



Introduction to the special issue on “High performance analog circuits and design methodologies”

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Editorial

This special issue of the Analog Integrated Circuits and Signal Processing highlights some of the papers from the 2016 IEEE International Conference on Analog VLSI Circuits (AVIC 2016), which was held at the Cambridge Innovation Center in Cambridge, MA, USA, August 24–25, 2016. This was the AVIC’s 19th meeting of presentations in the field of analog integrated circuits. The conference became an annual tradition that began with a workshop in 1997 on the campus of the Ohio State University. Since then, this conference has been continuously held in various locations around the world.

The 2016 Conference featured 23 presentations from Japan and the United States on the latest analog integrated circuit technology. From these presentations, we have selected the following four papers as highlights of the AVIC 2016:

Interconnect technologies for high bandwidth ICT systems Dr. N. Chujo (Hitachi Ltd.)

Perverse trends in Analog Technology Dr. C. Mangelsdorf (Analog Devices, Inc.)

Open source LSI design and fabrication project for distributed IP development De. J. Akita (Kanazawa University).

Millimeter-wave CMOS transceiver for 60 GHz Wi-Fi, 5G cellular and future Dr. K.Okada (Tokyo Institute of Technology).

This Special Issue also received 10 regular submitted papers on analog integrated circuit from Japan (5), India

(4), and Iran (1). We have selected the following three papers in this Special Issue:

Three stages CMOS operational amplifier frequency compensation using single Miller Capacitor and differential feedback path.

Experimental implementation of a 14bit 80kSPS non-binary cyclic ADC.

Experimental implementation of DS modulator with dynamic analog components.

This Special Issue required substantial efforts from the authors and the reviewers to ensure quality of the presentation. We would like to thank them for their effort.



Toshihiko Hamasaki has been a professor of Information Systems Sciences at Hiroshima Institute of Technology, Japan since 2010. He received a Ph.D. degree in electrical engineering from Hiroshima University in 1984. In 1984–1991, he worked for the VLSI Research Center in Toshiba Corporation, where he was a researcher of the device physics group. In 1991, he joined Burr-Brown Inc. and designed a mixed-signal integrated circuit family product of

high-precision audio DAC, ADC and CODEC. In 2001, he moved to Texas Instruments following the company acquisition and had been working on analog circuit design of system on chip by deep sub-micron advanced technology. He was awarded TI Fellow in 2004. He is a senior member of IEEE, a senior member of IEICE and a member of AES.

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Katsu Nakamura received the B.S., M.S. and Ph.D. degrees in Electrical and Computer Engineering in from Carnegie Mellon University. Since 1994, he has been with Analog Devices in Wilmington, Massachusetts, USA, where he was involved in ADI's early technologies in CMOS data converters for embedded applications. He is an ADI Fellow, and is currently Director of Technology for ADI's Healthcare-Consumer Business Unit. He has served as

committee member for several IEEE conferences, including VLSI

Circuits as past Program and Conference Chairs, ISSCC as past Program Committee member, JSSC as past Associate Editor and Guest Editor, and is currently on the VLSI Executive Committee. In 2016, he was the General Chair of the 2016 IEEJ International Conference on Analog VLSI Circuits (AVIC 2016).