
FOREWORD

Special Section on Nanomaterials and Nanodevices for Nanoscience and Nanotechnology

A human being is facing a lot of problems in energy, environment, food, health, etc for the sustainable development of the world. A possible solution to overcome these issues is to use nanoscience and nanotechnology. The advantage of “nano” is not only the size reduction but also the occurrence of new phenomena by using the nanomaterials or nanostructures. Nanoscience and nanotechnology are expected to become powerful tools to change the world. For the advances of nanoscience and nanotechnology, it is expected that the electronics will play an important role. Especially, the development of nanomaterials and nanodevices is a key technology in the future electronics society. These new technologies will be surely used not only in the developed countries but also in the developing countries.

In order to activate these research fields in Asian countries, the second International Conference on Nanoscience and Nanotechnology (Nano-SciTech-2008) was held at Universiti Teknologi MARA, Shah Alam, Malaysia, on November 18th–21st, 2008, supported by Electronics Society of IEICE, to share the ideas and experiences in nanoscience and nanotechnology. The main topics of this conference were the science and engineering of nanomaterials and their applications to nanodevices.

In this connection, IEICE Component Parts and Materials (CPM) Technical Committee has proposed to publish the special section on these topics. The purpose of this special section is to explore the nanomaterials and nanodevices used in nanoscience and nanotechnology. Especially, it focuses on the synthesis of nanomaterials, the fabrication of nanostructures, the application of nanomaterials to nanodevices and fundamentals of nanodevices. Among more than 200 papers presented at Nano-SciTech 2008 and papers contributed after the conference, 15 papers were selected in this special section.

Finally, I would like to express my sincere thanks to CPM Technical Committee members and Editorial Committee members for continuous support and guidance. I also thank all the reviewers to improve the quality of the papers.

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Tetsuo Soga, Guest Editor-in-Chief

Tetsuo Soga (*Member*) received the B.Eng. and M.Eng. degrees from Nagoya Institute of Technology in 1982 and 1984, respectively. He received the Dr. Eng. degree from Nagoya University in 1987. In 1987, he was appointed to a Research Associate at Nagoya Institute of Technology. He was promoted to an Associate Professor in 1992 and became a Professor in 2005. Now he belongs to Department of Frontier Materials in Graduate Course and Department of Electrical and Electronic Engineering in Undergraduate Course of Nagoya Institute of Technology. He has been also engaged in the Director, Instrument and Research Technology Center, Nagoya Institute of Technology, since 2008. His current interests are next generation nanostructured solar cells including organic solar cell, dye-sensitized solar cell, carbon solar cell, etc. and the synthesis and application of nanomaterials. He is a member of the Institute of Electrical Engineers of Japan, Japan Society of Applied Physics, Japan Society of Energy and Resources, Japan Solar Energy Society, the Carbon Society of Japan and Materials Research Society of Japan.

