



Annual Report of the Biomedical Circuits and Systems (BioCAS) Technical Committee 2008/2009

Compiled by P. Häfliger

Introduction

The Biomedical Circuits and Systems (BioCAS) Technical Committee of the IEEE CAS society can look back on a very active year. The number of committee members has increased to 74. They have been involved in a large number of various activities advancing and promoting the field of BioCAS, as will be detailed in the following sections. Two of our major activities, the BioCAS conference and the Transactions on BioCAS are growing steadily.

1 IEEE ISCAS 2009

The Biomedical circuits and system track had 63 submissions whereof 31 were accepted, i.e. 49% acceptance rate. This is a slight decrease in submissions as compared to last year, which in part can be explained by the increasing number of submissions that went to the BioCAS conference instead. In addition we had one presentation in the live demonstrations track that was explicitly associated with BioCAS. A few more that indicated no explicit association were concerned with topics that fit into BioCAS as well.

2 IEEE Biomedical Circuits and Systems 2008 Conference, Baltimore, MD, USA

The Biomedical Circuits and Systems Community has been growing significantly over the last four years. In 2005 we had our inaugural BioCAS conference and last year our community saw the birth of IEEE Transactions on Biomedical Circuits and Systems, our flagship journal in this area. The submissions to BioCAS 2008 exceeded all expectations doubling those from BioCAS 2007. While submissions increased, we made every effort to keep the quality of the conference high and hence the acceptance rate for papers is the lowest when compared to the previous three BioCAS Conferences. To that end, the BioCAS 2008 Program Committee, through the hard and diligent work of all the reviewers, have selected the best examples of our Community's output, and the General Co-Chairs, with the conference organizers, have endeavored to provide the best forum for these contributions to be communicated and discussed. We wanted to elevate the amount and level of discourse; we hope that the diverse tutorials, single track oral presentations and expanded poster sessions provided the ideal venues for vigorous exchanges. As we move forward, the BioCAS Technical Committee will continue to strive towards making the BioCAS Conferences one of the highest quality conference venues and service of the IEEE Circuits and Systems Society.

The General Co-Chairs would like to thank everyone who has contributed to this edition of the BioCAS Conference. In particular, we would like to thank all the authors who submitted and those who will present at the Conference, the tutorial organizers for their effort in educating our Community in key emerging technologies, the special session chairs for coordinating contributions on timely research topics, the keynote speakers for sharing their experience with our Community, the Technical Program Committee for organizing the content of the Conference, the reviewers for their hard work and prompt responses, our sponsors for their support and resources, and, most of all, the conference organizer,

administrators and webmasters for logistical behind-the-scenes /Herculean/ task of executing the plans of the BioCAS 2008 Conference Committee. We hope that you, the attendees, will find the Conference intellectually stimulating and enjoyable.

Some Statistics:

Dates:	11/20/2008 11/22/2008
General Co-Chairs:	Ralph Etienne-Cummings and Andreas Andreou
Technical Co-Chairs:	Shih-Chii Liu, Shuvra Bhattacharyya and Yong Lian
Special Session Co-Chairs:	Amine Bermak and Julio Georgiou
Tutorial Co-Chairs:	Khaled Salama and Eugenio Culurciello
Conference Organizer:	Barbara Wehner
Local Admin:	Ethel Paterson
Webmaster:	Fope Folowosele
Number of Submitted Papers:	175
Number of Accepted Papers:	75 (43% acceptance rate)
Number of Invited Papers:	25
Number of Tutorials:	8 half-day tutorials
Number of Oral Sessions:	8 (single track)
Number of Poster Sessions:	3 (one per day, all encouraged to attend)
Number of Keynote Speakers:	3 (one per day)
Awards:	Best Ph.D. in a Nutshell
Total Attendance:	140 (40% more than papers)

3 IEEE Transactions on Biomedical Circuits and Systems

We are now into our 3rd year of publication. We have a steady flow of papers in our pipeline. As of today (May, 12th, 2009) we have 44 papers in the review pipeline (somewhere between submission and final decision). Our “Last 12 Month” statistics as of this date are:

Number of issues	6
Accept Ratio:	38%
Average time from submission to first decision:	70 days
Average time to final decision:	89 days

The journal is still utilizing special issues or special sections associated with “best papers” at targeted conferences, including the annual BioCAS meeting and the BIOCAS track as ISCAS. These papers are nominated and voted upon by members who attend the meeting, and the top recipients are invited to submit an expanded version to the journal. This version still undergoes a peer review (in some cases up to three rounds). Planned issues for the coming year include:

- Selected papers from ISCAS 2009, Taiwan, BioCAS track
- Selected papers from BioCAS 2009 conference, Beijing

We expect to receive a decision on our application to be indexed by MEDLINE, but our first attempt was delayed. The reason was we did not published our issues on schedule. We had some delays the first year, but now all our issues are out on time. In addition, we recently noted to IEEE Publications that the journal is not being indexed by any of Thompsons database, including the frequently used Web of Science. IEEE Press is investigating why Thompson is not receiving this data. We are expecting even more submissions when MEDLINE inclusion is achieved.

In February the TBioCAS journal was called for periodical review during TAB meeting in Puerto Rico. EiC together with CASS past presidents and EMBS president attended the evaluation and in general the feedback was good. There are still some revisions remaining for a complete report.

4 Invited Talks

- Timothy G. Constandinou, “Bio-Inspired Technology for Next Generation Healthcare”, ETH/IBT seminar, Institute for Biomedical Engineering, ETH Zurich, Switzerland, 7th April 2009.
- Timothy G. Constandinou, “Advances in Silicon-based Disposable Point of Care Applications”, Advances in Biosensors for Point of Care Applications, National Physics Laboratory (NPL), Teddington, UK, 25th February 2009.
- Timothy G. Constandinou, “Emerging Inner Ear Implant Technologies”, Hallpike Symposia, British Association of Audiovestibular Physicians (BAAP), Sheffield, UK, 20th February 2009.
- Timothy G. Constandinou, “Towards Totally Implantable Neural Protheses for Inner Ear Rehabilitation”, UK-Japan Brain Machine Interface Workshop, Tokyo, Japan, 12th February 2009.
- P. Mohseni, “A wireless integrated microsystem for time-share chemical and electrical neural recording,” Dept. of Electrical Engineering, Sharif University of Technology, Tehran, Iran, March 8, 2009.
- P. Mohseni, “Wireless integrated devices for brain monitoring,” CMOS Emerging Technologies Workshop, Vancouver, BC, Canada, August 6, 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.
- Yehia Massoud, “Performance Limits and Fabrication Requirements for Optimized Carbon Nanotube Interconnect,” Invited Talk, International Symposium on Circuits and Systems, Seattle, May 2008.
- Marc Cohen, CSL/JIFSAN Symposium: “Tracking Technologies for Agri-Food”, Marc H. Cohen, May 13-15, 2009.
- R. Rieger, Invited Lecture “Integrated Physiological Signal Recording,” at National Kaohsiung Normal University (NKNU), Taiwan, November 2008.
- R. Rieger, Invited Lecture “Design and Application of Integrated Biopotential Recorders,” at National Chiao Tung University (NCTU), Taiwan, December 2008.
- R. Rieger, Invited Talk “Electronics for Nerve Recording,” at Hong Kong City University, Hong Kong, April 2009.
- Amine Bermak, “Wide Dynamic Range Compressive Sampling Smart CMOS Image Sensors” Invited Seminar at Yonsei University, Electrical and Electronic Engineering Department, Seoul, Korea, April 2009.
- Amine Bermak, “Compressive Acquisition in CMOS Image Sensors -A New Design Paradigm” Invited talk at the 214th Electrochemical Society’s Fourth International Symposium on Integrated Optoelectronics, Hawaii, Oct. 2008.
- Amine Bermak, “A Low Power Digital Pixel Sensor with a dynamically biased ADC” Invited Talk at the International System on Chip Conference, ISOC, 2008, Busan, South Korea.
- Eugenio Culurciello, Yonsei University, Seoul S. Korea, December 5th 2008, host: prof. Gunhee Han.
- Eugenio Culurciello, KAIST (Korean Advanced Institute of Science and Technology), Daejeon S. Korea, December 9th 2008, host: prof. Hoi-Jun Yoo.
- Eugenio Culurciello, National Academies, NAFKI Complex Systems Conference, invited with full travel grant, November 13-15 2008.

