Knowledge of thermodynamics is a necessary tool for describing and understanding the physical behavior of new polymers and polymer blends, for instance compatibility of components, rheological properties, morphological features, and mechanical properties. This book summarizes in a fairly comprehensive manner the recent technical research accomplishments in the area of thermodynamics, characterizations, and applications of polymer blends. In the first chapter, an overview of thermodynamic behaviors of non-equilibrium polymers is discussed. In the consecutive chapters, different properties of polymer blends are discussed, including surface tension, transition, crystallization, morphology, and flow behaviors. Miscibility and molecular characterizations of polymer blends will also covered in this book. Applications to various systems are reviewed and both experimental concerns and references will be supplied. In this time when science has such a strong tendency for diversification, this book will demonstrate the relevance of one's own activities with the neighboring branches of activities.

This book is unique in that the mathematics of the physics of polymers are minimized in order not to discourage the interest a junior or senior undergraduate or new graduate student by an unnecessarily rigorous approach. However, the aim to widen the readers' general knowledge with a better understanding of the physics of polymers. Applications to various systems are reviewed, and both experimental concerns and references are supplied.
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ABOUT THE EDITORS
Chin Han Chan, PhD, is an associate professor at the Faculty of Applied Sciences, Universiti Teknologi MARA (MARA University of Technology) in Selangor, Malaysia. She has received many research grants, has published many articles in professional journals, has published chapters in books, and has presented at many professional conferences. Her field of interest includes epoxidized natural rubber-based nanostructured blends, thermoplastic elastomer, biodegradable polyester/polyether blends and solid polymer electrolytes.

Chin Hua Chia, PhD, is a senior lecturer at the School of Applied Physics, Faculty of Science and Technology at Universiti Kebangsaan Malaysia (National University of Malaysia), Malaysia. A recipient of the Young Scientist Award from the National University of Malaysia in 2012, he is a member of several professional organizations and has published several book chapters and articles in professional journals as well as has presented at many professional meetings.

Sabu Thomas, PhD, is the Director of the School of Chemical Sciences, Mahatma Gandhi University, Kottayam, India. He is also a full professor of polymer science and engineering and the Honorary Director of the Centre for Nanoscience and Nanotechnology of the same university. He is a fellow of many professional bodies. Professor Thomas has authored or co-authored many papers in international peer-reviewed journals in the area of polymer processing. He has organized several international conferences and has more than 420 publications, 11 books and two patents to his credit. He has been involved in a number of books both as author and editor. He is a reviewer to many international journals and has received many awards for his excellent work in polymer processing. His h Index is 42. Professor Thomas is listed as the 5th position in the list of Most Productive Researchers in India, in 2008.

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