Polychar-14
World Forum on Advanced Materials

The synthesis and the processing of polymer materials have been advanced in many research works to increase their performance under mechanical stress and in various chemical and thermal conditions. Recently, there has been increasing interest in preparing materials with many functional properties such as electro-conductivity, piezoelectricity, heat and weather resistance, super-absorbance, and permeability. These high-performance or high-functional materials have important advantages (cost of the product, energy) for engineering fibers/plastics such as reinforcing fibers. Now some plastic materials are replacing aluminium and other structural metals in applications in electronic and optical communication and computers. Each new application testifies the enormous developments that can exert on the properties of polymers. Novel methods to control polymer structure and characterization, novel architectures for polymers, and novel concepts on nano scale materials with hitherto unknown properties have come into existence. Further spectacular developments in terms of polymer science are a key theme of the present proceedings. POLYCHAR has made significant contributions to polymer characterization since the first conference on Polymer Characterization (POLYCHAR) was held in North Texas in 1993.

The POLYCHAR-14 World Forum on Advanced Materials was organized at Nara Women's University in Nara City (old capital of Japan), the most beautiful and historical cities of Japan, April 17–22, 2006. 260 attendees from 35 countries presented 272 papers (including 63 invited lectures) for exciting discussions. The focus of POLYCHAR-14 was on the characterization of advanced materials, and on the synthesis, processing, manufacturing and properties. The forum included sessions on: Characterization, Nanocomposites, Physical Properties, Syntheses, Surface, Interface and Thin Films. All contributions provided a gauge of the contemporary understanding of advanced materials responsible for better life and comfort. Polychar-14 was supported by many scientific associations such as International Union of Pure and Applied Chemistry (IUPAC), the Society of Polymer Science (Japan), The Society of Rheology (Japan), The Commemorative Organization for the Japan World Exposition 70, Inoue Foundation for Science, The Kao Foundation for Science, Nara Convention Bureau and Nara Women's University and from eleven Japanese companies.

We would like to express our gratitude to all participants and sponsors for supporting the conference, and to the organizing committee members for their great effort and contributions.

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