeong, D. Heo and G.S. LaRue, "A Novel Monolithic SiGe PIN Diode SPST Switch for Broadband T/R Module" IEEE Microwave and Wireless Components Letters, vol. 17, pp. 352-354, May 2007.
- Yueh-Hua Yu, Yi-Jan Emery Chen, and Deukhyoun Heo, "A 0.6V Low Power UWB CMOS LNA," accepted for publication in IEEE Microwave and Wireless Components Letters, vol. 17, pp. 229-231, March 2007.
- B. Sahu and G. A. Rincón-Mora, "An Accurate, Low Voltage, CMOS Switching Power Supply with Adaptive On-Time Pulse-Frequency Modulation," IEEE Transactions on Circuits and Systems I, vol. 54, no. 2, pp. 312-321, February 2007.
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- V. Gupta and G.A. Rincón-Mora, "Achieving Less Than 2% Mismatch with Minimum Channel-Length CMOS Devices," IEEE Transactions on Circuits and Systems II, vol. 54, no. 3, pp. 232-236, March 2007.
- H.P. Forghani-zadeh and G.A. Rincón-Mora, "An Accurate, Continuous, and Lossless Self-Learning CMOS Current-Sensing Scheme for Inductor-Based DC-DC Converters," IEEE Journal of Solid-State Circuits, vol. 42, no. 3, pp. 665-679, March 2007.
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V. Gupta and G.A. Rincón-Mora, "Low Output Impedance 0.6m-CMOS Sub-Bandgap Reference," IET Electronic Letters, vol. 43, pp. 1085-1087, September 2007.

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M. Chen and G.A. Rincón-Mora, "A Compact Electrical Model for Micro-Scale Fuel Cells Capable of Predicting Runtime and I-V Polarization Performance," IEEE Transactions on Energy Conversion [Accepted: Dec. '06].

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E. Torres and G.A. Rincón-Mora, "Energy-Harvesting System-in-Package (SiP) Micro-System," ASCE Journal of Environmental Engineering (JEE) [Accepted: Apr. '08].

A.V. Vorobyov, S. Bagga, A.G. Yarovoy, S.A.P. Haddad, Z. Irahauten, W.A. Serdijn, J.R. Long and L.P. Ligthart, Integration of a Pulse Generator on Chip into a Miniaturized Ultra-Wideband Antenna, IEEE Trans. Antennas and Propagation, March 2008

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Rutenbar, R., Gielen, G. and Roychowdhury, J., Hierarchical Modeling, Optimization, and Synthesis for System-Level Analog and RF Designs, /Proceedings of the IEEE/, vol. 95, no 3, March, 2007, pp. 640 - 669

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A. Worapishet, P. Khumsat, "Sub-threshold R-MOSFET tunable resistor technique", *Electronics Letters*, vol. 43, Issue 7, pp. 390 – 392, March 2007.

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P. Khumsat, A. Worapishet, "Compact two-stage class AB CMOS OTA for low voltage filtering applications", *IEICE Transaction on Electronics*, vol. E90-C, no. 2, pp. 543 – 546, January 2007.

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Invited Talks/Lectures

Gert Cauwenberghs, "Adaptive Electronics: A Neuromorphic Perspective," Adaptive Electronics DSRC Workshop, Santa Cruz CA, July 18, 2007.

Gert Cauwenberghs, "Scalability and Efficiency in Neuromorphic Microsystems," DARPA Electronic Cortex Workshop, Arlington VA, July 31, 2007.

Gert Cauwenberghs, "Silicon Learning Machines," IEEE Computational Intelligence Society, San Diego Chapter, Dec. 12, 2007.

Gert Cauwenberghs, "Reconfigurable and Adaptive Mixed-Signal Microsystems," eStemCells DSRC Workshop, Stanford University, Palo Alto CA, March 28, 2008.

