
FOREWORD

Special Section on Recent Progress in Organic Molecular Electronics

In the field of organic molecular electronics, the combination of organic and inorganic semiconductor materials exhibits excellent characteristics that cannot be obtained with inorganic semiconductor materials alone, and is expected to bring about a paradigm shift in the electronics field. For example, research for the development of various organic devices such as organic solar cells, organic EL, organic transistors, and biosensors has been very active. Therefore, as in the past, we have planned this special issue to review the latest research results in the field of organic electronics, molecular electronics, bioelectronics, organic photonics, etc., and to clarify the future prospects in this field.

In the Electronics Society of IEICE, the Technical Committee of Organic and Molecular Electronics (OME) has showed the excellent leadership as a pioneer in this field. One of its important activities is the International Symposium on Organic Molecular Electronics (ISOME), and has been organized biannually since 2000. The 12th ISOME (ISOME2022) have been held from May 26 to 28, 2022 at Suzukakedai Campus (Yokohama), Tokyo Institute of Technology. Since the coronavirus infection situation has reached a lull and it became possible to hold the in-person meeting at Tokyo Tech, ISOME2022 was held as the hybrid meeting in-person and on Zoom.

The symposium was blessed with 70 presentations, including 3 plenary lectures, 9 invited talks, and 17 oral talks, 41 poster presentations. 77 participants, including 73 Japanese and 4 foreigners from 4 countries joined to the discussion. The topics in the conference expanded to the wide range such as flexible electronics, light emitting devices, functional organic materials, surface modification, thin films, nano-interfaces, single molecular devices, organic electronic devices, optical devices, sensors, measurement, energy conversion technology, biotechnology, and bioelectronics. The active vitality of this symposium specified the promising prosperity of organic molecular electronics and biotechnology. In conjunction with ISOME 2022, a special section of “Recent Progress in Organic Molecular Electronics and Biotechnology” is issued in this volume of IEICE Transactions on Electronics. This Section consists of 5 regular and 10 brief papers. Pertinent special issues have been published biannually since 2000. These issues integrate invaluable record of the spreading progress in this field. Finally on behalf of the Editorial Committee, I would like to express sincere gratitude to the contributors as well as the Electronic Society of IEICE, and especially the ISOME2022 Organizing Committee members.

Special Section Editorial Committee Members

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Yutaka Majima (*Senior Member*) received B.S., M.S., and Dr. of Engineering degrees in the department of electrical and electronic engineering from Tokyo Institute of Technology (Tokyo Tech), Japan, in 1987, 1989, and 1992, respectively. In 1992, he joined Toshiba Corporation, and became Research Scientist in 1996. In 1996, he moved to Tokyo Tech as Assistant Professor. He became Associate Professor of the department of Physical Electronics, Tokyo Tech in 1998. From 2002 to 2004, he was also appointed as the Senior Specialist for Nanotechnology Research Promotion in Ministry of Education, Culture, Sports, Science and Technology (MEXT), Government of Japan. He is Professor of Laboratory for Materials and Structures, Institute of Innovative Research, Tokyo Tech from 2009. His research covers (1) Molecular transistors, (2) Nanoscale gas sensors, and (3) Nanopore DNA sequencer. He is a member of The Institute of Electronics, Information, Communication Engineers, Japan (IEICE), The Japan Society of Applied Physics (JSAP), The Chemical Society of Japan, The Institute of Electrical Engineering of Japan, and Materials Research Society (US). He received JSAP paper award in 1991, Award for Challenging Research, Tokyo Tech in 2002, Best Education Award, Tokyo Tech in 2009, and Engineering Education Award, Minister of MEXT Award in 2010, APEX/JJAP Editorial Contribution Award in 2020, and JSAP Fellow in 2022.


