Preface

The 18th International Conference on Silicon Carbide and Related Materials 2019 (ICSCRM 2019), chaired by Prof. Tsunenobu Kimoto (Kyoto University), was held in Kyoto, Japan, from September 29 through October 4, 2019. ICSCRM is the world's premier technical conference series for wide bandgap semiconductor technology based on silicon carbide (SiC) and related materials. In total, 1,199 attendees (896 for the technical session and 303 for the exhibition) including 110 students from 27 countries participated in this conference to report and discuss the recent progress of fundamental research and technological achievement in this field. The number of participants for the technical session included 432 from Japan, 161 from Asia (except Japan) and Oceania, 123 from North America, and 180 from Europe.

A total of 352 papers were presented during the technical session: 3 plenary, 22 invited oral, 4 invited poster, 112 contributed oral, and 211 contributed poster presentations. The papers covered most of the current research efforts on SiC and related materials and a wide range of topics from crystal growth to their power electronics applications. Quantum technology also showed growth as a new topic. At the technical exhibition, 76 companies and organizations exhibited their achievements, products, and services at their booths, demonstrating the strong industrial interest in this field. We wish to thank all of the invited speakers for their outstanding presentations, and we also thank all the contributors and participants.

The present book contains 162 papers. The major chapters of the proceedings are collections of papers in the areas of growth and wafer manufacturing, characterization and defect engineering, MOS gate stacks and device processing, power devices, and packaging and applications. We are also grateful to numerous reviewers who contributed to maintain the high scientific standards of this publication.

ICSCRM 2019 was endorsed by seven academic and industrial societies in Japan, and financially supported by two subsidizing foundations (Kyoto City and Kyoto Convention & Visitors Bureau and the Murata Science Foundation) and 29 companies. We would like to take this opportunity to thank them again for their sponsorship and support.

To realize a sustainable society, efficient use of electric energy by power semiconductor technology using wide bandgap semiconductors is essential. Furthermore, development of new fields including spin-controlled quantum electronics and extremely high temperature ICs has been started. ICSCRM will continue to play an important role in these fields.

The next conference of this series, ICSCRM 2021, will be held in Davos, Switzerland, from September 12 to 17, 2021 (www.icscrm2021.org). The conference will be chaired by Prof. Ulrike Grossner (ETH Zürich). We wish the organizers of the next ICSCRM much success.

March 2020

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