

Preface

This special edition presents recent research results and technological advances across materials science and sustainable building materials, highlighting both traditional solutions and environmentally responsible innovations.

Chapter 1: Steel and Alloys focuses on the analysis of forming processes and performance of metallic materials essential for structural applications in machinery. Contributions also emphasise microstructure-property relationships.

Chapter 2: Functional Materials presents studies on materials engineered to exhibit specific physical, chemical, or multifunctional properties. Topics include polymer materials for membranes and bimetal structures for supercapacitor electrodes.

Chapter 3: Biocomposites explores a series of composite materials derived partly or entirely from renewable and natural resources. The chapter highlights material synthesis and processing methods, as well as mechanical performance.

Chapter 4: Biomass Processing and Valorisation addresses technologies for converting biomass into valuable products, materials, and energy carriers. Emphasis is placed on efficient processing methods that contribute to the principles of a circular economy.

Chapter 5: Green Building Materials focuses on sustainable materials and technologies for the construction sector. Contributions examine eco-efficient building materials, durability, energy performance, and innovative approaches for reducing environmental impact in the built environment.

The edition is designed to serve as a valuable resource for researchers, engineers, and students seeking to advance materials science and promote environmentally responsible engineering practices.