- Eugenio Culurciello, Columbia University, “Silicon-on-sapphire: mixed-signal circuits and micro-systems design and opportunities”, October 31st 2008. Host: prof. Yannis Tsividis.
- Eugenio Culurciello, IEEE International SOI conference, “Mixed Signal Microsystems in Emerging SOI ”, invited talk, October 6-9 2008. Host: Mario Pelella, AMD.
- Eugenio Culurciello, University of Washington, “Integrated potentiostat for patch-clamp instrumentation”, invited to weekly Electrical Engineering seminar series, Friday May 23rd 2008, Host: prof. Mani Soma.
- Rahul Sarpeshkar, January 2008, “Ultra-low-power Electronics for Medical Applications”, Invited Speaker, Analog Devices Circuits Seminar, Wilmington, MA.
- Rahul Sarpeshkar, February 2008, “Ultra-low-power Electronics for Medical Applications”, Invited Speaker, Medical Track, Texas Instruments Developer Conference, Dallas, Texas.
- Rahul Sarpeshkar, June 2008, “Ultra-low-power Brain-Machine Interfaces”, Invited Panel Speaker, NIH Symposium on Neural Prosthetics, Cleveland, OH.
- Rahul Sarpeshkar, June 2008, “Bioelectronics”, Keynote Speaker, Analog Devices Annual General Technology Conference, MA.
- Rahul Sarpeshkar, July 2008, “Bioelectronics”, Invited Speaker, Nanostructure Fabrication Gordon Research Conference, Tilton, N.H.
- Rahul Sarpeshkar, November 2008, “Bioelectronics”, Invited Speaker, IMTEK, University of Freiburg, Germany.
- Rahul Sarpeshkar, November 2008, “Bionic and Bio-inspired Sensory and Computing Systems”, Invited Speaker, Sensory Perception: Mind and Matter, Austrian Academy of Sciences special workshop, Vienna, Austria.
- Rahul Sarpeshkar, November 2008, “Society for Neuroscience”, Two Abstracts: “An Adaptive Algorithm and Micropower Analog Circuit Architecture for Neural Decoding”; “Ultra-low-power Chronic Wireless Neural Stimulation in the Songbird”, Washington, D.C.
- Rahul Sarpeshkar, February 2009, “Bioelectronics”, Keynote Speaker, CMOS Emerging Technologies Workshop, Banff, Canada.
- Wouter A. Serdijn, Analog Wavelet Filters for Biomedical Signal Characterization, invited presentation, CMOS Emerging Technologies Workshop, Banff, Canada, February 18-20, 2009.
- Joel Karel, Richard P.M. Houben, Ronald L. Westra, Wouter A. Serdijn, Sandro A.P. Haddad and Ralf L.M. Peeters, A biomedical signal processing platform for low-power real-time sensing of cardiac signals (BIOSENS), invited presentation, book of abstracts, 2nd Dutch conference on biomedical engineering, Egmond aan Zee, January 22-23, 2009.
- Wouter A. Serdijn, Low-Power Adaptive Circuits for Cardiac Implantable Devices, invited presentation, Frontiers in Computational Electrocardiology (FiCE’2008), Maastricht, September 17, 2008.
- Maysam Ghovanloo, Invited talk on “Novel technologies for improving the quality of life for people with severe disabilities,” School of Computer Science, Florida International University, Miami, FL, Mar. 2009.
- Maysam Ghovanloo, Invited talk on “Novel technologies for improving the quality of life for people with severe disabilities,” Department of Electrical and Computer Engineering, Old Dominion University, Norfolk, VA, Nov. 2008.

- Maysam Ghovanloo, Invited talk on “Tongue motor output in human-system integration,” Army Research Office, Workshop on Research Efforts and Future Directions in Neuroergonomics and Neuromorphics, College Park, MD, Oct. 2008.
- Sawan, M., “Microsystmes mdicaux implantables : dfs de conception et d’intgration”, ACFAS, Ottawa, May 2009.
- Sawan, M., “Intracortical Wireless Microsystems for Biosensing and Neurostimulation”, Tutorial at The GLSVLSI, Boston, USA, May 2009.
- Sawan, M., “Implantable Intracortical Microsystems for Wireless Biosensing and Treatment”, Michigan State University, Detroit, USA, April 2009.
- Sawan, M., “Multichannel sensing for better primary visual cortex microstimulation”, ACM Siggraph, Montreal, February 2009.
- Sawan, M., “Multichannel sensing and stimulation in the cortex: Design and packaging challenges”, University of Cyprus, Cyprus, January 2009.
- Sawan, M., “Learning from the primary visual cortex to recover vision for the blind by microstimulation”, IEEE-Norchip, Tullin, Estonia, November 2008.
- Sawan, M., Ghafar-Zadeh, E., “Lab-on-Chip Based Sensors for bioparticles detection and characterisation”, Tutorial at IEEE-Norchip, Tullin, Estonia, November 2008.
- Sawan, M., “Partenariats pour le dveloppement et la commercialisation d’un implant urinaire”, Entretiens Jacques-Cartier, Montral, October 2008.
- Sawan, M., “Medical Microsystems for the Recovery of Vital Neural Functions”, National Cheng Kung University, Tainan, September 2008.
- Sawan, M., “Microsystems Based on Microelectronics Technologies: Overview and Successful Stories of ReSMiQ Research Centre”, MEMS Emerging technology Forum, Hsinchu, September 2008.
- Sawan, M., Ghafar-Zadeh, E., “Lab-on-Chip Based Diagnostic Tools: Microfluidic Structures on Top of CMOS Devices”, Tutorial at IEEE-ICECS, Malta, September 2008.
- Sawan, M., “Wireless Intracortical Microsystems for Sensing and Subsequent Treatment”, CMOS Emerging Technology, Whistler, Canada, August 2008.
- Sawan, M., “Wireless Multi-channel Stimulation and sensing from the cortex: Design and test challenges”, VERIMAG, Grenoble, France, July 2008.
- Sawan, M., “Architectures, approches et infrastructures ddies la construction de microdispositifs htrognes embarqus”, SSNE08, Alger, May 2008.
- Sawan, M., Gosselin, B., “Massively parallel wireless sensing from the cortex: Design and test challenges”, IEEE-VTS, San Diego, May 2008.
- H. K. Kwan, Variable Digital Filter Theory, Chinese University of Hong Kong, Dec. 2008.
- H. K. Kwan, Unconstrained IIR Filter Design Method Using Argument Principle Based Stability Criterion, University of Hong Kong, Dec. 2008.
- H. K. Kwan, Variable Digital Filters, Beijing University, Shenzhen Campus, Dec. 2008.
- H. K. Kwan, Advances in Variable Digital Filters and Applications, Hong Kong Polytechnic University, Oct. 2008.
- Pau-Choo Chung (Julia), Keynote speech : “Pervasive Care and Video Analysis”, in 2008 International Computer Symposium, Taipei, Taiwan, Nov. 13-15, 2008

