Welcome to this Special Issue of the IEEE Transactions on Circuits and Systems—I: Regular Papers (TCAS-I), in which we bring you a collection of expanded versions of selected papers that were originally presented at the 2009 IEEE International Symposium on Circuits and Systems (ISCAS 2009), held in Taipei, Taiwan, from May 24–27, 2009. The technical quality of ISCAS, which is the flagship conference of the IEEE Circuits and Systems (CAS) Society, has been steadily increasing since 2004, evidenced in part by a steady decrease in its acceptance rate—which reached 48% in 2007, 46% in both 2008 and 2009, and 45% in 2010—while the number of delegates, in addition to the speakers, has increased.

To acknowledge this positive trend and to make accessible to the whole CAS community the best technical contributions presented at the conference, two different initiatives were launched in 2008 by the former Editor-in-Chief of this journal, Gianluca Setti, and have now materialized for the second time. First, two invited contributions by outstanding authors, being one by Krishnendu Chakrabarty (Duke University), entitled “Design automation and test solutions for digital microfluidic biochips,” and another one by Josef Nossek and Michel Ivrlak (both from Technische Universität München), entitled “Towards a circuits theory of communication,” were prepared based on the extremely successful tutorial and keynote speech they delivered at ISCAS 2009. The first article has been published in the January 2010 issue of the IEEE TCAS-I and was very well received by the readership. The second article is scheduled for the upcoming July 2010 issue of TCAS-I, and is currently available on-line at http://www.ieeeexplore.ieee.org.

Second, the authors of several high-quality technical contributions presented at ISCAS were invited to submit follow-up papers to TCAS-I. The selection was made from a short list of contributions that received the best scores during the ISCAS review process, as well as those manuscripts that received the Best Student Paper Award. From the 40 contributions that were invited, 32 were submitted, and at the end of the review process, 13 were accepted to form this Special Issue. These papers present the latest advancements in the areas of Analog and Mixed-Mode Circuits and Systems, Digital Circuits and Systems and VLSI, and Circuits and Systems for Communications.

We are confident that this Special Issue on selected contributions from ISCAS 2009 will be highly appreciated by our readership and that the Special Issue on ISCAS will stay a tradition both for ISCAS and for our journal. To conclude, we would like to thank all of the authors for their contributions and all of the reviewers for their fast and thorough work which ensured timely publication of the manuscripts. Happy reading!

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Dr. Wang has been the General Chair of the 2007 VLSI Design/CAD Symposium, the Chair of the IEEE Circuits and Systems Society (CASS), Tainan Chapter, from 2007 to 2008, and the Chair of the IEEE Solid-State
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Dr. Massoud currently serves as the General Cochair of the 2009 IEEE Great Lakes Symposium on VLSI (GLSVLSI). He is an Associate Editor of the IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS—I and the IEEE TRANSACTIONS ON VERY LARGE SCALE INTEGRATION SYSTEMS. He has served as the Technical Program Cochair of the 2007 GLSVLSI. He has also served on the technical program committees of many of the key conferences in Electronic Design Automation, VLSI, and Nanotechnology, such as the International Conference on Computer-Aided Design (ICCAD); the IEEE International Symposium on Circuits and Systems (ISCAS); the Design, Automation and Test in Europe; (DATE) and the IEEE International Symposium on Quality Electronic Design (ISQED). He has chaired or cochaired conference tracks in several IEEE/ACM international conferences, such as the Computer-Aided Network Design track in ICCAD 2007, ISCAS 2008, and ISCAS 2009; the VLSI Design track in GLSVLSI 2006; and the emerging technologies track in ISVLSI 2009. He organized a special session on the Future of Nanometer SoC Design in ISCAS 2007. For several years, he has been a member of CAS Technical Committees for VLSI Systems and Applications, Biomedical Circuits and Systems, Circuits and Systems for Communications, and Nanoelectronics and Gigascale Systems. He was the recipient of the National Science Foundation CAREER Award in 2004, several Best Paper Award Nominations, and the Best Paper Award at the 2007 ISQED.
Wouter A. Serdijn (M’98–SM’08) was born in Zoetermeer (“Sweet Lake City”), The Netherlands, in 1966. He received the M.Sc. (cum laude) and Ph.D. degrees from the Delft University of Technology, Delft, The Netherlands, in 1989 and 1994, respectively.

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