



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

**Annual Activity Report
2000–2001**

The Analog Signal Processing Technical Committee (ASPTC) of the IEEE Circuits and Systems Society focuses on the theory, analysis, design, and practical implementation of analog circuits, and the application of analog circuit theoretic techniques to system and signal processing, ranging from basic scientific theory to industrial application. Information on the committee can be found on the world-wide web at <http://www.ieee-cas.org/~asptc/>.

Committee members are renowned experts in analog signal processing, who are both committed to, and active within, the ASP field. The committee membership currently stands at 43 members. Gert Cauwenberghs took over from Ramesh Harjani as chair, and Rob Fox from Gert Cauwenberghs as vice-chair. Hanspeter Schmid remained as web coordinator and secretary.

The year 2000–2001 was again very successful for ASP. The following summarizes CASS-related activity by the committee and its members.

1. ISCAS'2001

The Analog track is the largest technical track at ISCAS'2001 (<http://www.iscas2001.org>), and almost all ASPTC members assisted in the technical program. Outgoing ASPTC chair Ramesh Harjani acted as ISCAS'2001 Analog track chair, and coordinated the review of 275 papers submitted in the Analog track, of which 186 papers were selected for the final program. A total of 895 reviews were collected.

The following ISCAS'2001 regular sessions are chaired by ASPTC members:

Analog Signal Processing:

M11–MRm3–O	RF Circuits 1	Mohammed Ismail
M14–MRm3–O	RF Circuits 2	Michiel Kouwenhoven
M11–MRm6–O	Analog Filters	Robert Fox
M14–MRm6–O	Companding Filters	Bradley A Minch
M16–MRm3–O	Analog Amplifiers 1	Hanspeter Schmid
T09–MRm3–O	Analog Amplifiers 2	Francisco Daque–Carrillo
M16–Aud1–O	High Frequency Analog Filters 1	Jose Silva–Martinez
T09–Aud1–O	High Frequency Analog Filters 2	Andrea Baschiroto
T11–Aud1–O	High Frequency Analog Filters 3	Edward Lee
T14–Aud1–O	Bandpass Sigma Delta Converters	Un–Ku Moon
T14–MRm6–O	Sensor Interface Circuits	Angel Rodriguez–Vasquez
T16–Aud1–O	Sigma Delta Converters 1	Tertulien Ndjountche
W14–Aud1–O	Sigma Delta Converters 2	Tor Sverre Lande
T16–MRm8–O	Analog Power Converters and Charge Pumps	Ramesh Harjani
W09–Aud1–O	Data Converters	Jesper Steensgaard
T16–HarA–I	Data Converters 2	Randall Geiger
W11–Aud1–O	Pipeline Data Converters	Ken Martin

W11-MRm6-O	Analog Circuit Theory and Signal Processing	Igor Filanovsky
W14-MRm3-O	Analog Circuits 1	Andreas Andreou
W16-MRm3-O	Analog Circuits 2	Wouter Serdijn
W14-MRm6-O	Filter Theory	Peter Aronhime
W16-Aud1-O	Circuits for Communications	Jaime Ramirez-Angulo
M11-HarA-I	Filter Design 1	Paul Hasler
	Floating Gate Circuits	
M14-HarA-I	Mixed Signal Circuits	Tuna B Tarim
	Analog Modelling and CAD	

CAS for Communications:

M14-MRm2-O	Communication Receiver Design	John Choma
T11-MRm3-O	Direct Conversion CMOS Circuits & Systems	Gordon Roberts
T14-MRm2-O	Adaptive Filters and Equalization 2	P. R. Mukund

Neural Systems:

W11-Sky3-O	Neural Network Learning Algorithms	Gert Cauwenberghs
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VLSI Systems:

M14-Aud1-O	Analog VLSI Circuits	Gordon Roberts
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ASPTC members organized, or ASPTC sponsored or co-sponsored, the following special sessions and tutorials at ISCAS'2001:

Special Sessions:

M16-MRm6-O	MEMS Multisensor Systems and Signal Processing 1	Bob Newcomb
T09-MRm6-O	MEMS Multisensor Systems and Signal Processing 2 (<i>co-sponsored by the Sensors TC</i>)	Gert Cauwenberghs

Full-Day Tutorials:

Biomedical Electronics	Wouter A. Serdijn
Statistical Learning Theory and Support Vector Machines (<i>sponsored by the Neural Systems TC</i>)	Gert Cauwenberghs
Systematic Design of Basic Analog Functions	Arie van Staveren

2. Other Conferences and Meetings

Members of ASPTC are active in organizing and coordinating several other conferences and meetings in the CAS field. The following is a representative sample.

IEEE 43rd Midwest Symposium on Circuits and Systems (MWSCAS'2000), Lansing MI, August 2000
(<http://www.egr.msu.edu/mwscas2000/>)

Steering committee: Philip Allen, Andreas Andreou, Peter Aronhime, John Choma, Igor Filanovsky, Randall Geiger, Mohammed Ismail, Edgar Sanchez-Sinencio.