- Pau-Choo Chung (Julia), Panel on “Computational Intelligence in Bioinformatics and Bioengineering”, in World Congress on Computational Intelligence (WCCI), Hong Kong, 2008.
- Jie Chen, “Biomedical Nanotechnology”, Invited keynote speaker, Chinese Summer School in Shanghai, to be presented, June 2009, sponsored by the Minster of Education, China
- Jie Chen, “Intelligent Nanoparticles for Cancer Treatment”, invited talk by Alberta section of IEEE Engineering in Medicine and Biology Society, on March 3, 2009;
- Jie Chen, “Intelligent Nanoparticles for Cancer Treatment”, invited talk by Canadian Light Source in Saskatoon, Canada on March 10, 2009.
- Jie Chen, “Systematic Study of Enhanced Cytotoxicity Effects of Gold-based Nanoparticles in Targeted Cancer Radiotherapy”, invited speaker, IEEE/NIH Life Science Systems and Application Workshop 2009, April 9, 2009, Bethesda, Maryland, USA
- Jie Chen, “Applying Nanotechnology for Biomedical Applications”, invited talk in Alberta Nanotechnology showcase, Edmonton, Alberta, Nov. 21, 2008
- P. Häfliger: invited talk “Electronic Implants”, That’s IT, 150 years anniversary of the ‘Realist Foreningen’ and 40 years anniversary of the ‘Cybernetisk Selskap’ at the University of Oslo
- Pamela Abshire, 2nd Annual Intelligence Community Academic Summit, College Park, MD, June 23-26, 2008
- B.H. Gwee, “Low Power Asynchronous-Logic Circuit Design”, in International Workshop on Circuits and Systems Optimizations and Implementations, Singapore, Feb 2009
- Alistair McEwan, April 2009, Bio-electronic sensors, Activity monitoring and Bio-impedance, Obesity@Usyd, Sydney, Australia
- Alistair McEwan, February 2008, Electrical Impedance Tomography of Acute Stroke, GE Research, Niskayuna, NY.
- Alistair McEwan, April 2008, Electrical Impedance Tomography of Stroke and Epilepsy and EEG, HM Action Medical Research Partners Reception, St James Palace, London, UK.
- Yong Lian, Invited paper in 9th International Conference on solid-State and Integrated-Circuit Technology, Beijing, China, 20-23 Oct. 2008.
- Yong Lian, Plenary Speech in Symposium on Low Power Biomedical System-on-Chip Design and Application, IC China 2008, Suzhou International Expo Center, Suzhou, China, 19 Sept. 2008.
- Diego Barrettino, 18.01.2008, CMOS-MEMS Sensors, Department of Materials, Microsystems and Nanotechnology Centre, Cranfield University, Bedfordshire, United Kingdom.
- Diego Barrettino, 21.07.2008, CMOS-MEMS Sensors, Department of Electronic Engineering, University of Buenos Aires, Argentina.
- Diego Barrettino, 30.04.2009, CMOS-MEMS Sensors, Tyndall National Institute, Cork, Republic of Ireland.
- Esther Rodriguez-Villegas, Invited talk at the 5th International Conference on Augmented Cognition-special session on “Rugged Wearable Sensor Systems for Reliable Classification of Physiological data”.San Diego (USA). July 2009.
- Esther Rodriguez-Villegas, Invited by the UK Department of Trade and Investment to give a keynote talk about my research - on a monitoring device to prevent sudden death in epilepsy - in Taiwan, in a seminar targeted to 70 companies. This research was selected as “an example of UK excellence strength in research and Innovation”. Nov. 2008.

- Esther Rodriguez-Villegas, Invited talk on “Truly wearable electroencephalography: why, how, when?”, Essex Univ., UK, Nov. 2008.
- Esther Rodriguez-Villegas, Invited talk on “Electronic and medical challenges on truly wearable detection of breathing”. IEEE CMOS Emerging Technologies Workshop: Research & Business Opportunities Ahead, Banff, Canada, Feb. 2009.
- Esther Rodriguez-Villegas, Invited talk: “Wearable EEG: what is it, why is it needed and what does it entail?”, IEEE EMBC, Aug. 2008.
- Esther Rodriguez-Villegas, Invited talk on the future of EEG technology. National Society for Epilepsy. Chalfont, UK. May 2008.
- Esther Rodriguez-Villegas, Invited talk on the “Research challenges on breathing detection and EEG technology focused on the needs of epilepsy patients” in the Neurology Division of GE Healthcare. Attended by the Chief and Principal Scientists of the research division, Engineering Manager, Global Marketing Manager and the Global GEHC Manager, Helsinki, Finland, Jan. 2008.
- V. Öwall, L. Sörnmo, J. Rodrigues, Energy efficient biomedical signal processing in implantable devices Invited paper to the International Conference Smart Materials, Structures and Systems (CIMTEC), Sicily, Italy, 2008-06-08/2008-06-13.
- Giacomo Indiveri, Neural Computation and Synaptic Plasticity Using Neuromorphic VLSI, Institute of Informatics, University of Zurich, Switzerland, 2008.
- Giacomo Indiveri, An overview of neuromorphic circuit research at INI, BIES08 Workshop, Edinburgh, UK, 2008.
- Giacomo Indiveri, Neuromorphic computation and plasticity in VLSI, Italian Institute of Technology, Genoa, Italy, 2008.
- Giacomo Indiveri, Learning Machines (building them in VLSI), Future Challenges for the Science and Engineering of Learning, NSF Washington, USA, 2007.
- Ralph Etienne-Cummings, Invited Speaker: DARPA DRSC Electronic StemCell Workshop, DC, Jan 2008.
- Ralph Etienne-Cummings, Invited Speaker: University of Pennsylvania, Feb 2008.
- Ralph Etienne-Cummings, Invited Speaker: Institute for Neuro Informatics, ETHZ, Zurich, Switzerland, October, 2008
- Ralph Etienne-Cummings, Invited Speaker: Intelligent Sensors, Sensor Networks and Information Processing, Sydney, Australia, December, 2008 (Keynote Address)
- R. Etienne-Cummings, Invited Presentation: “Current Mode Active Pixel Imagers Make Focal-Plane Processing Easier,” CMOS Emerging Technology, Vancouver, Canada, Aug 2008.
- Alexander Fish, “Digital Subthreshold Logic Design Motivation and Challenges”, Invited Lecture, Technion - Israeli Institute of Technology, Haifa, Israel, December 2008.
- Orly Yadid-Pecht, “Imaging Challenges”, invited for European Optical Society Conference, Munich, Germany, June 2009
- Orly Yadid-Pecht, “Power Reduction in ‘Smart’ CMOS Image Sensors”, ISCAS 08 Special session on Low Power, Seattle, May 2008
- A. Demosthenous, “Circuits for Implantable Neural Recording and Stimulation”, presented at Katholieke Universiteit Leuven, Belgium, Oct. 2008.

- Nitish Thakor, Keynote Presentation, IEEE Signal Processing, Las Vegas, March 2008.
- Nitish Thakor, Conference Plenary Speaker, IEEE Circuits and Systems and Signal Processing Society, “Circuits, Signals and Systems for Brain Machine Interface and Neural Prosthesis”, March, 2008.
- Nitish Thakor, “Neural Prosthesis and Deep Brain Stimulation,” American Institute of Medical and Biomedical Engineering- AIMBE- Military Collaboration: Bioengineering Challenges of Brain Trauma, Washington DC, February 20, 2008.
- Nitish Thakor, “Brain Computer Interface: Theory and Applications,” 6th Summer School on Emerging Technologies in Biomedicine, Patras, Greece, July 3-5, 2008.
- Nitish Thakor, “The Brain-Machine Interface and Neural Implants,” 16th Annual World Congress on Anti-Aging, July 17, 2008.
- Nitish Thakor, “Neural Interfaces for Monitoring and Control,” 8th IEEE International Conference on BioInformatics and BioEngineering (BIBE 2008), October 8-10, 2008.
- Andrew Mason, Midwest Bio Medical Engineering Conference, Ann Arbor Michigan, April 3, 2009. Nanotechnology/MEMS Hot Topics Panel “Current research in Bio-Electro-Chemical Microsystems.”

5 Media and Popular Press

- P. Mohseni, Interview with Plasma Program on Radio Javan, Tehran, IRAN, February 23, 2009
- P. Mohseni, EE Times, Wireless implants aid medical research, San Francisco, CA, February 13, 2009
- P. Mohseni, Mayo Clinic Press Release, Mayo Clinic develops new deep brain stimulation sensor to measure chemical levels in the brain, September 12, 2008
- Jie Chen, Our biomedical nanotechnology research was reported by the CBC (Canadian Broadcast Company) on March 18, 2009, audio: <http://www.cbc.ca/clips/rm-audio/dakin-w6090318.rm>, video Quicktime: <http://www.cbc.ca/clips/mov/dakin-nano-cancer090319.mov>, videa Real Media: <http://www.cbc.ca/clips/rm-hi/dakin-nano-cancer090319.rm>, article: <http://www.cbc.ca/health/story/2009/03/18/nanotechnology-cancer.html>
- Jacob Vogelstein (reported by Ralph Etienne Cummings), “ For those without hands: the Air Guitar Hero; DARPA project repurposes Guitar Hero to train amputees to use artificial arms” , IEEE Spectrum <http://spectrum.ieee.org/nov08/6994>

6 Organizers: Conferences, Workshops, Panels, Special Sessions, Tutorials ...

- Pedram Mohseni, special session organizer: Neural Sensing and Applications, Int. IEEE Eng. Med. Biol. Conf. (EMBC09), Minneapolis, MN, September 2-6, 2009
- Pedram Mohseni, special session organizer: Advanced Neural Microsystems, IEEE Int. Symp. Circuits and Systems (ISCAS08), Seattle, WA, May 18-21, 2008
- Yehia Massoud, 2009 General Program Co-Chair of the IEEE/ACM Great Lakes Symposium on VLSI.
- Amine Bermak, Symposium Chair at the “2008 Symposium on Emerging Low Power Sensor Technologies, Sydney, Australia.

