

Table of Contents

Preface and Editorial Board

Chapter 1: Applied Materials

Electrical Characteristics of GaAs Implanted with High Energy (100 MeV) ^{28}Si and ^{120}Sn Ions Y.P. Ali, A.M. Narsale and B.M. Arora	3
Study on Dispersion and Characterization of Functionalized MWCNTs Prepared by Wet Oxidation I.S. Zaine, N.A.M. Napiah, A.M. Yusof, A.N. Alias, A.M.M. Ali and S.H. Khalid	8
Corrosion Inhibition of Aluminum in 0.1M HCL by <i>Nephelium lappaceum</i> (Rambutan) Peel Extract M. Norzila, M.I. Nur Akidah Honey and J. Nursyafinaz	14
Friction and Wear Characteristics of Cu-Based P/M Brake Friction Materials with Addition of Fe and C R.J. Talib, M.A. Selamat, Z.J. Rusila and M.F. Ismail	21

Chapter 2: Technologies of Environmental Engineering

Decolorization of Reactive Black 5 Using Fe-Areca Nut as a Heterogeneous Fenton Catalyst M.A. Zaidill Azizan, H. Hassan, S. Faraziehan and N. Abu Hassan	29
Effect of Dopant Concentration of N, Fe Co-Doped TiO_2 on Photodegradation of Methylene Blue under Ordinary Visible Light A. Sikirman, J. Krishnan and E.N. Mohamad	34
Equilibrium and Kinetic Studies on Removal of Binary Metal Ions Using Immobilized <i>Saccharomyces cerevisiae</i> N.K.A. Md Rodzi, S. Faraziehan and A. Rasyidah	39
Removal of Binary Metal (Nickel and Lead) Ions from Aqueous Solution Using Natural and Modified Clinoptilolite S. Zuliyana, A. Rasyidah, S. Faraziehan and K. Mohamad Anuar	45
Response Surface Methodology Approach for Optimization of Biosorption Process for Removal of Binary Metals by Immobilized <i>Saccharomyces cerevisiae</i> M.Z. Mohamad Zulhelmi, A. Rasyidah, S. Faraziehan and K. Mohamad Anuar	51
Review of Green Solvents for Oil Extraction from Natural Products Using Different Extraction Methods N. Sahad, A. Md. Som and A. Sulaiman	58
Synthesis, Characterization and Efficiency of N, C-TiO_2 as an Active Visible Light Photocatalyst J. Krishnan, E. Nerissa and A. Hadi	63
Numerical and Laboratory Approach to the Prediction of Flood Stage in Lowland Tidal River I.N. Mohamad and W.K. Lee	68
Enhanced Horizontal and Vertical Resolution in 4-D Electrical Resistivity Tomography for Environmental Slope Study in Penang Island A.A. Bery and R. Saad	73
Aerosol Characterization over Penang, Malaysia Using Aerosol Robotic Network (AERONET) A.N. Alias, M.Z. Mat Jafri, H.S. Lim, N.M. Saleh, S.H. Chumiran and A. Mohamad	81

Chapter 3: Building Materials and Civil Engineering

Retrofitting of Single Unit Tunnel Form Building Using Steel Plate under Out-of-Plane Lateral Cyclic Loading S.A. Anuar, N.H. Hamid and M.H. Hashim	95
---	----

Bonding Strength of Expanded Polystyrene (EPS) Beads Enhanced with Steel Fiber in Reinforced Lightweight Concrete (LWC) J.A. Rahim, S.H. Hamzah and H. Mohd Saman	100
Evaluation of Medium-Rise Reinforced Concrete Building Performance under Low Intensity Earthquake Effect R. Ismail, H. Mohd Saman and M. Hassim	106
Fire Resistance Performance of Reinforced Concrete Column with Embedded Permanent Formwork Using Woodwool Panel A. Zakiah, A. Nursafarina, A.A. Rahman, H.A. Hamid and M.S. Md Noh	111
Loading Capacity of Prestressed Concrete Sleeper under Harmonic Function N.I. Sharul, E. Dozier, A.B. Afidah, H. Siti Hawa and F.R. Mohd Ikmal	118
Retrofitting of a Double Unit Tunnel Form Building Using Additional RC Wall, Steel Angle and CFRP N.H. Hamid, S.H. Anuar and N.L. Azmi	123
Seismic Performance and Assessment of Precast Beam-Column Corner Joint Subject to Reversible Lateral Cyclic Loading M.A. Tukiari, A.G. Kay Dora and N.H. Hamid	128

Chapter 4: Designing and Researching in Mechanical Engineering

Evaluation of Outlier Specific Correction Procedure for Areal Surface Texture M.F. Ismail, T.R. Jaafar, S. Che Mat and M.A.A.H. Pahmi	137
The Analysis of Intake Manifold Air Stream Velocity on Different Material Roughness M.A.A.H. Pahmi, S. Che Mat, A.N. Nasruddin, M.F. Ismail and M.N. Yusof	143
Thermal Performance of a Cylindrical Heat Pipe for Different Heat Inputs and Inclination Angles F. Idrus, N. Mohamad, R. Zailani, W. Wisnoe and M.Z. Abdullah	148
Variable Speed Wind Turbine with External Stiffness and Rotor Deviation Observer M.N. Kamarudin, A.R. Husain and M.N. Ahmad	154
Analysis of Atmospheric Parameters Variation on Efficiency of Polycrystalline PV System in a Tropical Station Y.K. Sanusi, A. Ojeniyi and N. Norani	160
Assessment of Double Hole Contrast Detail Phantom for Image Displacement Evaluation N.F. Pauzi, Z.A. Abdul Majid, A.H. Sapuan, M.Z. Che Azemin and L.K. Junet	168
Dynamic Modeling of Electrical Discharge Machining (EDM) System Using Matlab E. Karimpour, A. Yahya, S. Wahyudi, A. Trias and M.A.A. Rahim	176
Implementation of Fuzzy Logic Controller for Wheelchair Motion Control Based on EOG Data N.M. Mohd Noor and S. Ahmad	183
Simulative Effect of Cyclic Prefix in Optical OFDM A.O. Aldhaibani, S.A. Aljunid, M.S. Anuar, A.R. Arief and H.Y. Ahmed	190