Introduction to the Special issue on IEEE-Latin American Symposium on Circuits and Systems

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This special issue of the Springer Analog Integrated Circuits and Signal Processing (ALOG) presents the selection of best papers from the Third IEEE Latin American Symposium on Circuits and Systems (LASCAS 2012). The symposium, a forum for discussion of the latest technical novelties on circuits and systems topics, was held in Playa del Carmen, Mexico, from February 29 to March 2, 2012.

112 papers from 20 countries and 3 continents were submitted to the conference. 69 papers were accepted based on the reviews from international experts. These contributions made up a high-quality technical program covering a wide variety of subjects in the areas of analog and digital circuits and systems, computer aided design, modeling and simulation, signal processing, sensor systems, high-frequency systems, voltage references, processor architectures and control theory.

From the papers presented at the conference, 12 papers were pre-selected for journal publication based on the evaluations of the Program Committee members and the corresponding session chairs. After a thorough revision of the extended papers, 7 papers were finally accepted for

publication in this special issue. These contributions are: (1) an ultra low power consumption millimeter-wave voltage controlled oscillator in a 65 nm CMOS-SOI technology; (2) a rail-to-rail differential quasi-digital converter for low-power applications; (3) analog sigma-delta modulation with op-amp gain compensation for nanometer technologies; (4) design of an integrated single-input dual-output 3-switch buck converter based on sliding mode control; (5) offset and gain calibration circuit for MIM-ISFET devices; (6) parallel algorithm for evolvable-based boolean synthesis on GPUs; (7) neural inverse optimal control applied to type 1 diabetes mellitus patients.

We thank the researchers from around the world who have chosen LASCAS 2012 for presenting their recent developments. We are deeply thankful to the reviewers for their contribution to the creation of the LASCAS 2012 technical program and for their involvement in the revision of the selected papers for this special issue. Finally, we thank the session chairs who not only contributed to the successful development of the symposium, but also helped in the selection of the best papers for journal publication.

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