- Amine Bermak, Sensors and MEMS Track Chair at the “2008 IEEE Asia Pacific Conference on Circuits and Systems”, Nov 2008, Macau.
- Amine Bermak, General Chair at the “2008 IEEE International Conference on Electronic Design, Test and Applications”, Hong Kong.
- Eugenio Culurciello, IEEE BioCAS 2008: tutorials chair
- Eugenio Culurciello, IEEE Circuits and System for Medical and Environmental Applications Workshop 2009: invited talk chair
- Rahul Sarpeshkar, Technical Program Committee, IEEE Biological Circuits and Systems (BioCAS), 2007 - Present.
- Rahul Sarpeshkar, Technical Program Committee, Body Sensor Networks, 2008 - Present.
- Rahul Sarpeshkar, Technical Program Committee, IEEE Symposium on Circuits and Systems Biological Track, 2008.
- Rahul Sarpeshkar, Inner Space Foundation, Advisory Board, 2008 - present.
- Wouter A. Serdijn, Special session chair for ISCAS’2009;
- Wouter A. Serdijn, Special Session Co-Chair for IEEE ICECS’2009;
- Wouter A. Serdijn, International Program Committee member of the 2009 International Conference on Biomedical Electronics and Devices;
- Wouter A. Serdijn, Advisory Committee Member for the 2009 Symposium on Digital Life Technology: Human Centric Smart-Living (SDLT 2009);
- Wouter A. Serdijn, Technical Program Committee member for the 2008 IEEE Biomedical Circuits and Systems Conference (BioCAS2008);
- Chua-Chin Wang, 2008 IEEE ISCAS, Nano-Giga TC Track Chair, RCM members
- Chua-Chin Wang, 2008 VLSI/CAD Symp., Steering Committee
- Chua-Chin Wang, 2008 IEEE ICECS 2008, TPC member
- Chua-Chin Wang, 2008 Inter. Symp. on VLSI Design, Automation and Test (VLSI-DAT), TPC member
- Chua-Chin Wang, 2009 International Conference on IC Design and Technology (ICICDT), Track Chair & TPC member
- Chua-Chin Wang, 2009 World Congress on Computer Science and Information Engineering (CSIE 2009). TPC member
- Maysam Ghovanloo, 1.Special Session Co-Organizer: Advanced Neural Microsystems, IEEE Intl. Symp. on Circuits and Systems, Seattle, WA, May 2008 (with Dr. P. Mohseni).
- Maysam Ghovanloo, Technical Review Committee, IEEE Engineering in Medicine and Biology Conference (EMBC09), Minneapolis, MN, September 2009.
- Maysam Ghovanloo, Technical Review Committee, IEEE Intl. Symp. on Circuits and Systems (ISCAS09), Taipei, Taiwan, May 2009.
- Maysam Ghovanloo, Technical Program Committee, IEEE Biomedical Circuits and Systems Conference (BioCAS08), Baltimore, MD, November 2008.

- Maysam Ghovanloo, Technical Review Committee, IEEE Engineering in Medicine and Biology Conference (EMBC08), Vancouver, Canada, August 2008.
- Maysam Ghovanloo, Technical Review Committee, Midwest Symp. on Circuits and Systems (MWSCAS08), Knoxville, TN, August 2008.
- Mohamad Sawan, General Chair, IEEE-NEWCAS 2008, Montreal, Canada
- Mohamad Sawan, General co-Chair, IEEE-NEWCAS 2009, Toulouse, France
- Mohamad Sawan, Special session, biomedical circuits and systems, NEWCAS 2009
- Mohamad Sawan, ReSMiQ workshop, ACFAS 2009, Ottawa, Canada
- Mohamad Sawan, Member of the Steering Committee of the IEEE MWSCAS conference;
- Mohamad Sawan, Member of the Steering Committee of the IEEE ICECS conference;
- H. K. Kwan, Chair, Intelligent Systems and Applications Track, Annual Summit and Conference, Asia Pacific Signal and Information Processing Association, Sapporo, Japan, Oct. 4-7, 2009.
- H. K. Kwan, Technical Program Committee Member, Signal Processing Track, International Conference on Communications, Circuits and Systems, San Jose, California, USA, July 23-25, 2009.
- H. K. Kwan, Program Committee Member, Fuzzy Neural Networks Track & Bioinformatics Track, International Symposium on Neural Networks, Wuhan, China, May 25-29, 2009.
- H. K. Kwan, Review Committee Member, Digital Signal Processing Track, International Symposium on Circuits and Systems, Taipei, Taiwan, May 23-27, 2009.
- H. K. Kwan, Co-chair (with Mohsin M. Jamali), Digital Signal Processing (Poster Session), International Symposium on Circuits and Systems, Taipei, Taiwan, May 23-27, 2009.
- H. K. Kwan, Technical Program Committee Member, Speech and Spoken Language Processing Track, International Conference on Acoustics, Speech, and Signal Processing, Taipei, Taiwan, April 19-24, 2009.
- H. K. Kwan, Technical Program Committee Member, International Conference on Multimedia, Signal Processing and Communication Technologies, Aligarh Muslim University, Aligarh, India, March 14-16, 2009.
- H. K. Kwan, Review Committee Member, Digital Signal Processing Track, IEEE Asia Pacific Conference on Circuits and Systems, Macao, China, Nov. 30-Dec. 3, 2008.
- H. K. Kwan, Technical Session Chair on DSP Theory and Applications, IEEE Asia Pacific Conference on Circuits and Systems, Macao, China, Nov. 30-Dec. 3, 2008.
- H. K. Kwan, Technical Session Chair on DSP Theory, Method and Applications, IEEE Asia Pacific Conference on Circuits and Systems, Macao, China, Nov. 30-Dec. 3, 2008.
- H. K. Kwan, Review Committee Member, Genomics and Proteomics Track, Biomedical Circuits and Systems Conference, Baltimore, MD, U.S.A., Nov. 20-22, 2008.
- H. K. Kwan, Program Committee Member, Bioinformatics Track, International Symposium on Neural Networks, Beijing, China, Sept. 24-28, 2008.
- H. K. Kwan, International Program Committee Member, North America Technology Conference, McGill University, Montreal, Canada, August 13-15, 2008.
- H. K. Kwan, Chair, Technical Oral Session (BPC Session V) on Signal Processing, International Conference on Communications, Circuits and Systems, Xiamen, China, May 25-27, 2008.

- H. K. Kwan, Review Committee Member, Digital Signal Processing Track, IEEE International Symposium on Circuits and Systems, ISCAS 2008, Seattle, Washington, USA, May 18-21, 2008.
- H. K. Kwan, Co-chair (with Tian-Bo Deng), Technical Oral Session on Digital Filters and Applications, IEEE International Symposium on Circuits and Systems, Seattle, Washington, USA, May 18-21, 2008.
- Julius Georgiou, IEEE BioCAS Conference 2008, USA, Organizing Committee - Special Session Organiser
- Julius Georgiou, Local organizer of STIMESI MEMS Workshop, University of Cyprus, April 21st 24th, 2008.
- Pau-Choo Chung (Julia), Special Session Co-Chair, International Symposium on Circuits and Systems 2009, Taipei, Taiwan, 2009.
- Pau-Choo Chung (Julia), Program Co-Chair, IEEE-NIH Life Science Systems and Application Workshop, NIH Campus, Bethesda, Maryland, USA, April 9 - 10, 2009
- Pau-Choo Chung (Julia), Track Chair, International Symposium on Circuits and Systems 2009, Taipei, Taiwan, 2009.
- Pau-Choo Chung (Julia), Technical Program Committee, IEEE Biomedical Circuits and Systems (BioCAS) 2008, Baltimore, MD, USA, Nov 20-22, 2008.
- Pau-Choo Chung (Julia), Publicity Co-Chair, IEEE Symposium Series on Computational Intelligence, Sheraton Music City Hotel, Nashville, TN, USA, March 30 - April 2, 2009
- Pau-Choo Chung (Julia), TPC, The 2009 IEEE-RIVF International Conference on Computing and Communication Technologies, July, 2009.
- Pau-Choo Chung (Julia), TPC member, 2008 International Computer Symposium, Taipei, Taiwan, Nov. 13-15, 2008
- Pau-Choo Chung (Julia), Advisory Committee Member, The 21th IPPR Conference on Computer Vision, Graphics and Image Processing, Taiwan.
- Jie Chen, Technical Program Committee, IEEE Biological Circuits and Systems (BioCAS), 2007 - Present.
- Jie Chen, Technical Program Committee, IEEE LifeScience Systems and Applications, 2005 - Present.
- Jie Chen, Technical Program Committee, IEEE Nano Circuits and Systems, 2006 - Present
- P. Häfliger, IEEE ISCAS 2008, organizer Special Session on Live Demonstrations of Circuits and Systems
- P. Häfliger, IEEE ISCAS 2009, track co-chair Live Demonstrations of Circuits and Systems
- P. Häfliger, IEEE conference on Biomedical CAS 2008, member technical program committee
- Pamela Abshire, Co-chair, NSF CISE REU Sites PI Meeting, March 12-13, 2009.
- P. Sotiriadis, Technical Program committee, IEEE Biomedical Circuits and Systems Conference 2008 (BioCAS).
- P. Sotiriadis, Technical Program committee, Third International ICST Conference on Nano-Networks 2008 (NANO-NETS).
- P. Sotiriadis, Technical Program committee, Precise Time and Time Interval (PTTI) 2008.

