

# Preface

This special edition compiles recent solutions and research findings in materials science, with a particular focus on polymers, surface engineering, and catalytic processes for sustainable energy applications.

Chapter 1: Polymers presents studies in the synthesis and analysis of properties of some polymeric materials. The articles emphasise innovations in polymer synthesis and functionalization, as well as performance improvements for various industrial applications.

Chapter 2: Photocatalysis and Electrocatalysis for Energy Conversion examines the role of catalytic materials in renewable energy technologies. Topics include photocatalytic and electrocatalytic processes for water splitting, fuel cells, and solar cells aimed at achieving higher efficiency and sustainability.

Chapter 3: Coatings and Surface Treatment focuses on surface modification methods and coating technologies designed to enhance durability, corrosion resistance, and functional performance. The studies highlight recent progress in deposition techniques and surface engineering for industrial applications.

The special edition is a valuable information resource for researchers and engineers, inspiring further innovation in the development of advanced and sustainable materials and technologies.