P. Mohseni, "Wireless integrated devices for brain monitoring and stimulation," Dept. of Electrical and Computer Engineering, University of Texas-Austin, Austin, TX, March 20, 2008

P. Mohseni, "Single-chip wireless microsystems for recording neuroelectrical and neurochemical activity," Dept. of Biomedical Engineering, University of California-Irvine, Orange County, CA, February 22, 2007

Orly Yadid-Pecht, "CMOS Imagers – Smart Sensors", University of Rochester, May 2007

Orly Yadid-Pecht, "CMOS Image Sensors characterization – revisited", Kodak, Rochester, June 2007

Orly Yadid-Pecht, "CMOS Imaging Circuits" - for the CMOS Emerging Technologies Workshop, Whistler, BC, July 2007

Orly Yadid-Pecht, "Wide Dynamic Range Sensors" - for the Johns Hopkins University, Baltimore, US, Aug 2007

Maysam Ghovanloo, "Tongue Drive, A Tongue-Operated Magnetic Sensor Based Assistive Technology for People with Severe Disabilities," Quality of Life Technology (QoLT), NSF Engineering Research Center Educational Seminar, Pittsburgh, PA, Jan. 2008.

Maysam Ghovanloo, "A tongue operated magnetic sensor based assistive technology for people with severe disabilities," Interagency Committee on Disability Research (ICDR), Interagency Subcommittee on Technology, National Science Foundation, Washington, DC, Sep. 2007.

Maysam Ghovanloo, "NC Bionics Laboratory projects and research activities" at the 2nd annual NC State University Economic Development Forum, Raleigh, NC, May 2007.

"A 63 dB SNR, 75 mW bandpass RF $\Sigma\Delta$ ADC at 950 MHz using 3.8 GHz clock in 0.25 μm SiGe BiCMOS technology," B. K. Thandri and J. Silva-Martinez, IEEE Journal of Solid-State Circuits, vol. 42, pp. 269-279, February 2007.

"A High Dynamic Range CMOS RF Variable Gain Amplifier for Mobile DTV Tuner," J. Xiao, I. Mehr and J. Silva-Martinez, IEEE Journal of Solid-State Circuits, vol. 42, pp. 292-301, February 2007.

"Low Power Fully Integrated CMOS DTV Tuner Front-End for ATSC Terrestrial Broadcasting," J. Xiao, G. Zhang, T. Li and J. Silva-Martinez, VLSI-Design, February, 2007.

"A Fully-Differential Low-Power Divide-by-8 Injection-Locked Frequency Divider Up to 18GHz," S. Cheng, H. Tong, J. Silva-Martinez and A. Karsilayan, IEEE Journal of Solid-State Circuits. vol. 42, pp. 583-591, March 2007.

"Low-Power Architecture and Circuit Techniques for High-Boost Wide-Band Gm-C Filters," M. Gambhir, V. Dhanasekaran, J. Silva-Martinez and E. Sánchez-Sinencio, IEEE Transactions on Circuits and Systems, part I. Vol. 54, pp. 458-468, March 2007.

"A 30 MHz 5th-order Elliptic Low-pass CMOS Filter with 65dB Spurious Free Dynamic Range," A. Lewinski and J. Silva-Martinez, IEEE Transactions on Circuits and Systems, part I. Vol. 54, pp 469-480, March 2007.

"An 11-Band 3.4 to 10.3 GHz MB-OFDM UWB Receiver in 0.25 μm SiGe BiCMOS," A. Valdes-Garcia, C. Mishra, F. Bahmani, J. Silva-Martinez and E. Sánchez-Sinencio, IEEE Journal of Solid-State Circuits, vol. 42, pp. 935-948, April 2007.

"An Injection Locked Frequency Divider with Multiple Highly Nonlinear Injection Stages and Large Division Ratios," H. Tong, S. Cheng, A. Karsilayan and J. Silva-Martinez, IEEE Transaction on Circuits and Systems II, pp. 313-317, April 2007.

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"A 1.1GHz 5th order Active-LC Butterworth Filter with 23dB Equalizing gain," V. Dhanasekaran, M. Gambhir, J. Silva-Martinez and E. Sánchez-Sinencio, IEEE Journal of Solid-State Circuits. Vol. 42, pp 2411-2420, Nov 2007.

"Enhancing General Performance of the Folded-Cascode Amplifier by Recycling Current," R. Assaad and J. Silva-Martinez, IEE Electronics Letters. Vol. 43, Issue 23, Nov 2007.

