

Preface

The impetuous pace of technological advancement and the increasing demand for sustainable solutions have propelled innovation across diverse fields of materials science and engineering. The research results in this special edition reflect these trends, offering cutting-edge engineering solutions and their application methods.

This edition is structured into five distinct chapters, each focusing on a crucial topic of research and development.

1. Biocomposites.

This chapter explores the synthesis methods, properties, and examples of biocomposite materials applications. The focus is on the integration of renewable bioresources into sustainable technologies production of advancing eco-friendly alternatives for traditional composite materials.

2. Special Materials.

Highlighting innovations in the development of advanced materials, this chapter covers the investigation of novel materials with special functionalities and applications. These materials address specific technological requirements in sectors such as aerospace and automobiles, microelectronics, electrical circuit boards, etc.

3. Waste Recycling Technologies

Sustainability takes a special place in this special edition. The third chapter delves into innovative methods for recycling and reusing industrial and consumer waste. The studies presented aim to reduce environmental impact and promote circular economy practices.

4. Non-Destructive Testing.

This chapter examines some state-of-the-art techniques in non-destructive testing (NDT) that ensure the control of the integrity of materials and structures.

5. Construction Technologies and Materials.

The last chapter focuses on some actual issues of modern construction, such as research possibilities for efficient capitalisation in construction eco-products that are based on industrial waste or by-products and analysis of the influence of breakages of reinforcing elements in a composite rope on its stress-strain state.

We believe that this special edition will serve as a helpful resource for scholars, engineers, and students, and will stimulate new ideas and advancements.