- P. Sotiriadis, Technical Program committee, 21st Symposium on Integrated Circuits and System Design 2008 (SBCCI).
- P. Sotiriadis, Technical Program Committee, GLSVLSI 2008.
- Sameer Sonkusale, Technical Program Committee (TPC), IEEE Sensors Conference
- Sameer Sonkusale, Review Committee (TPC), ISCAS
- Sameer Sonkusale, Technical Program Committee (TPC), International System on Chip Conference
- Sameer Sonkusale, Technical Program Committee (TPC), Great Lakes Symposium on VLSI Circuits
- Sameer Sonkusale, Review Committee (TPC), BioCAS 2008
- Alistair McEwan, Executive committee of the Centre for neuroimaging techniques (UCL-CNT), London, UK.
- Yong Lian, General Co-Chair, the 2009 Asia Pacific Conference on Postgraduate Research in Microelectronics & Electronics, November 2009, Shanghai, China.
- Yong Lian, General Co-Chair, IEEE 2009 International Conference on Biomedical Circuits and Systems (BioCAS'2009), November 2009, Beijing, China.
- Y.Lian, International Coordinator, IEEE 2009 International Symposium on Circuits and Systems (ISCAS'2009), May 2009, Taiwan.
- Yong Lian, Technical Program Member, IEEE 2009 International Symposium on Circuits and Systems (ISCAS'2009), May 2009, Taiwan.
- Yong Lian, BioCAS and DSP Track Chairs, IEEE 2009 International Symposium on Circuits and Systems (ISCAS'2009), May 2009, Taiwan.
- Yong Lian, Member of International Organizing Committee, The 4th International Symposium on Biomedical Engineering, December 14 -18, 2009, Bangkok, Thailand.
- Yong Lian, BioCAS Track Chair, European Conference on Circuit Theory and Design 2009 (ECTD'2009), August 23 - 27, 2009, Antalya, Turkey.
- Yong Lian, Technical Program Co-Chair, IEEE 2008 International Conference on Biomedical Circuits and Systems (BioCAS'2008), 18-21 November 2008, Baltimore, USA.
- Yong Lian, Technical Program Committee Member, 9th International Conference on Solid-State and Integrated-Circuit Technology (ICSICT'2008), 20-23 October 2008, Beijing, China.
- Yong Lian, International Program Committee Member, 2008 IASTED Signal and Image Processing (SIP'2008), 18 - 20 August 2008, Hawaii, USA.
- Yong Lian, International Advisory Committee Co-Chair, 2008 IEEE International Conference on Neural Networks and Signal Processing (ICNNSP08), 3 - 7 June 2008, Nanjing, China.
- Yong Lian, Chair, International Steering Committee of Asia Pacific Conference on Circuits and Systems (2007-2008).
- A. Hamoui, Co-Chair, Technical Program Committee, IEEE International Conference on Electronics, Circuits & Systems (ICECS'09).
- A. Hamoui, Chair, Special-Sessions, IEEE North-East Workshop on Circuits & Systems (NEW-CAS'09).

- Viktor Gruev, Member of Program Committee: ISCAS, BioCAS
- Esther Rodriguez-Villegas, Associate editor in IEEE EMBC 2008.
- Esther Rodriguez-Villegas, Organizer of invited session on “The future of truly wearable EEG technologies: the technological challenges,” in IEEE EMBC 2008, Vancouver, Canada, Aug. 2008.
- Esther Rodriguez-Villegas, Review committee member in ISCAS 2008, IEEE ISCAS 2009
- Giacomo Indiveri, Advisory Board member of the Telluride Neuromorphic Cognition Engineering Workshop since 2009.
- Giacomo Indiveri, Chair of the 2008 Neural Information Processing Systems Demo Track.
- Giacomo Indiveri, Program Committee member, 2009 International Conference on Artificial Neural Networks (ICANN), 2009 IEEE International Symposium on Circuits and Systems (ISCAS), 2009 Neural Information Processing Systems (NIPS) conference, 2009 Bio-Sensing (OP207) Part of the SPIE International Symposium on NanoScience + Engineering, 2008 SPIE Microtechnologies for the new Millennium conference, 2008 Computational Intelligence in Security for Information Systems CISIS08, 2008 International Federation of Automatic Control (IFAC) World Congress, 2008 IEEE World Congress on Computational Intelligence (WCCI 2008)
- Ralph Etienne-Cummings, Co-Organizer of MRCIIS Winter School, JHU, January 12th 16th, 2009
- Ralph Etienne-Cummings, Organization Committee, NSF Sponsored Course on Telluride Neuromorphic Engineering, 2003 - Present
- Ralph Etienne-Cummings, Organized/Lead various tutorials, workshops and panels at international conferences, ISCAS, BioCAS, 1997 - Present
- Ralph Etienne-Cummings, General Chair, IEEE Biomedical Circuits and Systems 2008 Conference.
- Ralph Etienne-Cummings, General Chair IEEE BioCAS Conference, Baltimore, MD, November 2008).
- Alexander Fish, IEEE ISCAS’08 - Co-organizer of Special Session “Low Power Smart CMOS Image Sensors and Beyond”
- Alexander Fish, IEEE Sensors Conference 2009 - Co-organizer of Special Session “Design Methodologies for Advanced Ultra Low Power Sensor and Memory Arrays”
- Orly Yadid-Pecht, Member of the SPIE Solid State Sensor Arrays international conference program committee (1997-present).
- Orly Yadid-Pecht, Member of the Technical Committee for the IEEE BioCAS conference (2004-present).
- Orly Yadid-Pecht, Member of the Steering Committee for the IEEE ICECS (2003-present).
- Orly Yadid-Pecht, Special Session co-organizer, “Low Power Image Sensors”, IEEE Circuits and Systems Conference, Seattle, May 2008.
- A. Demosthenous, Technical Programme Committee ESSCIRC 08 & 09
- A. Demosthenous, Technical Programme Committee PRIME 09
- A. Demosthenous, Technical Programme Committee BIOCAS 08
- A. Demosthenous, Review Committee Member ISCAS 09
- Andrew Mason, Technical Review Committee: BioCAS 08, ISCAS 09
- Andrew Mason, Proposal Review Panel: NIH Electromagnetic Devices, June 2008; NIH ZRG1 DKUS-K 11, April 09

