The International Symposium on Super-Functionality Organic Devices

Chiba University, October 25-28, 2004

PREFACE

The International Symposium on Super-Functionality Organic Devices has been held at Chiba University during October 25-28, 2004. The up-to-the-minute advances in science and technology of organic-based devices were discussed in this exciting symposium. Members of the 21st Century Center-of-Excellence (21COE) program operated at Chiba University were honored to host the participants of this symposium. We express our gratitude for all the participants and especially for the invited speakers who kindly introduced their up-to-date and distinguished works.

On the first day of the symposium, we organized three tutorial lectures on basic sciences and technologies in organic-based electronic devices including theoretical introduction to photonic bands to foster young researchers and advanced-course students who will be our promising collaborators in near future. Scientific sessions were held during October 26-28, including topics such as cutting edge of organic electronic devices, electronic states of surfaces and interfaces, charge transport and optical properties, electrical doping of organic semiconductors and many other interesting subjects. At the end of the program, a special discussion time was scheduled for crucial issues in organic devices, that must be important to understand nature of the device functions, that is (i) scientific background of the electrical doping of organic semiconductors, (ii) origins of band-gap states that control the Fermi level, and (iii) role of electron(hole)/phonon(vibration) coupling in organic semiconductors. In order to encourage experiences of young generation, we had strongly asked our students and young researchers to act as organizing members. Most parts of this symposium were thus scheduled and successfully organized by them. I believe that this is one of the most important fruits of this symposium.

The scientific sessions featured 25 invited and 48 contributed papers, and we had 175 participants from 7 countries. This proceeding book has collected 43 papers both from the invited and the contributed papers that were reviewed as in regular journals. I hope this book could be a snapshot of the progress in science and technology of organic electronics.

Finally I would like to express my gratitude to all of the participants and 21COE secretaries as well as to Professors K. Seki, A. Kahn, K. Kudo and M. Nakamura who have been members of the organizing committee.

Nobuo Ueno
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Leader of 21COE Program,
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The International Symposium on Super-Functionality Organic Devices

Organizing Committee

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Prof. Kazuhiko SEKI, Nagoya University
Prof. Kazuhiro KUDO, Chiba University
Prof. Masakazu NAKAMURA, Chiba University
Prof. Antoine KAHN, Princeton University

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- *21st Century Center-of-Excellence* (21COE) *Program*: *'Frontiers in Super-Functionality Organic Devices'*, Chiba University
- *Grant-in-Aid for Creative Scientific Research*: *'Elucidation and control of interfaces related to organic electronic devices'*, Nagoya University
- *NEDO International Collaborative Research* project: *'Electrical Doping of π-Conjugated Organic Molecular Films: Fundamental Mechanisms and New Electronic Functions'*, Princeton University

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- *Technical Committees of Electric Materials, The institute of Electrical Engineers of Japan* (IEEJ)
- *Division of Organic Molecular Electronics and Bioelectronics, The Japan Society of Applied Physics* (JSAP)
- *NEDO* project: *'Advanced Organic Devices'*, Chiba University

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