FOREWORD

Special Section on Fabrication Technologies Supporting the Photonic/Nanostructure Devices

III-V semiconductor optical devices have been used in our daily life from early 1980's. After the beginning of the 21st century, they are expanding their applications, for example, to those used in internet (or intranet), projections, illuminations, traffic signals, non-radiative medical sensing, and so on.

Recently, these devices are being merged with the state-of-art processing technologies such as nanotechnology, Si-photonics and even LSI technologies, and expanding their applications. Such new developments would lead to even controlling light on demand.

This special section covers technologies to realize such new optical devices, where the focus is on epitaxial growth, etchings (and their equipment), wafer bonding, and module fabrication, which describe from the basic to the latest results. After the careful review, eight full papers (seven invited papers and one regular paper) have been accepted. We believe this special section will contribute to induce fruitful discussions and further developments of the various optical devices. Finally, I sincerely appreciate the contributions of all authors, reviewers, and editorial committee members.

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Susumu Noda (*Member*) received the B.S., M.S., and Ph.D. degrees from Kyoto University, Kyoto, Japan, in 1982, 1984, and 1991, respectively, all in electronics, and received an Honorary degree from Gent University, Gent, Belgium, in 2006. From 1984 to 1988, he was with the Mitsubishi Electric Corporation. He joined Kyoto University in 1988, where he is currently a Full Professor with the Department of Electronic Science and Engineering and the Director of Photonics and Electronics Science and Engineering Center. His research interests include physics and applications of photonic nanostructures based on photonic crystals. He received various awards, including the IBM Science Award in 2000, the Japan Society of Applied Physics Achievement Award on Quantum Electronics in 2005, the Optical Society of Science and Technology by the Minister of Education, Culture, Sports, Science, and Technology in 2009, IEEE Nanotechnology Pioneer Award in 2009, The Reo–Esaki Award in 2009,



Medal with Purple Ribbon in 2014, and the Japan Society of Applied Physics Outstanding Achievement Award in 2015. He is a Fellow of the Japan Society of Applied Physics (2007). He is chairman of the Technical Committee on Lasers and Quantum Electronics (LQE) of the IEICE in 2017.