“Applications of Multi-Path Transform-Domain Charge-Sampling Wideband Receivers,” P. K. Prakasam, M. Kulkarni, X. Chen, Z. Yu, S. Hoyos, J. Silva-Martinez and E. Sanchez-Sinencio, IEEE Transactions on Circuits and Systems, part II; Vol. 55, pp. 309-313, April 2008.

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“A Fully Integrated CMOS Clock Data Recovery IC for OC-192 Applications,” J. Li, J. Silva-Martinez, B. Brunn, S. Rokhsaz and M. E. Robinson, IEEE Transactions on Circuits and Systems, part I. To be published, 2008.

“A graphical approach to teaching amplifier design at the undergraduate level,” R. Assaad and J. Silva-Martinez, submitted to the International Journal of Electrical Engineering Education (IJEEE). To be published, 2008.

“A Built-In Testing Technique for RF Front-Ends,” X. Fan, M. Onabajo, J. Silva-Martinez and E. Sanchez-Sinencio, IEEE Transactions on Circuits and Systems, part I; To be published, 2008.

“RF-to-DIGITAL: The big challenge”, plenary lecture, Jose Silva-Martinez, XXII Conference on Design of Circuits and Integrated Systems, Seville, Spain, November 22, 2007.

“RF front-ends for Software defined Radio Applications”, Plenary lecture, Jose Silva-Martinez, Monterrey Institute of Technology, Monterrey Mexico, November 2, 2007.

“How to teach Mathematics for Engineers,” Plenary session, Jose Silva-Martinez, National Polytechnical Institute, (IPN) Campus Culhuacan, Mexico City, October 8, 2007.

“Fundamentals on Integrated Circuits Design: From modeling to GHz applications”, Jose Silva-Martinez, 15-hours course (>100 attendees), Universidad Jesuita de Guadalajara (ITESO), October 10-12, 2007.

“RF-to-DIGITAL Interfaces for Multi-Service Wireless Systems”, Jose Silva-Martinez, 2-hours course, 18th European Conference on Circuit Theory and Design, ECCTD'07 , Seville, Spain, August 2007.

4. **Other professional recognitions**

IEEE Fellow: Orly Yadid-Pecht

Fellow of the Engineering Institute of Canada: Mohamad Sawan

Distinguished Lecturer CAS 2008-2009: Georges Gielen

Co-recipient of the Best IEEE Solid-State Society Chapter of the year: Mohamad Sawan

John Swanson '61 ME in honor of his mother, Dorothy G. Swanson College Teaching Award, 2007, Cornell University: Alyssa Apsel

Fulbright Fellowship Award to South Africa, 2006/2007: Ralph Etienne-Cummings

Visiting African Fellowship Award, University of Cape Town, 2006/2007: Ralph Etienne-Cummings

Best Paper Award, IEEE International Symp. on Circuits and Systems 2007, D. Loizos, P. Sotiriadis, G. Cauwenberghs, “Multi-Channel Coherent Detection for Delay-Insensitive Model-Free Adaptive Control”, IEEE International Symp. on Circuits and Systems 2007.

Best paper award in area of Digital and High Speed Circuit Design, “A Generalized Partial Response Receiver for High Speed Serial Links”, Mahmoud Reza Ahmadi, Jaekyun Moon and Ramesh Harjani, Semiconductor Research Corporation TechCon (2007)

Best poster award at IEEE Sensors Conference (Sensors'07) in Atlanta, GA, Oct. 2007: Maysam Ghovanloo

3rd place 2008 Idea-to-Product Competition for Social Entrepreneurship in Atlanta, GA, Apr. 2008: Maysam Ghovanloo

5. **2008-2009 planned activities**

ASPTC remains strongly committed to promote CAS interests in the ASP field, and assist with organizing and coordinating CASS-sponsored activities, such as ISCAS 2009. We will continue to seek close working relationships with other CASS technical committees in co-organizing events of interdisciplinary nature, as we have done for special sessions and tutorials at ISCAS and MWSCAS in recent years. We will also maintain a broader influence in other societies such IEEE-CS and IEEE-SSCS. Finally, we hope to continue with an annual special section devoted to excellent papers in the area of analog signal processing, preferably in TCAS-I.

*Felix Lustenberger, Chair
May 8, 2008*