FOREWORD

Special Section on Circuits and Design Techniques for Advanced Large Scale Integration

For electronic systems in today's digital-convergence era, a wide variety of functions related to information, communication, and media processing must be implemented using advanced large-scale integration technologies. Functional diversification will keep increasing, and demands for the improvement of LSI performance and functionality will thus continue. LSIs must meet these requirements while considering cost, power consumption, reliability, and so on. Facing these challenges, new circuits and design techniques for LSIs are indispensable.

In light of our pursuit of advanced technologies in this field, it is my great pleasure to announce the publication of this special section on circuits and design techniques for advanced large-scale integration. This section is devoted to an exploration of new architectures and applications as well as the latest advances in circuits and design techniques. It consists of two invited papers, eighteen regular papers and one brief paper.

The guest editor-in-chief would like to express his sincere appreciation to all the authors for their contributions and to all the reviewers for their critical readings. He would also like to thank the editorial committee for their work on this special section.

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Kunio Uchiyama (*Fellow*)   is a Chief Scientist & Corporate Officer of Hitachi, Ltd., received B.S., M.S., and Ph.D. degrees from Tokyo Institute of Technology, Japan. Since 1978 he has been working at the Central Research Laboratory, Hitachi, Ltd., Tokyo, Japan, on design automation, mainframe computers, and microprocessors. From 1985 to 1986 he was a visiting researcher in the Department of Computer Science, Carnegie-Mellon University, Pittsburgh, PA. He currently serves as a visiting professor at Waseda University. He received the Ichimura Award, the R&D 100 Award, the Chief Officer's Award of the Japanese Science and Technology Agency, and the National Medal of Honor with Purple Ribbon in 1998, 1999, 2000, and 2004, respectively. He is a member of IEEE.