Organizing committee: Gert Cauwenberghs (publication chair)

Program committee (and session chairs): Peter Aronhime, Gert Cauwenberghs, John Choma, Randall Geiger, Paul Hasler, Mohammed Ismail, Brad Minch, Edgar Sanchez-Sinencio.

Student award contest committee: Peter Aronhime, Randall Geiger (chair, analog track)

Special sessions:

S7	Analog Circuit Modeling, Simulation and Applications	Peter Aronhime
S8	Current Research in Floating-Gate Circuits	Paul Hasler, Brad Minch

IEEE 44th Midwest Symposium on Circuits and Systems (MWSCAS'2001)
Organizing committee: Tuna B. Tarim (program co-chair)

IEEE ASIC/SOC conference (<http://asic.union.edu>)
General chair: P.R. Mukund

IEEE Bipolar/BiCMOS Circuits and Technologies Meeting (BCTM)
Rob Fox, Technical and Executive Committees and Short-Course Chair

2nd IEEE-CAS Dallas Chapter workshop on Low Voltage Mixed Signal Circuits and Systems
(<http://ewh.ieee.org/soc/cas/dallas>)

Organizing committee: Tuna B. Tarim (chair, IEEE-CAS Dallas Chapter)
Tutorials: Jose Silva-Martinez, Randall Geiger, Jaime Ramirez-Angulo

IEEE Computer Society International Workshop on Register Transfer Level Automatic Test Pattern Generation (ATPG) and Design for Testability (DFT), Changsha, China, September 2000
Program committee: Yichuang Sun

3. Editorial Boards and Publications

Members of ASPTC are active on editorial boards of IEEE and CAS-related journals and transactions, in organizing special journal issues, and in promoting ASP and CAS in other publications. The following is a sample:

Journals:

IEEE Transactions on Circuits and Systems II: Analog and Digital Signal Processing
(<http://edgar.ee.ic.ac.uk/ieee/>)

Editor-in-chief: Chris Toumazou

Corresponding editor: Alison Payne

Associate editors: Andreas Andreou, Andreas Baschiroto, Gert Cauwenberghs, Doug Frey, Randy Geiger, Georges Gielen, Marcus Helfenstein, Mohammed Ismail, Michiel Kouwenhoven, Tor Sverre Lande, Angel Rogriguez-Vazquez, Wouter Serdijn

Special Issues:

High-performance analog-to-digital and digital-to-analog converters (Terry Fiez, co-Ed.)

Floating gate circuits and systems (Tor Sverre Lande and Paul Hasler, Eds.)

Analog Integrated Circuits and Signal Processing, Int. J. (ALOG, Kluwer Academic,
<http://www.wkap.nl/journalhome.htm/0925-1030>):

Editor-in-chief: Mohammed Ismail

Mixed signal letters editor: Tuna B. Tarim

Editorial board: Philip Allen, Peter Aronhime, John Choma, Randall Geiger, Georges Gielen, Tor Sverre Lande, Kenneth Martin, Angel Rodriguez-Vazquez, Edgar Sanchez-Sinencio, Chris Toumazou.

Special issues:

Special issue on IEEE MWSCAS (Peter Aronhime, co-Ed.)

Neural Networks (International Neural Network Society)

Associate editor: Andreas Andreou

IEEE Sensors Journal (http://www.ewh.ieee.org/tc/sensors/Sensors_journal.htm)

Associate editor: Gert Cauwenberghs

Books:

- Mark Burns and Gordon W. Roberts, *An Introduction to Mixed-Signal IC Test and Measurement*, Oxford U. Press, 2001.
- Edgar Sanchez-Sinencio and Andreas G. Andreou, Eds., *Low-Voltage/Low-Power Integrated Circuits and Systems*, IEEE Press, 2000 (Japanese translation).
- Yichuang Sun, Ed., *Integrated Analogue Filter Design*, IEE, 2001.
- (Several others!)

4. CAS Distinguished Lecturers

The following CAS Distinguished Lecturers (<http://www.ieee-cas.org/html/dist-lect.html>) are members of ASPTC, or otherwise nominated by ASPTC:

Andreas G. Andreou
David J. Allstot
John Choma Jr.
Jose E. da Franca
Ramesh Harjani
Mohammed Ismail
Gordon Roberts
Angel Rodriguez-Vazquez
Edgar Sanchez-Sinencio
Gabor C. Temes

5. 2001–2002 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'2002. 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. To this end, several members of ASPTC are also members on other CASS technical committees, such as CCNAC, Communications, Neural Systems, Sensors, and VLSI. Finally, our committee plans to contribute a proposed set of technical guidelines for authors and standards for reviewers to improve the quality and selection of papers submitted to CASS meetings such as ISCAS.

G. Cauwenberghs, Chair
April 2, 2001