
FOREWORD

Special Section on Multiple-Valued Logic and VLSI Computing

Welcome to this Special Section on “Multiple-Valued Logic and VLSI Computing.” The papers in this section are extended versions of the abstracts presented at the IEEE 43rd International Symposium on Multiple-Valued Logic (ISMVL 2013), which was held in Toyama, Japan on May 22–24, 2013, and include a substantial amount of information beyond the presentations. The purpose of this Special Section is to share an overview of recent research progress in various aspects relating to multiple-valued concept with many readers of this transaction, who are interested in innovative new-concept VLSI computing and its applications.

This Special Section consists of two invited and 12 contributed papers. The first invited paper is on intelligent computing for medical and health care systems, while the second one describes logic circuits with non-volatile memory. The contributed papers cover a broad range from logic design, to reversible/quantum computing, VLSI architecture, communication for VLSI, and circuit implementations. We would like to thank all the authors of invited and contributed papers for their efforts in preparing the manuscripts, and the reviewers who worked diligently to make sure that the papers are worth publication.

Special Section Editorial Committee

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Takao Waho (Sophia Univ.), Editor-in-Chief

Takao Waho (*Senior Member*) received the B.S., M.S., and Ph.D. degrees in Physics from Waseda University, Tokyo, Japan, in 1973, 1975 and 1978, respectively. In 1975, he joined Musashino Electrical Communications Laboratories, Nippon Telegraph & Telephone Public Corporation (now NTT), where he investigated compound semiconductor device technology and its circuit applications. He received Distinctive Contribution Paper Award for the paper presented at the IEEE International Symposium on Multiple-Valued Logic in 1996. Since 1999, he has been a professor of Faculty of Science and Technology, Sophia University, Tokyo. His research interest includes semiconductor device physics and circuit applications, in particular, analog-to-digital converters, delta-sigma modulators and multiple-valued logic circuits. Dr. Waho served as Editor of the IEICE Transactions on Electronics (Japanese Edition), Chair of the IEICE Technical Committee on Electron Devices, Chair of the IEEE Computer Society Technical Committee on Multiple-Valued Logic, Chair of the 8th Topical Workshop of Heterostructure Microelectronics (TWHM 2009), and Chair of the IEEE 43rd International Symposium on Multiple-Valued Logic (ISMVL 2013).

