

Preface

From pioneering materials to innovative technologies, each chapter of this special edition explores the achievements and possibilities within specialised areas of engineering science.

Chapter 1, Membranes and Membrane Technologies is dedicated to analysing the properties of some membranes for filtration and separation processes, which can be used for water and wastewater treatment.

The articles from the second chapter explore the impact of calcium hydroxide particle size on intracanal medicament penetration efficacy in stomatology and computational simulations for the exploration of the electrostatic potential distribution within graphene-based nanocomposite and theoretical study of the stability of cadmium-based liquid alloy at different temperatures.

Optimisation of silica-containing mud alkaline fusion process using Taguchi method, synthesis of a low-fidelity finite element model of tire-terrain interaction for autonomous off-road vehicles and practical example of implementation of spatial interpolation to predict mangrove above-ground carbon in Loh Buaya (Komodo National Park, Indonesia) are topics of the last chapter.

This special edition will be useful to a wide range of specialists involved in materials science, chemical technologies, machinery and environmental engineering.