

Preface

This special edition presents a collection of recent research results and technological developments in materials science and engineering, with a focus on structural metals, construction technologies and building materials, energy storage systems, and aerodynamic design.

Chapter 1: Structural Metallic Materials focuses on the development and analysis of properties of zinc anticorrosion coatings, as well as the performance assessment of welded joints using machine learning techniques.

Chapter 2: Materials and Technologies in Construction examines advancements in construction materials and engineering technologies designed to enhance structural integrity, sustainability, and efficiency of infrastructural objects.

Chapter 3: Energy Storage, Batteries, and Power Systems presents studies on materials, devices, and system-level approaches for energy storage and power management. Emphasis is also placed on integrating photovoltaic street lighting systems.

Chapter 4: Aerodynamic Design addresses the applied aspects of aerodynamic analysis and design for a five-bladed axial fan, as well as a numerical study of the aerodynamic stability of a drone.

This edition will be a valuable resource for researchers, engineers, and students seeking to advance the field of engineering science and practice.