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## FOREWORD

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### Special Section on Fundamentals and Applications of Advanced Semiconductor Devices

This special section is focusing on fundamentals and application of advanced semiconductor devices. This section consists of excellent papers related to the ferroelectric gate field effect transistor, semiconductor qubit devices, and single-electron transistor, which are important topics for the advanced semiconductor devices. The structure and fabrication process of semiconductor devices such as CMOS and NAND flash memory have been markedly changed and developed in last decade. The development of those devices has cultivated their novel applications such as AI and quantum computing. I believe this special section would be helpful for the readers to understand the current topics and future prospects of the advanced semiconductor devices.

I appreciate all the authors for their contributions to the special section. I also thank all the reviewers and editorial committee members for their great effort on the publication procedure.

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Shun-ichiro Ohmi (Tokyo Tech), Guest Editor-in-Chief

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**Shun-ichiro Ohmi** (*Member*) received his B.S. degree in Material Engineering from Nagoya University, Nagoya, Japan, in 1991, M.S. and Ph. D. degrees in Applied Electronics from the Tokyo Institute of Technology, Yokohama, Japan, in 1993 and 1996, respectively. In 1996, he joined Tokyo Institute of Technology, where he has been engaged in the research of Si and organic semiconductor devices and processes. From 1997 to 1999, he was a Post Doctoral Technical Staff with the Lucent Technologies Bell Laboratories, where he was engaged in the research of  $\text{TiSi}_2$  and  $\text{CoSi}_2$  salicide processes. In 2000, he was a visiting researcher with North Carolina State University where he was engaged in the research of high-k gate insulator. Dr. Ohmi has served as a chair of Silicon Devices and Materials (SDM) Technical Committee of IEICE since 2022, and he is a member of the IEEE Electron Devices Society, the Japan Society of Applied Physics, and a Fellow of the Institute of Electrical Engineers of Japan.

