

# Table of Contents

## Preface

## Chapter 1: Steel and Alloys

<b>Microstructural Characteristics, Hardness and Tribological Behavior of Additive Manufactured CM247LC Nickel Super Alloy</b> C. Palanisamy, R. Raman and P.A. Olubambi	3
<b>Certain Investigation on Feasibility of Developing Riser Less Ductile Iron Castings</b> S.V. Subramanian, C. Palanisamy, R. Raman and P.A. Olubambi	15
<b>Influence of Annealing Temperature on the Chemical Composition of Composite Al-Si Coating Deposited via Magnetron Sputtering on ZK60A</b> A.K. Singh, N. Glizde and K. Savkovs	27

## Chapter 2: Engineering Research and Design

<b>Comparative Flexural Analysis of Cantilever Beam at Various Loads Using Analytical, Computational and Experimental Techniques</b> A. Abuye, F. Kibrete, G. Ayay and E. Gebrekidan	35
<b>Topological Optimization of Mining Vehicle Tyre</b> P. Muller and L. Mthembu	45
<b>Mathematical Model of Unsteady MHD Couette Flow of Maxwell Viscoelastic Material and Heat Transfer with Ramped Wall Temperature</b> K. Mundell-Thomas and V.M. Job	65
<b>Development and Implementation of an Artificial Neural Network for the Simulation of Flood Phenomena in a Natural Area</b> E. Keramaris and I. Petikas	77