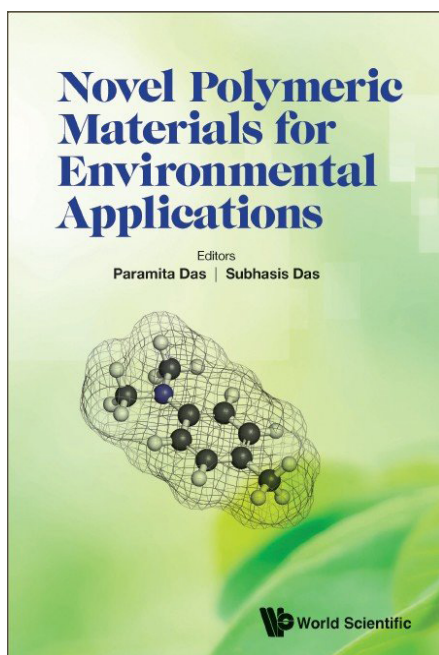


Novel Polymeric Materials for Environmental Applications



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ABOUT THE BOOK

Polymeric materials play an essential and ubiquitous role in many fields including structural and packaging materials, drug development, tissue engineering, wastewater treatment, pollutant removal, separation, water purification, smart agriculture, and even road and building construction. This book contains eleven comprehensive chapters covering topics from deriving polymers from natural resources or wastes to developing novel functional polymeric materials in the form of membranes, hydrogels, foams, nanocomposites for various environmental applications. This book also discusses the utilization of waste plastics and the challenges and progress made in recycling and reusing commercially viable polymers. Such information is valuable and accelerates technological progress. Each chapter further gives the current fabrication methodology, challenges, and future scope of these materials related to their environmental applications. Thus anyone working on polymer-based materials will benefit from the comprehensive knowledge presented in this book on novel polymeric materials and their various environmental applications.

READERSHIP

The academicians, students, researchers, technologists, and environmental professionals working on polymer-based materials.

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- Development of Microbial Biopolymers: The Eco-Friendly, Sustainable Products for Environmental Applications (*Subhasis Das, Paramita Das, and Banwari Lal*)
- Polydopamine-Modified Smart Materials with Special Surface Wettability for Environmental Applications (*Van Cuong Mai and Paramita Das*)
- Polymeric Membranes for Separation and Purification Applications (*Pankaj Kumar, Van Cuong Mai, Subhasis Das, and Paramita Das*)
- Recent Advances in Polymer Hydrogels for Agricultural Applications (*Roop Singh Lodhi, Subhasis Das, and Paramita Das*)
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- Production of Eco-friendly Plastics and Bioplastics from Crustacean Shells and Their Environmental Applications (*Pravat K Swain, Paramita Das, and Vijayeta Pal*)
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- Additive Manufacturing of Recycled Polymers: Progress, Challenges, and Environmental Aspect (*Pawan Verma, Paramita Das, and Aniruddh Vashisth*)
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