

Preface

This special edition contains articles based on the results of research and engineering developments in applied materials and technologies offering insights into both fundamental properties and practical applications.

Chapter 1: Manufacturing Technologies presents the results of dynamic testing of friction stir processed aluminum-5052 and hybrid intelligent-assisted approach for process parameters optimisation to enhance the sustainable manufacturing of thermoplastic laminates. Emphasis is placed on efficiency, precision, and sustainability of production processes.

Chapter 2: Materials for Biomedical Application focuses on the development and application of materials designed for biomedical applications, including implant production and processing, drug delivery systems, etc. The chapter highlights the intersection of materials science and medicine in improving human health.

Chapter 3: Waste Recycling and Wastewater Treatment addresses sustainable technologies for recycling waste materials and treating wastewater. The focus is on innovative approaches to reduce environmental impact and promote circular economy principles.

The topics covered in this collection underscore the vital role of materials science in shaping our technological future. We hope that this special edition will be a useful resource for researchers, practitioners, and students whose professional activity is related to materials engineering.