Table of Contents

Preface

Chapter 1: Advanced Materials, Manufacturing Technologies and Engineering, Equipment

Effect of Chitosan-Grafted-Poly (Methyl Methacrylate) Content on Mechanical Properties and Thermal Degradation of Poly (Vinyl Chloride) Composites A. Abu Bakar, N.A. Abdul Aziz, A. Hassan and N. Azmi	3
Effects of Halloysite Nanotubes on Mechanical and Thermal Stability of Poly(Ethylene Terephthalate)/Polycarbonate Nanocomposites N.A. Jamaludin, A. Hassan, N. Othman and M. Jawaid	8
Evaluation of Mechanical Properties of Filled Epoxy Composite for Improving Mould Performance – A Review	
M.T. Mohd Khushairi, S. Sharif and J.S.M. Ani Metallic Biomaterials for Medical Implant Applications: A Review H.A. Zaman, S. Sharif, M.H. Idris and A. Kamarudin	13 19
Effect of Loading Rate on Indentation Behaviour of Fibre Metal Laminates Based on Kenaf/Epoxy C.L. Pang, N.A. Husain and M.R. Abdullah	26
On the Application of Well Stimulation Method in Improvement of Oil Recovery A. Gharibi, M. Zoveidavianpoor and F. Daraei Ghadikolaei	31
Synthesis and Characterization of Low-Cost Porous Carbon from Palm Oil Shell via K ₂ CO ₃ Chemical Activation Process N.S. Nasri, H. Basri, A. Garba, U.D. Hamza, J. Mohammed and A.M. Murtala	36
An Expert System Based on a Hybrid Multi-Criteria Decision Making Method for Selection of Non-Conventional Machining Processes A. Azaryoon, M. Hamidon and A. Radwan	41
Computer Aided Design and Analysis of Conical Forming Dies Subjected to Blast Load R. Alipour, A. Frokhi Nejad, S. Izman and M.N. Tamin	50
Tensile Properties and Morphology of Polylactic Acid (PLA)/Ethylene Vinyl Acetate (EVA) A.M. Siti Najihah and Z. Mohamad	57
Tensile Properties and Morphology of Polyamide 6 (PA6)/Ethylene Vinyl Acetate (EVA)/Sepiolite Nanocomposite N.M. Fauzi and Z. Mohamad	61
Performance Comparison between Dry and Nitrogen Gas Cooling when Turning Hardened Tool Steel with Coated Carbide A.E.I. Elshwain, M. Handawi, N. Redzuan, M.Y. Noordin and D. Kurniawan	65
Effect of Compatibilizer Content on the Mechanical and Morphological Properties of PET/PP (70/30) Blends	
I.M. Inuwa, A. Hassan and S.A. Samsudin Major Hazards of Process Equipment Failures in the Chemical Process Industry N.E. Hussin, A. Johari, K. Kidam and H. Hashim	70 75
Comparison on Section Properties and Flexural Behaviour for Cold-Formed Steel Built-Up Section	
Y.H. Lee, S. Mohammad and Y.L. Lee CFD Simulation of Air Temperature inside a Bus Passenger Compartment N.E. Ahmad Shafie, H. Mohamed Kamar and N. Kamsah	80 85
Sustainable Manufacturing in Injection Molding: Development of Energy Map M.F. Rajemi and M.M. Hassan	91

Chapter 2: Structural Engineering, Construction and Building Materials, Construction Project Management and Safety

