
FOREWORD

Special Section on Analog Circuits and Related SoC Integration Technologies

Ubiquitous computing is becoming our daily basis due to rapid developments of the information and communication technology (ICT), especially cloud and wireless communication services using high-performance equipments like PCs, smart phones and tablets. Furthermore, challenges towards smart community have been started in many countries. In the smart community, managements and optimized controls of various infrastructures such as electricity, water, transportation, logistics, medicine and information are integrated. For these developments and challenges, analog circuit techniques are one of key issues. Many researches to achieve high performances of analog circuits are proceeding to meet strong demands for low power and low cost. Furthermore, the researches concerning performance improvements of analog circuits in system on a chip (SoC) environments and co-design of analog and digital circuits are attracting considerable attentions.

This special section includes 17 regular and 1 brief papers which were selected through the peer review process from 32 submitted manuscripts. The selected papers cover wide range of topics including transceiver SoCs, RF, millimeter-wave and high-speed circuits, data converters, circuit techniques for voltage regulators, test and process monitoring, and analysis of the noise coupling via Si substrate. In addition to these fine papers, this special section has two excellent invited papers. The first invited paper by Prof. Toshiro Hiramoto, reviews the self-improvement of static random access memory (SRAM) cell stability by post-fabrication high-voltage stress. The second invited paper by Prof. Takayuki Fujita, presents various types of energy harvesters and some experimental results using vibratory type energy harvesters.

On behalf of the editorial committee, I would like to express our sincere appreciation to all those who submitted manuscripts for this special section and to all the reviewers. I would like to thank all editorial committee members listed below, for their enthusiastic supports of the editorial works. Finally, I would like to express my special thanks to and Dr. Masanori Furuta and Dr. Koichiro Noguchi for their outstanding contributions as secretaries.

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Ryuichi Fujimoto, Guest Editor-in-Chief

Ryuichi Fujimoto (*Senior Member*) received his B.E., M.E., and Dr. Eng. degrees from Waseda University, Tokyo, Japan, in 1988, 1990, and 2003, respectively. He joined the Mobile Communication Laboratory, Corporate Research and Development Center, Toshiba Corporation, Kawasaki, Japan, in 1991. Since then, he has been engaged in the research and development of analog integrated circuits and device models for wireless communication systems. In 2005, he was transferred to Wireless & Multimedia LSI Development Department, Toshiba Corp. Semiconductor Company. From 2009 to 2011, he was on loan to Semiconductor Technology Academic Research Center (STARC). Currently, he is with Center of Semiconductor Research & Development, Semiconductor & Storage Products Company, Toshiba Corporation. Dr. Fujimoto was an Associate Editor of IEICE Transactions on Electronics from 2001 to 2004, IEICE Electronics Express (ELEX) from 2003 to 2008, and IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences from 2005 to 2009. He was the secretary of the Japan Chapter of IEEE Circuits and Systems Society from 2008 to 2009. He is a member of the IEEE, IEEJ and JAAS.


