FOREWORD

Special Section on Recent Advances in Simulation Techniques and Their Applications for Electronics

The speed and efficiency of computations have improved remarkably with the advent of high-performance computers. On these platforms, many simulation techniques have been developed and commercial software packages have become available. They are recognized as indispensable and powerful tools for designing and modeling systems, equipment, and components of practical devices, and also for estimating various risks and safety problems.

This special section presents a collection of original papers regarding recent advances of simulation techniques in electronics. It comprises 10 papers, which include 7 regular and 3 brief papers. They cover the topics from fundamental computational methods to a wide variety of industrial applications. These papers are conventionally categorized as different topics in various communities. From the viewpoint of Electronic Simulation Technology (EST), all of them are unified and new findings are provided. Readers can quickly overlook cutting-edge technologies from low to high frequencies and grasp recent trends of simulation techniques combined with optimization methods, machine learning, and neural network.

On behalf of the editorial committee, I would like to express my sincere appreciation to all the authors for their contributions. In addition, I am also indebted to the reviewers and the editorial committee members for their dedicated efforts in organizing this high-quality special section. Last but not least, I would like to express my deepest thanks to Professor Jun Sonoda of National Institute of Technology, Sendai College and Professor Yasuo Ohtera of Toyama Prefectural University for their excellent work as the guest editors of this special section, and Professor Yasuhide Tsuji of Muroran Institute of Technology for his enormous dedication as the liaison member.

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Shinichiro Ohnuki (*Senior Member*) received the B.S., M.S., and Ph.D. degrees in electrical engineering from Nihon University, Tokyo, in 1991, 1993, and 2000, respectively. From 2000 to 2004, he was with the Center for Computational Electromagnetics and Electromagnetics Laboratory, Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, as a Postdoctoral Research Associate and a Visiting Lecturer, and later as a Visiting Associate Professor, in 2012. He joined Department of Electrical Engineering, College of Science and Technology, Nihon University, in 2004, where he is currently a Professor. He was a co-recipient of the Best Paper Award from the Magnetic Society of Japan, in 2013, and the Technical Development Award from the Institute of Electrical Engineers of Japan, in 2014. He is chairing Electronic Simulation Technology (EST) Technical Group of the IEICE Electronics Society, and served as an Associate Editor of the Journal of the IEICE and the IEICE Transactions on Electronics. He has been the Secretary of the URSI Committee, Japan, since 2017, an Editorial Board Member of the Progress in Electromagnetics Research, since 2017, an Associate Editor of the Applied Computational Electromagnetics Society Express Journal, in 2016, and the IEEE Journal on Multiscale and Multiphysics Computational Techniques, since 2018.