

---

## FOREWORD

---

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

Semiconductor devices are definitely the key components to support our global information society and the demand for high-performance and new-functional devices is continuously growing. The objective of this special section is to discuss various aspects of fundamentals and applications of advanced semiconductor devices. This special section covers the entire field of semiconductor devices and materials from fundamental physics to recent improvements in device performance and processing technology. This special section contains 20 papers in total; 14 of them are on Si and related devices and 6 on compound semiconductor devices.

The guest editor would like to express his appreciation to all the authors for their contributions and to all the reviewers for their helpful comments. He is also grateful to the editorial committee members for their dedicated efforts in organizing this Special Section.

#### Special Section Editorial Committee

Secretaries: Manabu Arai (New Japan Radio)  
Tanemasa Asano (Kyushu Univ.)  
Members: Fumio Horiguchi (Toyo Univ.)  
Naoki Hara (Fujitsu Lab.)  
Koichi Maezawa (Univ. of Toyama)  
Yuichi Matsui (Hitachi)  
Masanobu Miyao (Kyushu Univ.)  
Seiichi Miyazaki (Hiroshima Univ.)  
Takashi Noguchi (Univ. of the Ryukyus)  
Yukinori Ono (NTT)  
Shinichiro Takatani (Hitachi)  
Tsuyoshi Tanaka (Matsushita)  
Takao Waho (Sophia Univ.)

---

Masaaki Kuzuhara, Guest Editor

---

**Masaaki Kuzuhara** (*Member*) was born in Osaka, Japan, in 1955. He received the B.E., M.E. and Ph.D. degrees in electrical engineering from Kyoto University, Kyoto, Japan, in 1979, 1981 and 1991, respectively. His Ph.D. dissertation was on activation annealing of ion-implanted GaAs. In 1981, he joined Central Research Laboratories, NEC Corporation, Kawasaki, Japan. From 1981 to 1997, he had been engaged in developing III-V heterojunction FETs and their microwave ICs. From 1998 to 2003, he worked for developing GaN-based heterojunction FETs for power applications as a project manager. In 2004, he joined Department of Electrical and Electronics Engineering, University of Fukui, Fukui, Japan, as a professor. His current research interests include semiconductor devices and circuits, especially III-Nitride heterojunction devices for high-voltage and high-frequency applications. He was awarded the 2002 Ichimura Prize from the New Technology Development Foundation. He is a Fellow of IEEE.

