# FOREWORD

## Special Section on Analog Circuits and Related SoC Integration Technologies

System-on-a-Chip LSIs (SoCs) have been widely used for many applications which include not only the field related to electronics but also new fields like architecture, agriculture, medicine and so on. Scale of such the LSIs has been more increasing for realizing multi-function and complex systems. Although the progress of the process technologies offers a lot of advantages over digital circuits, it has become more difficult to design analog circuits due to the limited supply voltage, power consumption and so on.

We hope this special section will contribute to sharing new ideas, knowledge and research results among researchers and engineers, and also become the chance of the challenge to a new frontier for them. This special section includes one invited paper and 10 regular papers. The invited paper by Dr. Hirofumi Shinohara discusses challenging research on extremely low power digital and analog circuits. The 10 regular papers also focus on the state-of-the-art analog circuit techniques regarding the above-mentioned roles of analog circuits.

On behalf of the editorial committee of this special section, I would like to express our sincere appreciation to all the authors of the submitted papers and to all the reviewers for their critical reading. I also would like to thank all the following committee members for their valuable effort expended in this editorial work. Finally, I would like to express my heartfelt thanks to Prof. Toshiro Tsukada and Dr. Masanori Furuta for their hard work.

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Akira Hyogo, Guest Editor

***Akira Hyogo*** *(Member)* received the B.E., M.E., and Doctor of Engineering degrees in Electrical Engineering from Tokyo University of Science (Tokyo-Rika-Daigaku) in 1984, 1986, and 1989, respectively. He joined the Department of Electrical Engineering, Faculty of Science and Technology, Tokyo University of Science in 1989 and is currently a Professor. From 1996 to 1997, he was a visiting scholar at the Ohio State University. His main interest lies in the field of analog integrated circuits, RF circuits, switched capacitor networks and active RC circuits. He is the recipient of the Best Paper Awards of the 1994 IEEE Asia Pacific Conference on Circuits and Systems (APCCAS'94), IEEE International Symposium on Intelligent Signal Processing and Communication Systems (ISPACS'99), 2000 and 2001 IEEJ International Analog VLSI Workshop. He is a chairperson of the Technical Committee on Electronic Circuits and a board member (an officer, editorial affairs) of Electronics, Information and Systems Society of the IEEJ and was an associate editor and a guest editor of the IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences. Dr. Hyogo is a senior member of the Institute of Electrical and Electronics Engineers (IEEE) and a senior member of the Institute of Electrical Engineers of Japan (IEEJ) and the Japan Institute of Electronics Packaging.

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