

Preface

The POLYCHAR 16: World Forum on Advanced Materials, organized by the University of Lucknow, was held from 17 to 21 February 2008 in the capital of the state of Uttar Pradesh, India. The annual POLYCHAR conferences have been sponsored by IUPAC for several years and are known for combining the broad field of materials sciences with a clear focus on polymeric materials (the name “POLYCHAR” is derived from the term “polymer characterization”). POLYCHAR 16 was supported by many scientific associations and industries such as IUPAC, Abdus Salam International Center for Theoretical Physics (ICTP) (Trieste, Italy), Indian Space Research Organization (ISRO), Department of Biotechnology (DBT) (India), Council of Scientific and Industrial Research (CSIR) (India), Reliance Industries Ltd. (India), Department of Science and Technology (India), Indian Council for Medical Research (ICMR), Indian National Science Academy (INSA), Uttar Pradesh Council of Science and Technology (UPCST) (India), Lucknow Chapter, Materials Research Society of India (MRSI), and University of Lucknow.

As in past years, POLYCHAR puts emphasis on the quality of research presented—in contrast to maximizing the number of participants. The areas covered include nanomaterials and smart materials; natural and biodegradable materials and recycling; materials synthesis; polymers for energy; rheology, solutions, and processing; mechanical properties and performance; characterization and structure–property relationships; biomaterials and tissue engineering; dielectric and electrical properties; surfaces, interfaces, and tribology; and predictive methods. Symptomatically, the number of papers on “green” science was higher than at POLYCHAR 15 last year in Búzios, Rio de Janeiro.

There were a total of 292 registered participants from 35 countries (Austria, Bangladesh, Belgium, Brazil, China, Colombia, Croatia, Czech Republic, Egypt, Fiji, UK, France, Germany, India, Iran, Israel, Japan, Korea, Kuwait, Mauritius, Malaysia, Mexico, Nepal, Netherlands, New Zealand, Poland, Portugal, Russia, Sri Lanka, Slovakia, South Africa, Ukraine, USA, Uzbekistan, and Venezuela). This reflects the philosophy of POLYCHAR to provide an international forum to encourage young scientists and advanced students to present their scientific work and give them the opportunity to meet with colleagues and well-known scientists to discuss their results, exchange experiences, and make new contacts, in particular, international ones. Many industrial contacts and much international cooperation with exchange of students and scientists have resulted from this and earlier POLYCHAR meetings.

This conference volume represents only a small fraction of the multitude of contributions from different parts of materials science—48 oral contributions and 170 posters. Many of the contributions have review character, some represent excellent original contributions. Only a small number could be selected for this volume because of the limited space that is available. All this was possible with the sponsorship of IUPAC. Highlights of the conference were the Paul J. Flory Research Award (*ex aequo*) to Prof. Jiasong He, Institute of Chemistry, Chinese Academy of Sciences, Beijing, China; the International Materials Research Award to Dr. Rameshvar Adhikari, Tribhuvan University, Katmandu, Nepal; and numerous awards for young scientists and students, including the IUPAC Poster Award. Special Prof. Brar’s 60th Birthday Celebration Awards were given to IUPAC poster prize winners.

The next POLYCHAR will be hosted by Jean-Marc Saiter, University of Rouen, Rouen, France in April 2009.

Poonam Tandon

Conference Executive Secretary and Co-editor