Special issue on IEEE-ICECS2007

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Published online: 14 May 2010
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This special issue of the Springer Analog Integrated Circuits and Signal Processing (ALOG) is devoted to topics from the 2007 IEEE International Conference on Electronics, Circuits and Systems (ICECS2007) that was held in Marrakech, Morocco, 11–14th December 2007. The selected papers reflect continuing trends toward higher levels of analog and digital circuit techniques covering a wide variety of subjects within the Analog and RF Integrated Circuits and Signal Processing fields, ranging from basic analog building blocks to system applications on several related domains such as telecommunications and biomedical.

The major areas of Electronics, Circuits and Systems covered by ICECS2007, drew over 500 submissions from 51 countries spanning the globe, 359 contributions were selected by 354 reviewers for presentations as lectures or posters. Among the published contributions in the ICECS2007 proceedings, a pre-selection of 18 papers has been completed and corresponding Authors were invited for contributions to this Special issue. We received 11 full manuscripts and after the assessment of reviewers, seven of them have been accepted for publication in this Special issue.

The presented contributions includes: (1) A low-power integrated neural interface with digital spike detection and extraction; (2) Design of improved rail-to-rail low-distortion and low-stress switches in advanced CMOS technologies; (3) SMR–BAW duplexer for W-CDMA application; (4) A broadband folded Gilbert cell CMOS mixer; (5) A two-stage capacitive-feedback differencing amplifier for temporal contrast IR sensors; (6) A dual-phase charge pump circuit with compact size; and (7) A fast-locking agile frequency synthesizer for MIMO dual-mode WiFi/WiMAX applications.

Selecting only seven papers out of 359 contributions of the conference presentations is a difficult and critical task. We are aware that we probably missed many excellent contributions, but we do know that we did our best to put together a Special issue as complete as possible.

The Technical Program of ICECS2007 is the result of a truly international cooperation of experts. We feel very much indebted to Technical Program Chair and Committee for their invaluable help to keep the level of ICECS at the high standard that our scientific community has grown accustomed to expect from it. We wish to thank our co-researchers from all around the world, for choosing to submit their contributions to ICECS for review. Due to their many and important contributions, the Technical Program Committee managed to create a Technical Program of high scientific quality. We would like to thank the numerous volunteers that helped to review the submitted papers. We wish to thank Prof. E.M. Aboulhamid, General co-chair of ICECS2007, and Prof. Mohamed Ismail, Editor-in-chief of ALOG for giving us the opportunity to lead this Special issue. We also wish to express our deepest gratitude for the efforts of the Springer personnel. This Special issue is only possible with their expert help.

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Mohamad Sawan was born in Lebanon, received the B.Sc. degree in 1984 from Laval University, and the Ph.D. degree in 1990 in Electrical Engineering, from Sherbrooke University, Canada. He joined Polytechnique Montréal in 1991, where he is currently a Professor of Microelectronics and Biomedical Engineering. His scientific interests are the design and test of mixed-signal (analog, digital, RF, MEMS and optic) circuits and microsystems: design, inte-

gration, assembly and validations. These topics are oriented toward the biomedical and telecommunications applications. Dr. Sawan is a holder of a Canada Research Chair in Smart Medical Devices. He is leading the Microsystems Strategic Alliance of Quebec (ReSMiQ) receiving membership support from 11 Universities. Dr. Sawan is Deputy Editor-in-Chief of the IEEE Transaction on Circuits and Systems II (TCAS-II), Editor/Associate Editor of several International Journals such as the IEEE Transactions on Biomedical Circuits and Systems (TBioCAS) and the Springer Mixed-signal Letters. He is founder/co-founder of several IEEE International conferences such as NEWCAS, BiOCAS, and ICECS, he is the founder of the Polystim Neurotechnologies Laboratory at Polytechnique Montréal. Dr. Sawan published more than 500 papers in peer reviewed journals and conference proceedings, and he was awarded nine patents pertaining to the field of biomedical sensors and actuators. Dr. Sawan received several prestigious awards; the most important of them are the Medal of Honor from the President of Lebanon, the Bombardier Award for technology transfer, the Barbara Turnbull Award for medical research in Canada, and the achievement Award from the American University of Science and Technology. Dr. Sawan is Fellow of the IEEE, Fellow of the Canadian Academy of Engineering, Fellow of the Engineering Institute of Canada, and Officer of the Quebec's National Order.

Eric Kerhervé received the Ph.D. degree in Electrical Engineering from University of Bordeaux, France in 1994. He joined ENSEIRB and the IMS Laboratory in 1996, where he is currently a Professor in Microelectronics and Microwave applications. His main areas of research are the design of RF, microwave and millimeter-wave circuits (power amplifiers and filters) in silicon and BAW technologies. He is or was involved in several European projects

(Medea + UPPERMOST, Medea + QSTREAM, Catrene PANAMA and FP6 MOBILIS), to develop silicon RF and mmW power amplifiers and BAW duplexer. He has authored or co-authored more than 190 technical papers in this field, and was awarded 17 patents. He has organized five workshops on advanced silicon technologies for radiofrequency and millimeter-wave applications. He is involved in the technical program committees of various international conferences (ICECS, IMOC, NEWCAS, EuMIC, SBCCI, LASCAS) and he was the chair of the international IEEE ICECS'2006 conference. He is co-editor of Special Issues for IEEE-ICECS'2006, IEEE-LASCAS 2010. He is associate editor for IEEE Transactions on Circuits and Systems II (TCAS II). He is a member of the IEEE-CAS, IEEE-MTT and IEEE SSCS.