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## FOREWORD

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### Special Section on Recent Advances in Photonics Technologies and Their Applications

To cope with the rapid increase in Internet traffic, great progress is being made on photonics technologies for optical communications applications such as high-speed optical transmission, optical interconnection, optical signal processing, and photonic integrated circuits. Photonics technologies have also been employed in various technical fields including medicine and biology, sensing and measurement, optical data storage, and displays. If we are to make further innovations in photonics technologies and make their contribution to society sustainable, we must create novel technologies and functions in photonics and deploy them in other application fields to generate value. This special section is designed to promote such research and development activities by introducing the latest advances in photonics technologies and their applications.

This special section covers photonics technologies and their applications, including technologies on optical communications, photonic integrated circuits, optical components, and optical sensing and measurements. These technical fields are very active and so many interesting papers were submitted. The submissions were carefully reviewed and papers describing valuable research developments on photonics technologies were selected for publication by the special section editorial committee. In this special section, we are publishing thirteen papers on photonics technologies, consisting of five invited papers and eight regular papers. We hope the papers in this special section will contribute to the further research and development of photonics technologies.

Finally, as guest editor-in-chief of this special section, I want to thank all the authors, reviewers and editorial committee members for their contributions to the publication of this special section. I also thank the members of the IEICE publication department.

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Senichi Suzuki (NTT), Guest Editor-in-Chief

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**Senichi Suzuki** (*Senior Member*) received B.E., M.S. and Ph.D. degrees from Yokohama National University, Kanagawa, Japan, in 1984, 1986 and 1995, respectively. After joining Nippon Telegraph and Telephone (NTT) Corporation in 1986, he engaged in research on high-density integrated silica-based planar lightwave circuits. He is currently responsible for the research and development of functional integrated photonic and electronic components and subsystems and their applications to high-speed and large capacity transport networks, and functional social devices for novel ICT services. He is a vice president of the Device Innovation Center, NTT Corporation. He is a senior member of the IEICE of Japan, a member of the Japan Society of Applied Physics, and a fellow of the IEEE. He was chairman of the Technical Committee on Optoelectronics (OPE) of the IEICE in 2014.