7 Editorial Services

- Pedram Mohseni, associate editor, IEEE Transactions on Biomedical Circuits and Systems, 2008-present
- Yehia Massoud, Associate Editor, IEEE Transactions on Very Large Integration (VLSI) Systems
- Yehia Massoud, Associate Editor, Journal of Circuits, Systems and Computers, 2005-2008
- R. Rieger, Associate Editor, IEEE Transactions on Biomedical Circuits & Systems (TBCAS)
- Amine Bermak, Associate Editor IEEE Transactions on Very Large Scale Integration (VLSI) Systems.
- Amine Bermak, Associate Editor IEEE Transactions on Biomedical Circuits and Systems.
- Amine Bermak, Associate Editor Journal of Sensors.
- Eugenio Culurciello, Associate Editor, IEEE Transaction on Biomedical Circuit and Systems (BioCAS) and PloS ONE Synthetic Vision Systems.
- Rahul Sarpeshkar, Associate Editor, IEEE Transactions on Biomedical Circuits and Systems, 2007 - Present.
- Wouter A. Serdijn, Deputy Editor-in-Chief IEEE Transactions on Circuits and Systems - I;
- Wouter A. Serdijn, International Journal of Low-Power Electronics, member of the Editorial Board;
- Wouter A. Serdijn, Analog Integrated Circuits and Signal Processing (Springer), member of the Editorial Board;
- Wouter A. Serdijn, Guest Editor IEEE Transactions on Circuits and Systems - I, Special Section on CICC'2008
- Chua-Chin Wang, Inter. J. of VLSI Design, Associate Editor
- Chua-Chin Wang, IEICE Trans. on Electronics, Associate Editor
- Chua-Chin Wang, Inter. J. of Electrical Engineering, Guest Editor & Associate Editor
- Maysam Ghovanloo, Associate Editor, Transactions on Circuits and Systems II, Dec. 2007 - Present
- Mohamad Sawan, Guest co-editor, Springer ALOG special issue of ICECS2007
- Mohamad Sawan, Guest co-editor, Springer ALOG special issue of NEWCAS2008
- Mohamad Sawan, Guest co-editor, Elsevier Microelectronics Journal special issue of NEWCAS2008
- Mohamad Sawan, Editor, Springer mixed-signal letters
- Mohamad Sawan, Associate Editor, IEEE-TBiocas
- Mohamad Sawan, Member of the Steering Committee of the IEEE Trans. on Biomedical Circuits and Systems Journal;
- Mohamad Sawan, Member of the Editorial Board of the International Journal of Circuit Theory and Applications
- Mohamad Sawan, Member of the International Editorial Board of the Journal of Healthcare Engineering;
- H. K. Kwan, Overseas Member, Editorial Committee, Chinese Journal of Scientific Instrument, 1/2007-1/2010.

- Pau-Choo Chung (Julia), Associate Editor, Journal of Information Science and Engineering
- Pau-Choo Chung (Julia), Special issue, “Digital Life Technology”, Journal of Information Science and Engineering.
- Jie Chen, Associate Editor, IEEE Transactions on Biomedical Circuits and Systems, 2007 - Present.
- Jie Chen, Advisory Editorial Board Member for the Book Series: “Bioinformatics and Computational BioImaging”, Artechouse Publishers, Inc. 2007- present
- P. Sotiriadis, Associate Editor, IEEE Transactions on Circuits and Systems Part II. (2005- present)
- B.H Gwee, Associate Editor - Journal of Circuits, Systems and Signal Processing
- Yong Lian, Associate Editor, IEEE Transactions on Circuits and Systems Part I.
- Yong Lian, Steering Committee Member, IEEE Transactions on Biomedical Circuits and Systems.
- Yong Lian, Associate Editor, IEEE Transactions on Biomedical Circuits and Systems.
- Yong Lian, Associate Editor, Circuits, Systems and Signal Processing.
- Yong Lian, Guest Editor, IEEE Trans. on Biomedical Circuits and Systems, Special Section on Selected Papers from ISCAS’2007.
- Yong Lian, Guest Editor, Circuits Systems and Signal Processing, Special Issue on Low Power Digital Filter Design Techniques and Their Applications, in Sept 2009.
- A. Hamoui, Member, Editorial Board, Analog Integrated Circuits and Signal Processing International Journal, Springer.
- Viktor Öwall, Associate editor TCAS-I
- Giacomo Indiveri, Associate editor of the IEEE “Transactions on Neural Networks”, since 2007.
- Giacomo Indiveri, Associate editor of “Cognitive Computation” (Springer), since 2008
- Giacomo Indiveri, Associate editor of “Advances in Artificial Neural Systems” (Hindawi), since 2007.
- Giacomo Indiveri, Review editor of “Frontiers in Neuro-engineering”, since 2007.
- Giacomo Indiveri, Editorial Board member of The Neuromorphic Engineering newsletter.
- Ralph Etienne-Cummings, Senior Associated Editor, IEEE Sensors Journal, 2002 July 2008
- Ralph Etienne-Cummings, Associated Editor, IEEE Sensors Journal, July 2004 2008
- Ralph Etienne-Cummings, Associated Editor, IEEE Trans. Biomedical Circuits and Systems, 2006 Present
- Ralph Etienne-Cummings, Member of the Editorial Board: INE The Neuromorphic Engineer, 2002 present
- Ralph Etienne-Cummings, Guest Editor: IEEE Trans. Biomedical Circuits and Systems, Special Issue on BioCAS 2007, February 2008
- Orly Yadid-Pecht, 2007 2009 IEEE Trans. on BioMedical Circuits and Systems Associate Editor
- Emmanuel Drakakis, Associate Editor for IEEE TBioCAS since 2008
- A. Demosthenous, Editorial Board for Open Electrical and Electronic Engineering Journal

- A. Demosthenous, Associate Editor IEEE Transactions on Circuits and Systems I: Regular Papers
- A. Demosthenous, Associate Editor IEEE Circuits and Systems Society Newsletters
- Nitish Thakor, Editor in Chief, IEEE Transactions on Neural Systems and Rehabilitation Engineering
- Andrew Mason, Guest Associate Editor, IEEE Trans. on Biomedical Circ. Systems, Special Issue for ISCAS 2008.

8 Other Professional Activities

- Pedram Mohseni, panel member: National Institute on Drug Abuse-Cutting Edge Basic Research Award (NIDA-CEBRA) Special Emphasis Panel ZDA1 MXS-M (02), January 15-16, 2009
- Pedram Mohseni, TC member: Neural Sensing and Applications, Int. IEEE Eng. Med. Biol. Conf. (EMBC09), Minneapolis, MN, September 2-6, 2009
- Pedram Mohseni, TC member: Advanced Neural Microsystems, IEEE Int. Symp. Circuits and Systems (ISCAS08), Seattle, WA, May 18-21, 2008
- R. Rieger, Chairman IEEE EMBS Chapter, 2008 & Vice-Chair 2009.
- R. Rieger, Member VSA-TC, BioCAS TC and CAS Education and Outreach (CASEO) TC.
- R. Rieger, Member of the Taiwan Chip Implementation Center (CIC) Peer-Review Committee.
- Amine Bermak, Member of the IEEE Circuit and Systems Society's Technical Achievement Award Subcommittee 2008 (the committee is responsible for selecting the recipient of the circuit and systems society's Technical Achievement award).
- Amine Bermak, Session chairman at the "2008 IEEE Asia Pacific Conference on Circuits and Systems", "The Fourth International Conference on Intelligent Sensors, Sensor Networks and Information Processing," 2008
- Wouter A. Serdijn, member of Board of Governors of CASS (2nd term);
- Wouter A. Serdijn, member of Conference Division of CASS;
- Wouter A. Serdijn, Mentor of the IEEE;
- Chua-Chin Wang, IEEE CASS Tainan Chapter Chair (2007-2008)
- Chua-Chin Wang, IEEE SSCS Tainan Chapter Chair (2007-2008)
- Chua-Chin Wang, IEEE NSYSU Student Branch Consult Professor (2007-2010)
- Chua-Chin Wang, IEEE CAS Nanoelectronics & Gigascale Systems TC Chair (2008-2009)
- Mohamad Sawan, Member of the International Advisory Board of the Emirates Journal of Engineering Research;
- H. K. Kwan, Chair, Intelligent Systems and Applications Technical Committee, Asia Pacific Signal and Information Processing Association.
- H. K. Kwan, International Steering Committee Member, International Symposium on Intelligent Signal Processing and Communication Systems.
- H. K. Kwan, Co-chair, Signal Processing Track, International Conference on Communications, Circuits and Systems, San Jose, California, USA, July 23-25, 2009.

