

# Table of Contents

## Preface

## Chapter 1: Structural Metallic Materials

<b>Comparative Evaluation of Zinc Coatings on Mild Steel: Microstructure and Corrosion Resistance</b> F.Z. Lemmadi, I. Hamdi and F. Chabane	3
<b>Mechanical Characterization of SMAW and TIG Welded Joints Using Machine Learning Techniques</b> P. Satyanarayana Raju, G. Veerendra Kumar and A. Gopichand	11

## Chapter 2: Materials and Technologies in Construction

<b>Recyclability, Water Absorption and Durability of Unstabilized Clay Brick Reinforced with Straw</b> S.O. Odeyemi, T.O. Omole, M.A. Adisa, M.A. Olawale and S.A. Alabi	21
<b>Mechanical Behavior of Fiberglass-Reinforced Cementitious Composites at Low Fiber Concentrations</b> D. Ferreira dos Santos and P. Bachmeyer de Meirelles	37
<b>Experimental and Numerical Study of Flexural Strength of Kenaf Fibre-Reinforced Concrete Beams</b> I.S. Ayeni, O.O. Popoola and J.F. Ekundayo	45
<b>The Application of Base Isolation System as Earthquake Resisting Technology on Mulya Medika Hospital, Samarinda</b> A.Y. Pratama and I. Ariani	61
<b>Design and Performance Evaluation of HVAC Systems with Thermal Load and Duct Sizing Considerations Theater Buildings</b> F. Yulia, P.M. Dana, Y. Bram, K.D. Lokollo and R.W.W. Partakusuma	73

## Chapter 3: Energy Storage, Batteries, and Power Systems

<b>Electrosynthesis of NaBH<sub>4</sub> from NaBO<sub>2</sub> for Hydrogen Storage</b> A. Nur, A. Jumari, E.R. Dyartanti, M.D. Supardan, N. Nazriati, F.Y. Arrazy, R.N. Said, C.M.P. Pradana and R.D.B. Saputra	87
<b>The Morphological Structure Analysis of Precursor and Active Cathode Material NMC-811 with Variations in Reaction Time, Holding Time, and Temperature</b> A. Purwanto, A.S. Sucahyo, A. Kurniasari, F.S. Malinda and M.R. Utama	95
<b>Smart Standalone PV-Based Street Lighting for Rural Areas in Wonogiri Regency</b> I. Inayati, A. Ramelan, M. Nizam and M.R. Aulia Putra	103

## Chapter 4: Aerodynamic Design

<b>Numerical Analysis of a Five-Bladed Axial Fan Using Computational Fluid Dynamics (CFD): A Comparative Study for Aerodynamic Design Optimization</b> M.A. Suleiman and F. Szodrai	111
<b>Numerical Study of the Aerodynamics Stability of STU.1.M Drone at the Steady State Conditions</b> S.S. AL-Mukhtar, M.A. Abdulwahid and A.M.A. Morad	129