

---

## FOREWORD

---

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

Welcome to this Special Section on Analog Circuits and Related System-on-a-Chip (SoC) Integration Technologies. Challenges of analog integrated circuits with scaled CMOS technologies are continuous for meeting stringent requirements of low power, high speed, extended precision, with saving silicon areas and testing costs. New fields of application including advanced mobile wireless communication, millimeter wave broadband data transmission, networked sensors in health care and medical devices, and others will demand novel features of analog design and provide opportunities for researchers to join technical and scientific progress. This special section has a history of more than 10 years and so far issued once in every year. We are expecting to have the next opportunity in 2013, with the submission deadline in the autumn of 2012.

Representing the latest outstanding research outcomes in this field, 10 regular and 1 brief papers from 30 submissions are brought to the readers of this special section. Those papers widely cover the technical areas of radio frequency circuits and devices, clock generation, signal conversion, power managements, and electromagnetic compatibility. In addition, an invited paper by Shiro Dosho gives an excellent in-depth review of continuous-time delta sigma modulator.

On behalf of the editorial committee, I would like to express my sincere appreciation to all those who submitted manuscripts for this special section and to all the reviewers. I would like to thank all the editorial committee members, as listed below, for their enthusiastic support of the editorial work. Finally, I would like to express my special thanks to Dr. Koichiro Noguchi and Dr. Tetsuya Hirose for their hard works as secretaries.

#### Special Section Editorial Committee Members

##### Secretaries:

Koichiro Noguchi (Renesas Electronics), Tetsuya Hirose (Kobe Univ.)

##### Guest Associate Editors:

Hitoshi Aoki (MODECH), Masao Ito (Renesas Electronics), Willy Hioe (Rigaku), Keichiro Kagawa (Shizuoka Univ.), Masayuki Katakura (Sony), Haruo Kobayashi (Gunma Univ.), Takahide Sato (Univ. of Yamanashi), Takeshi Shima (Kanagawa Univ.), Yasuhiro Sugimoto (Chuo Univ.), Hiroshi Tanimoto (Kitami Inst. of Technology), Tsuneo Tsukahara (Univ. of Aizu), Akira Hyogo (Tokyo Univ. of Science), Ryuichi Fujimoto (Toshiba), Toshimasa Matsuoka (Osaka Univ.), Cosy Muto (Nagasaki Univ.), Kenichi Mori (Panasonic), Hiroki Morimura (NTT), Michio Yokoyama (Yamagata Univ.), Ryuji Yoshimura (Texas Instruments)

---

Makoto Nagata, Guest Editor-in-Chief

---

**Makoto Nagata** (*Member*) received the B.S. and M.S. degrees in physics from Gakushuin University, Tokyo, Japan, in 1991 and 1993, respectively, and the Ph.D. in electronics engineering from Hiroshima University, Japan, in 2001. He was a research associate at Hiroshima University, Japan, from 1994 to 2002, and then an associate professor of Kobe University, Japan, from 2002 to 2009. He is currently a professor of the graduate school of system informatics, Kobe University. His research interests include design techniques toward high performance mixed analog, RF, and digital VLSI systems with particular emphasis on power noise issues, substrate coupling/crosstalk, signal integrity, as well as mixed-signal testing and diagnosis. Dr. Nagata has been a member of a variety of technical program committees of international conferences such as the Symposium on VLSI Circuits (2002–2009), Custom Integrated Circuits Conference (2007–2009), Asian Solid-State Circuits Conference (2005–2009), Asia and South Pacific Design Automation Conference, and others. He was a technical program chair for Symposium on VLSI circuits (2010–2011), and is currently a symposium co-chair for 2012. He also served as an associate editor of the IEICE Transactions on Electronics (2002–2005).