- H. K. Kwan, Co-Chair, Signal Processing and Communications Track, International Conference on Communications, Circuits and Systems, Xiamen, China, May 25-27, 2008.
- Pau-Choo Chung (Julia), Board of Governor, IEEE Circuit and Systems Society (2007-2009)
- Pau-Choo Chung (Julia), Chair, Life Science System and Applications TC, IEEE Circuit and Systems Society (CASS).
- Pau-Choo Chung (Julia), ADCOM member, IEEE Computational Intelligence Society (2009-2011)
- Pau-Choo Chung (Julia), BoG, Chinese Image Processing and Pattern Recognition Association
- Pau-Choo Chung (Julia), BoG, Medical Image Standard Association at Taiwan
- P. Häfliger, member IEEE CASS Neural Systems and Applications technical committee (NSA TC) and Sensory Systems technical committee (SS TC)
- P. Häfliger, secretary IEEE CASS Biomedical Circuits and Systems technical committee (BioCAS TC)
- Pamela Abshire, NSF Review Panel for CISE REU Sites, October 2008.
- Pamela Abshire, IEEE CAS Neural Systems & Applications Technical Committee: Secretary Elect, 2007-2008; Secretary, 2008-2009. Member of IEEE CAS TCs: Biomedical Circuits and Systems, Nanoelectronics and Gigascale Systems, Sensory Systems.
- Pamela Abshire, Emerging Technology Research Advisory Committee, U.S. Department of Commerce, 2008-2011.
- B.H Gwee, Chapter Treasurer - IEEE Singapore Circuits and Systems Chapter (2008, 2009)
- Yong Lian, Member of the IEEE Medal for Innovations in Healthcare Technology Committee of IEEE Awards Board.
- Yong Lian, Administrative Committee Member, the IEEE Biometrics Council.
- Yong Lian, IEEE Circuits and Systems Society's Representative to the BioTechnology Council.
- Yong Lian, Secretary, Digital Signal Processing Technical Committee, IEEE Circuits and Systems Society.
- Yong Lian, Vice President, Asia Pacific Region of IEEE Circuits and Systems Society (2007-2008).
- A. Hamoui, Co-Chair, Montreal Chapter, IEEE Solid-State Society.
- Viktor Öwall, Member of the Technical Committees for VLSI Systems of the IEEE Circuit and Systems Society
- Giacomo Indiveri, Member of the Executive Board of the Institute of Neuromorphic Engineering, 2002-Present
- Giacomo Indiveri, Advisory Committee member of the Italian Society of Neural Networks SIREN, since 2009.
- Giacomo Indiveri, Scientific Advisory Board member of the Information Technologies Division of Austria Research Centers (ARC), Austria from 2005 to 2008.
- Giacomo Indiveri, Chair of the 2008 IEEE Technical Committee on Neural Systems and Applications

- Giacomo Indiveri, Technical Committee member of the IEEE Biomedical Circuits and Systems Technical Committee, IEEE Neural Systems and Applications Technical Committee, and IEEE Sensory Systems Technical Committee
- Ralph Etienne-Cummings, Member of Johns Hopkins University Strategic Planning Committee, Co-Chair of People Working Group, JHU, April 2008 – September, 2008
- Ralph Etienne-Cummings, Associate Director for Education and Outreach, ERC on CISST, JHU, 2004 – Present
- Ralph Etienne-Cummings, Co-Chair of Diversity Committee, ERC on CISST, JHU, 2004 – Present
- Ralph Etienne-Cummings, Co-PI SITE REU Program & Supervised REU Students, ERC on CISST, JHU, 2000 – Present
- Ralph Etienne-Cummings, Director of the Institute of Neuromorphic Engineering, 2002 – 2008 (an Institute “with-out walls”)
- Ralph Etienne-Cummings, Board of Governors, IEEE CAS Society, 2003-2005, 2005 – 2008 (Strategic Committee, Regional Activities Committee, Technical Activities Committee)
- Orly Yadid-Pecht, Member of the IEEE CAS Neural Networks, Biocas and Sensors Technical Committees (1996 – present).
- Orly Yadid-Pecht, Member of the IEEE CAS Women in Engineering committee.
- Orly Yadid-Pecht, 2006-present IEEE Sensors Council – Circuits and Systems Society Representative, Board Member (2006-present)
- A. Demosthenous, International Advisory Board for Physiological Measurement, Institute of Physics (IOP)
- A. Demosthenous, Member of the UK Engineering and Physical research Sciences (EPSRC) Peer Review College
- Andrew Mason, IEEE Circuits and Systems Society, Sensory Systems and Biomedical CaS Technical Committees.
- Andrew Mason, Participated in the 2008 Indo US Engineering Faculty Leadership Institute organized by the Indo US Collaboration for Engineering Education (IUCCEE). Developed and presented a week-long workshop for Indian faculty members in Mysore India to help train participants to be more effective engineering educators and researchers.

9 Awards and Honors

- Pedram Mohseni, EECS Faculty Research Award for Exceptional Achievement at Case Western Reserve University 2008
- R. Rieger, Distinguished Scholar Award, National Sun Yat-Sen University, Taiwan, 2008/2009.
- R. Rieger, Elected to the grade of IEEE Senior Member, October 2008.
- Amine Bermak, Recipient of the IEEE Service Award from IEEE Computer Society for Serving as a General Co-Chair at DELTA 2008.
- Eugenio Culurciello, Best Paper Award, IEEE Circuit and System Society, for the IEEE ISCAS 2008 paper “Fall detection using an address-event temporal contrast vision sensor”
- Chua-Chin Wang, Best IC Design Award : CIC of NSC, Taiwan, project : “C-less and R-less ASK demodulator for wireless implantable devices,” Analog Design Category

- Chua-Chin Wang, Founding President, Taiwan Institute of Electrical and Engineering (TIEEE), (2008-2010)
- Chua-Chin Wang, Director Board Member, IEEE Tainan Section (2008-2009)
- Chua-Chin Wang, Advisory Board Member, U National Chip Implementation Center, Taiwan (2007-2009)
- Mohamad Sawan, elected “Officier” by the Government of Quebec for outstanding contributions;
- Mohamad Sawan, recipient of the Lebanese Embassy in Canada Achievements Award;
- Mohamad Sawan, co-recipient of the 1st best student paper award from IEEE NEWCAS 2008;
- Mohamad Sawan, co-recipient of the 3rd best student paper award from IEEE NEWCAS 2008;
- Mohamad Sawan, co-recipient of the Best IEEE Solid-State Society Chapter of the year;
- Julius Georgiou, Int. Conf. of Biomedical Electronics and Devices (BIODEVICES) 2008 Best Paper Award
- Julius Georgiou, Elevated to IEEE Senior Member, October 2008
- Jie Chen, CFI Leaders Opportunity Award by the Canadian Foundation for Innovation (CFI) on Feb. 20, 2008
- B.H Gwee, IEEE CASS Distinguished Lecturer (2009-2010)
- Alistair McEwan, Marie Curie Research Fellowship, Philips Medical Signal Processing Research, Aachen, Germany, 2008-2009
- Yong Lian, IEEE Fellow, for the contributions to low power high performance digital filter design.
- Yong Lian, 2008 Multimedia Communications Best Paper Award from the IEEE Communication Society for the paper published in the IEEE Transactions on Multimedia, June 2007.
- A. Hamoui, Co-recipient, Outstanding Chapter Award, IEEE Solid-State Circuits Society.
- Giacomo Indiveri, IEEE CASS Major Projects/Initiatives Grant, for the 2009 CapoCaccia Workshop toward Cognitive Neuromorphic Engineering (one year workshop support, principal investigator).
- Giacomo Indiveri, EU ICT FP7 Grant ICT-231467-eMorph: “EventDriven Morphological Computation for Embodied Systems” (3 year STREP project, coordinated by C. Bartolozzi, Italian Institute of Technology, Italy).
- Giacomo Indiveri, EU ICT Grant ICT-231168-SCANDLE “acoustic SCene ANalysis for Detecting Living Entities” (3 year STREP project, coordinated by S. Denham, University of Plymouth, UK), 2008.
- Giacomo Indiveri, European Space Agency (ESA) Ariadna study 08/6303 “Neuromorphic computation of optic flow data” (4 months project, principal investigator), 2008.
- Giacomo Indiveri, Swiss National Science Foundation Grant #121713: “Neuromorphic Attention” (3 year research project, principal investigator), awarded in 2008
- Giacomo Indiveri, Swiss National Science Foundation Grant #119973: “Real-time sound recognition using neuromorphic VLSI” (3 year research project, principal investigator), awarded in 2007
- Ralph Etienne-Cummings, Achieved IEEE Senior Member Status, IEEE, December 2008

