

The polymers are most versatile materials whose properties and functionalities can be easily manipulated. Owing to these advantages, polymers are covering a wider range of properties to find their new applications in electronic, photonic, biomedical, and energy industries. The desired properties of polymers may be obtained by various methods: some by designing new polymer molecules and molecular architecture, some by blending or hybridizing with other functional materials, and some by regulating micro- and nano-structures by adopting specialized processing techniques.

The IUPAC International Symposium of the “Advanced Polymers for Emerging Technologies” took place in Busan, South Korea, on October 10–13, 2006 to commemorate the 30<sup>th</sup> Anniversary of the Polymer Society of Korea [named as IUPAC Symposium PSK30]. In the PSK30 Symposium, more than 1200 oral and poster papers from 20 countries, including 4 esteemed plenary speakers and more than 150 invited speakers, were presented and more than 1920 participants attended from all over the world. The symposium was organized to be an open forum for the participants who are engaged in polymer chemistry, physics, materials, and engineering. The symposium was composed of two parts: “Advanced Polymers for Emerging Technologies” and “Contemporary Polymer Science and Technology.” The first part, which focused on the specialty polymers for new applications and their manipulation, contained the following sessions:

- Polymers for electronics and photonics
- Smart polymers for sensors and intelligent systems
- Biomedical polymers
- Polymers for energy conversion and storage
- Polymer nanomaterials and nanotechnology

The second part, which dealt with the general-purpose polymers along with newly

designed polymers and their engineering and processing, contained the following sessions:

- Polymer syntheses and reactions
- Polymer physics, properties, and characterization
- Environmental and green polymers
- Polymer engineering and processing
- Industrial polymers

Experts in diverse research and development fields exchanged their ideas and experiences about the latest research results and developments to make contribution to the advancement of polymer science and technology. We have collected some of the excellent research papers presented in the symposium and edited them in two volumes: “Advanced Polymer Science and Technology” and “Contemporary Polymer Science and Technology” in accordance with the IUPAC Symposium PSK30 program. The first volume offers some innovative ideas for future-oriented specialty polymers and the second volume may give solutions to the problems frequently encountered in current polymer industry. An effective combination of these volumes would produce synergistic effects and cover a wide range of knowledge of polymer science and technology. We anticipate that the readers will share creative ideas and rich experiences with other distinguished scientists and engineers of polymers through these books.

We would like to express our deepest gratitude to the authors for their timely contribution and review of the papers. We would also like, on behalf of the authors, to express our gratitude to Wiley-VCH for publishing these volumes of Macromolecular Symposia. In particular, our heartfelt thanks go to Dr. Ingrid Meisel and Ms. Sibylle Meyer (Editor of Macromolecular Symposia) of Wiley-VCH for their efficiency and wholehearted support to complete these books in time.

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