FOREWORD

Special Section on Solid-State Circuit Design — Architecture, Circuit, Device and Design Methodology

We are facing the era of Internet of Things (IoT) that every single thing owns or detects some data and sends them, which are stored on the cloud, manipulated, utilized and that brings innovations into our daily life. For this, a huge amount of data communication happens and a huge amount of data storage are required, and hence the variety of techniques including security, reliability, wireless data transfer and so on, where solid-state circuits play the key roles. The development of the IoT world is supported by the endless efforts of the researchers and engineers including not only the authors but also the readers of this special section.

It is my great honor to announce the publication of this special section on solid-state circuit design. The section is devoted to a distinctive exploration of new techniques on integrated circuits. It contains 1 invited paper, 3 regular papers and 1 brief paper.

One paper discusses circuits and packaging systems for security chips, which is crucial to enhance the quality our daily life, and other papers discuss wireless data transfer between chip-to-chip or 3D stacked memories. As for the chip reliability, variation and error compensation techniques as well as fault-tolerant real-time systems are discussed.

On behalf of the editorial committee, I would like to express my sincere appreciation to all the authors for their contributions and to all the reviewers for their critical readings. Also, I would like to thank the editorial committee for their work on this special section.

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Masafumi Takahashi (*Member*) received B.E. and M.E. degrees from the University of Tsukuba, Japan in 1985 and 1987, respectively. He has been involved in SoC development for multimedia applications with Toshiba Corp, and is currently engaged in research and development on memory and storage systems at System Technology Research and Development Center, Kioxia Corp. He is a member of IEEE.