- Ralph Etienne-Cummings, co-recipient of the Best “Ph.D in a Nutshell,” IEEE BioCAS 2008 Conference, Baltimore, MD, November 2008
- Ralph Etienne-Cummings, co-recipient of the Best Student Paper Finalist, International Symposium of Circuits and Systems, Seattle, WA, April 2008
- Ralph Etienne-Cummings, Best Paper Honorable Mention, North East BioEngineering Conference, Providence, RI, April 2008
- Orly Yadid-Pecht, 2009 iCORE Professorship in “Integrated Sensors and Intelligent Systems”

10 Publications

10.1 Books and Book Chapters

- Timothy G. Constandinou, “Biologically Inspired Electronics for Micropower Vision Processing”, VDM Verlag, ISBN: 978-3-639-13391-2, March 2009.
- P. Mohseni, “Integrated Circuits for Neural Interfacing: Neurochemical Recording”, in VLSI Circuits for Biomedical Applications (K. Iniewski, ed.), pp. 179-190, Norwood, MA: Artech House, 2008.
- E. Culurciello, “Silicon-on-Sapphire, SOI circuits and systems”, McGraw Hill publishing company, final version submitted, to be published in Fall 2009.
- Sarpeshkar, R., “Biomorphic and Neuromorphic Engineering Systems”, Invited article, 2009 McGraw Hill Yearbook of Science and Technology.
- Sandro A.P. Haddad and Wouter A. Serdijn: Ultra Low-Power Biomedical Signal Processing: an analog wavelet filter approach for pacemakers, Springer, April, 2009.
- M. Ghovanloo, (July, 2008) “Integrated circuits for neural interfacing: Neural stimulation,” In VLSI Circuits for Biomedical Applications (K. Iniewski, ed.) Norwood, MA: Artech House, Inc.
- G. Indiveri, S.-C. Liu, T. Delbrück, and R. Douglas. New Encyclopedia of Neuroscience, chapter Neuromorphic Systems, pages 512528. Elsevier, 2008.
- G. Indiveri and R. Douglas. Handbook on “Nano- and Molecular Electronics”, chapter Neuromorphic Networks of Spiking Neurons, pages 101109. CRC Press, 2007.
- A. Fish and O. Yadid-Pecht, “Considerations for Power Reduction in ‘Smart’ CMOS Image Sensors”, by Kris Iniewski, CRC Press, 2008.
- X.Yue, E.M.Drakakis, “Monitoring of stem cell cultures using electrochemical biosensors”, to appear in “Nanoelectronics”, 2009, Editor: K.Iniewski
- N. Grosmann, K. Nikolic, P. Degenaar, N. Grosmann, K. Nikolic, P. Degenaar, C. Toumazou, Y. Huang, E.M.Drakakis, “Bionic eye - A non-invasive approach”, in Encyclopaedia of Healthcare Information Systems, Eds: Nilmini Wickramasinghe and Eliezer Geisler, Illinois Institute of Technology IGI Publishing, 2008, ISBN: 1599048892
- H.M.D.Ip, E.M.Drakakis, A.A. Bharath, “Analog V1 Platforms”, in “Next Generation Artificial Vision Systems Reverse Engineering the Human Visual System”, Eds:A.A.Bharath & M.Petrou, Artech House, 2008, ISBN:1596932244
- Demosthenous, I. F. Triantis, and X. Liu, “Circuits for Implantable Neural Recording and Stimulation”, in Handbook of Neural Engineering, ch. 11, Artech House, VLSI Circuits for Biomedical Applications, pp. 207-240, Jun. 2008.

- Mollazadeh M, Murari K, Sauer C, Stanacevic M, Thakor N, Cauwenberghs G, Wireless Integrated Neurochemical and Neuropotential Sensing, in VLSI Circuits for Biomedical Applications, K. Iniewski (Ed), Artech House, Norwood, MA, pp. 1-26, 2008.

10.2 Journals

- Timothy G. Constandinou and Julius Georgiou, "A Micropower Arcsine Circuit for Tilt Processing", IET Electronics Letters, Vol. 44, No. 23, pp.1336-1338, 2008.
- Timothy G. Constandinou, Julius Georgiou and C. Toumazou, "A Partial-Current-Steering Biphasic Stimulation Driver for Vestibular Prostheses", IEEE Transactions on Biomedical Circuits & Systems, Vol. 2, No. 2, pp. 106-113,
- Timothy G. Constandinou and Julius Georgiou, "Micro-Optoelectromechanical Tilt Sensor", Journal of Sensors, ISSN: 1687-725X, pp. 1-7, 2008.
- Timothy G. Constandinou, Julius Georgiou and Chris Toumazou, "Micropower front-end interface for differential-capacitive sensor systems", IET Electronics Letters, Vol. 44, No. 7, pp. 470-472, 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., vol. 55, no. 11, pp. 2628-2634, November 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, vol. 2, no. 1, pp. 3-9, March 2008 (Invited Paper).
- A. Nieuwoudt, T. Ragheb, H. Nejati, and Y. Massoud, "Numerical Design Optimization Methodology for Wideband and Multi-Band Inductively Degenerated Cascode CMOS Low Noise Amplifiers," IEEE Transactions on Circuits and Systems I, 2008.
- A. Nieuwoudt and Y. Massoud, "Predicting the Performance of Low Loss On-Chip Inductors Realized using Carbon Nanotube Bundles", IEEE Transactions on Electron Devices, 2008.
- T. Ragheb, A. Ricketts, M. Mondal, S. Kirolos, G. Link, V. Narayanan, and Y. Massoud, "Design of Thermally Robust Clock Trees using Dynamically Adaptive Clock Buffers," IEEE Transactions on Circuits and Systems I, 2008.
- A. Hossieni, H. Nejati, and Y. Massoud, "Triangular Lattice Plasmonic Photonic Bandgaps in Subwavelength Metal-Insulator-Metal Waveguide Structures", Applied Physics Letters, 2008.
- A. Nieuwoudt and Y. Massoud, "On the Optimal Design, Performance, and Reliability of Future Carbon Nanotube-Based Interconnect Solutions," IEEE Transactions on Electron Devices, To Appear, 2008.
- A. Hossieni, H. Nejati, and Y. Massoud, "Design of Optical Maximally-Flat Low-Pass Filter Using Plasmonic Nanostrip Waveguides," Optics Express, 2008.
- Y. L. Wong, M. H. Cohen, and P. A. Abshire, "A 750MHz 6b Adaptive Floating Gate Quantizer in 0.35μm CMOS." IEEE Transactions on Circuits and Systems I. In Press.
- Y. L. Wong, Marc H. Cohen, and P. Abshire, "A 1.2GHz Comparator with Adaptable Offset in 0.35μm CMOS," IEEE Transactions on Circuits and Systems I, Vol. 55(9): 2584-2594, Oct. 2008.
- R. Rieger, J. Taylor, "An Adaptive Sampling System For Sensor Nodes In Body Area Networks," IEEE Trans. Neural Systems and Rehabilitation Engineering, online first: DOI 10.1109/TNSRE.2009.2015199, 2009.

- R. Rieger, Y.-Y. Pan, “A High-gain Acquisition System with Very-Large Input-Range,” *IEEE Trans. Circuits and Systems I Regular Papers*, online first: DOI 10.1109/TCSI.2008.2011581, 2008.
- C. Clarke, X. Xu, R. Rieger, J. Taylor, N. Donaldson, “An Implanted System For Multi-Site Nerve Cuff-Based ENG Recording Using Velocity Selectivity,” *Analog Integrated Circuits and Signal Processing*, vol. 58, no. 2, pp. 91-104, 2009.
- N. Donaldson, R. Rieger, M. Schuettler, J. Taylor, “Noise and Selectivity of Velocity-Selective Multi-Electrode Nerve Cuffs,” *Medical & Biological Engineering & Computing*, no. 46, pp. 1005-1018, 2008.
- R. Rieger, J. Taylor, “Design Strategies for Multi-Channel Low-Noise Recording Systems,” *Analog Integrated Circuits and Signal Processing*, vol. 58, no. 2, pp. 123-133, 2009.
- Xiaojin Zhao, Amine Bermak, Farid Boussaid, and Vladimir G. Chigrinov “Thin Photo-Patterned Micropolarizer Array for CMOS Image Sensors”, *IEEE Photonics Technology Letters*, Accepted 2009.
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