FOREWORD

Special Section on Fundamentals and Applications of Advanced Semiconductor Devices

The aim of this special section is discussing recent progress of semiconductor materials and devices in the fields from fundamental physics to advanced device and process technologies. This section contains 13 papers, which cover a graphene interconnect technology, investigations of metal-ferroelectric-semiconductor field-effect transistors, a pentacene-based metal/insulator/metal/insulator/semiconductor diode and organic field-effect transistor, a low temperature atomic layer deposition of AlN, a low-temperature deposition of yttrium oxide on flexible PET films, properties of phosphorus δ-doped Si quantum dots and undoped Si quantum dots, electron transport properties of Fe-silicide nanodots on an ultrathin SiO2 layer, a measurement of S-parameters of InGaAs/InAlAs triple-barrier resonant tunneling diodes, a static timing analysis tool for a 28nm atom-switch FPGA, operating characteristics of gamma irradiated pnp Si BJTs, an investigation of electromotive force of piezoelectric/thermoelectric-combined power generator, and characteristics of flexible thermoelectric power generators. I deeply appreciate their contributions.

I would like to express my sincere thanks to all authors for their contributions to the special section. I also appreciate all reviewers and the editorial committee members for their irreplaceable contributions. Despite of the busy and tight schedule, they spent precious time to do hard work for editing and reviewing papers. Without their efforts, this special section could not be achieved.

Hiroshige Hirano (Tower Partners Semiconductor), Guest Editor-in-Chief

Hiroshige Hirano *(Member)* received the B.S. degrees from Osaka University, Japan, in 1985. He joined Panasonic Corporation in 1985 and was engaged in the development of DRAM, non-volatile memory, and assembly technology. He moved Tower Partners Semiconductor Co., Ltd. in 2014. He is currently working on the development of RF devices, power management devices, and non-volatile memory. He served as chair of the Silicon Devices and Materials (SDM) Technical Committee of IEICE from 2020.