Safety and Health in Refurbishment Works Including Partial Demolition M. Rakhshanifar, M. Hosseini and A. Abdullah	99
Evaluation of Coupling Beams Behavior Concrete Shear Wall with Rectangular and Octagonal Openings A.K. Marsono and S. Hatami	104
Determining the Causes of Delay by Using Factor Analysis in Tehran's Construction	101
Projects M. Rafieizonooz, M.R. Salim, E. Khankhaje, M. Warid Hussin, A. Zarebidaki and Salmiati	109
A Simple Algorithm to Assess Structural Performance by PBSD Method M. Ahmadi and S. Abu Bakar	117
Performance of Iron Ore Tailings as Partial Replacement for Sand in Concrete S. Oritola, A.L. Saleh and A.R. Mohd Sam	122
Flexural Strengthening of Structural Timber in the 21st Century: A State of the Art Review S. Sheikh and Y. Ahmad	128
Correlation of Stiffness and Natural Frequency of Precast Frame System A. Javanmardi, R. Abadi, A.K. Marsono, M. Md Tap, Z. Ibrahim and A. Ahmad	141
The Impact of Metakaolin on Early Days Strength of Nanotechnology Modified Sandwich ECC	
O.R. Alonge and M. Ramli	145
Investigation the Behavior of a Four-Storey Steel Frame Using Viscous Damper M. Gordan, A. Haddadiasl, A.K. Marsono and M. Md Tap	149
Performance Appraisal Amongst Contractors in Construction Project in Malaysia S.H. Mat Yahya and S. Ismail	154
Density Currents Dynamics over Rough Beds R. Nasrollahpour, M.H. Jamal, M. Ghomesi, Z. Ismail and P. Roushenas	159
Environmental Loss Assessment for Gas Pipeline Failure by Considering Localize Factors Using Fuzzy Based Approach	10)
M.H. Norhamimi, Z. Libriati, N. Yahaya and M.N. Norhazilan	163
Comparative Study on Design of Experiment in Frequency-Based Response Surface Methodology for Damage Detection S. Umar, N. Bakhary and A.Y. Mohd Yassin	168
Chapter 3: Environmental Engineering and Processes Technology, Eco- Friendly Materials, Water Management and Hydrology	
Copper (II) Removal by Using Manganese Ferrite in PVA-Alginate Beads E.T. Wong, P.C. Teh, K.H. Chan and A. Idris	177
Grafting Efficiency of Lignin-Grafted-Polyacrylic Acid N.A. Azhar, S. Soloi, R.A. Majid and J. Jamaluddin	182
Return Periods of Extreme Meteorological Droughts during Monsoon in Bangladesh M. Alamgir, S. Shahid, M. Mohsenipour and K. Ahmed	186
Statistical Downscaling of Rainfall in an Arid Coastal Region: A Radial Basis Function Neural Network Approach	
K. Ahmed, S. Shahid and S. Harun	190
Application of Adaptive Network-Based Fuzzy Inference System (ANFIS) for River Stage Prediction in a Tropical Catchment N. Nawaz, S. Harun and A. Talei	195
Production of Biogas from Anaerobic Co-Digestion of Oil Palm Mesocarp Fibre and Cattle	
Manure: In Batch A.Z. Mohd Sabri, H. Samsudin, S.S. Yaacob and M.A. Muhammad Yuzir	200
Sulphate Reduction Control to Enhance Methane Composition in Anaerobic Digester S.S. Yaacob, A. Sabri and A. Yuzir	205
Removal of Bisphenol A (BPA) in Surface Water by Ozone Oxidation Process N.A. Ahmad, M.A. Yuzir, E.L. Yong, N. Abdullah and M.R. Salim	210
Modelling Stormwater Quality of an Arid Urban Catchment A.O. Hussein, S. Shahid, K.N. Basim and S. Chelliapan	215
Identification of Biodegradation Related Genes from Bacterial Consortium NAR-2 R. Nasiri, J. Hamzehalipour Almaki, S. Sheibani Esfarjani, C.G. Far and N.A. Abdul Rashid	220

Synthesis of Palm Oil Based Polyol via Glycerolysis and Transamidation Reactions for	
Polyurethane Foam Production K.A. Abdul Halim, S. Soloi and R.A. Majid	226
Chapter 4: Energy Efficient and Energy Saving, Energy Management, Environmental Protection and Economics	
Variability of Aggregate Consumption at Different TODs in Energy Consumption Data A.P.A. Ling, E. Mozgunov and T.C. Woo	233
Economic Impacts of Introducing a New Low Carbon City in Johor Bahru, Malaysia - A CGE Modelling Approach S. Khanam, M.J.M.M. Noor, Z. Mohamed and Y. Miyata	238
Energy Management Strategies at Emergency Department Block C Hospital Sungai Buloh, Malaysia	2.12
J. Lazim, S. Sarip, A.R.A. Rahman, M.Z. Hassan and S.A. Aziz	243
Traditional vs Technological Based Surveillance on Construction Site: A Review A.N. Harun, E. Bichard and M.N.M. Nawi	247
Chapter 5: Electronics and Measurement, Control, Mechatronics, Communication	
Incident Angle Approach to Sensitivity Enhancement for Ozone Sensor M. David, T.C.E. Marcus, M. Yaacob, M.R. Salim, N. Hussin, M.H. Ibrahim, S.M. Idrus, N.H. Ngajikin and A.I. Azmi	255
Pressure Dependence of Ozone Absorption Cross Section T.C.E. Marcus, M. David, M. Yaacob, M.R. Salim, N. Hussin, M.H. Ibrahim, N.H. Ngajikin, A.I. Azmi, S.M. Idrus and Z. Buntat	260
Electro-Hydraulic Actuator System Control via Pole Assignment Controler and Minimum Variance Controller S. Salleh, M.F. Rahmat and S.M. Othman	265
Analysis of Wideband Antenna Performance over Dual Band Artificial Magnetic Conductor (AMC) Ground Plane R. Dewan, M.K.A. Rahim, M.R. Hamid and M.F.M. Yusoff	273
Evaluation of the Equivalent Lumped Element Parameters of Modified Microstrip Ring Resonator	213
Y.L. Then, K.Y. You, M.N. Dimon and W.Y. Lai Position Control of a 2D Nonlinear Gantry Crane System Using Model Predictive	278
Controller N.K. Dankadai, A.A. Mohd Faudzi, A. Bature, S. Babani and M.I. Faruk	282
A Review on Filter-Antennas	
A. Nyangwarimam Obadiah, M.R. Hamid, M.K.A. Rahim and N.A. Murad	289
Position Control of Hydraulic Actuators Using Fuzzy Pulse Width Modulation (PWM) W.Y. Lai, N. Onn, C.H.H. Tang and M. Hussein	294
Feasibility, Flexibility and Sensitivity Tests on Delta Temperature Minimum to Obtain Operable and Flexible Heat Exchanger Network S.H. Abu Bakar, M.K.A. Hamid, S.R. Wan Alwi and Z.A. Manan	299
Fuzzy Logic System in Quantifying Human Driving Skill for Human Adaptive Mechatronics M.H.I. Ishak, A.W.A. Aziz and M.F.A.M. Kasai	304
Analysis on the Band Plans for IMT Systems in 698-960MHz	304
A.N.A. Fakrullah, T. Abd Rahman, R. Dolah and U.S. Haron	311
Chapter 6: Electrical Vehicles and Automotive Industry Engineering	
Validation of CFD Modeling and Simulation of a Simplified Automotive Model S. Mansor, N.A.R. Nik Mohd and C.W. Chung	319

Innovative Cases of TRIZ Application in the Automotive Industry A.R. Zulhasni and A.B. Nooh Electrical Vehicles: A Blessing or Challenge for Smart Grid in Presence of Renewable	326
Energy Resources N. Zareen, M.W. Mustafa and Azriyenni	331
Chapter 7: Strategic Management for Manufacturing Industry and Enterprises	
A Systematic Review of Enterprise Architecture Assessment Models N.A.A. Bakar, S. Harihodin and N. Kama	339
Lean Production Weaknesses in Manufacturing Industry: A Review K.K. Nithia, M.Y. Noordin and M.Z.M. Saman	344
TRIZ Business Improvement and Innovation Framework for Malaysian Small and Medium Enterprise	
A.R. Zulhasni, A.B. Nooh, M. Sarimah and T.S. Yeoh	349