

# Table of Contents

## Preface

## Chapter 1: Steel, Alloys and Intermetallic Compounds

<b>Crystallization Kinetics and Fragility of Al-Based Amorphous Alloy</b>	3
M.F.M. Wahid, K.J. Laws and M. Ferry	
<b>Effect of Heat Treatment on Isothermal Oxidation of Fe-33Ni-18Cr Alloy at 1000°C</b>	9
Z. Zulnuraini and N. Parimin	
<b>Effect of Plasma Flow in Plasma MIG Welding Process to the Microstructure Refinement at Heat Affected Zone of As-Welded Carbon Steel</b>	15
S. Mamat, A.A.M. Afandi, M.B. Abu Bakar, M.N. Masri, M. Mohamed, M.K.A.A. Razab, T. Yuji, S. Tashiro and M. Tanaka	
<b>Effect of Solution Treatment Temperature on the Microstructure of Fe-33Ni-19Cr Alloy</b>	21
N. Parimin and E. Hamzah	
<b>Heat Treatment of SS 316L for Automotive Applications</b>	28
N.M.S. Adzali, N.A. Azhar, Z. Che Daud, N.H. Ahmad Zaidi and S.A. Adnan	
<b>Influence of Cobalt Addition on Microstructure and Damping Properties of Cu-Al-Ni Shape Memory Alloys</b>	34
Y.C. Wee, H. Ghandvar, T.A. Abu Bakar and E. Hamzah	
<b>Internal Oxidation Behavior of Fe-33Ni-19Cr Alloy</b>	40
N. Parimin and E. Hamzah	
<b>Isothermal Oxidation Behavior of Fe-33Ni-18Cr Alloy in Different Heat Treatment Temperature</b>	46
Z. Zulnuraini and N. Parimin	
<b>Linking Spectrograph to Mechanical and Physical Properties of X7475 Experimental Alloys Produced from Recycling Beverage Cans for Bumper Beam Applications</b>	52
A. Kazeem, N.A. Badarulzaman and W.F.F. Wan Ali	
<b>Oxidation Kinetics of Fe-Ni-Cr Alloy at 900 °C</b>	58
N. Parimin and E. Hamzah	
<b>Performance of Fe-33Ni-18Cr Alloy at High Temperature Oxidation</b>	65
Z. Zulnuraini and N. Parimin	
<b>Residual Properties of the Drawn Steel Wires for Damage-Based Fretting Fatigue Models of the Wire Ropes</b>	71
M. Kamarudin, Z. Ahmad and M.N. Tamin	
<b>Role of Alloyed Niobium on the Isothermal Oxidation of Fe-40Ni-24Cr Alloy</b>	79
N. Parimin and E. Hamzah	
<b>Study of Heat Treatment Effect in MnCoGe Compound on Structure and Electric Properties</b>	86
M.F. Md Din, M.S.M. Jusoh, A.R.A. Rahman, J.L. Wang, N.H. Idris, M. Ismail and W.F.H. Wan Zambri	
<b>Temperature Effect on Pseudomonas Aeruginosa Growth and Its Presence on Corrosion of Steel Wire Rope</b>	92
N. Hasim, N.S. Azmi, W.F.F. Wan Ali, E. Hamzah, A. Yahya, M.A. Mat Yajid and N. Nosbi	
<b>The Effect of Al Micro-Alloying on Corrosion and Thermal Properties of Sn-Zn Alloy</b>	98
N. Jumali, N. Mohd Zaini, N.S. Sa'don, A.A. Mohamad and M.F. Mohd Nazeri	
<b>The Preliminary Study of the Addition Zinc in Tin-Copper Lead Free Solder</b>	104
W.Y. Wong, R.A. Shamsudin, M.F. Mohd Nazeri and M.N. Masri	

## Chapter 2: Polymers and Composites

<b>Enhancement of Electrical Conductivity of Electrospun Polyacrylonitrile Fibres Using Carbon Nanomaterials Synthesised from Polypropylene Waste</b>	111
Y.S. Koo, Z.Y. Soh, A.H. Norzilah, S.S.S. Bakar, M.A.A. Mohd Salleh, A.N. Edzatty and R.N. Izzati	

<b>Incorporation of Hybrid Pre-Dispersed Organo-Montmorillonite/ Destabilized Bentonite Nanofillers for Improving Tensile Strength of PEVA Copolymer with 40% Vinyl Acetate Composition</b>	118
T.F. Mohammed Fitri, A.F. Osman, R. Othman and Z. Mustafa	
<b>Mechanical and Thermal Properties of Hybrid Non-Woven Kenaf Fibre Mat-Graphene Nanoplatelets reinforced Polypropylene Composites</b>	124
H.A. Mohd, M.B. Abu Bakar, M.N. Masri, M.A. Sulaiman, M.H.M. Amini, S. Mamat and M. Mohamed	
<b>Mechanical Properties of Recycled Polypropylene Filled with Aluminium Hydroxide</b>	130
Y.G. Goh, A.S. Sufian, N. Mohamad and N. Afiqah	
<b>Properties of Carbon Nanotubes-Calcium Carbonate Hybrid Filled Epoxy Composites</b>	136
S.S. Md Saleh, S.M. Suhaimi, H. Md Akil and N.F. Mohammad	
<b>Synthesis and Characterization of IPDI Based Shape Memory Polyurethane</b>	142
N.A. Rasli @ Rosli and S. Ahmad Zubir	
<b>The Effect of CuZnFe<sub>2</sub>O<sub>4</sub> on Mechanical Properties and Thermal Conductivity of ABS Manufactured Using 3D Printer</b>	148
K.A. Hamzah, Y.C. Keat, M. Mohd Noor, P.L. Teh, S.A. Sazali and W.M. Wan Ibrahim	
<b>The Effect of Various Nanoclay Surface Modifications on the Thermal and Mechanical Properties of Amorphous Polyamide Nanocomposites</b>	154
K.A.A. Halim, J.E. Kennedy, J.B. Farrell and M.S. Zakaria	
<b>Comparison between CNT Thermal Interface Materials with Graphene Thermal Interface Material in Term of Thermal Conductivity</b>	160
M. Mohamed, M.N. Omar, M.S.A. Ishak, R. Rahman, N.Z. Yahaya, M.K.A.A. Razab and M.Z.A. Thirmizir	
<b>The Simultaneous Effect of Extrusion Ratio and Solution Heat Treatment on the Microstructure and Tensile Properties of Extruded Al-15%Mg<sub>2</sub>Si- 1.0%Gd Composite</b>	166
H. Ghandvar, W.F. Faiz, T.A. Abu Bakar and M.H. Idris	
<b>Compatibility of Palm Biodiesel Blends on the Existing Elastomer Fuel Hose in Diesel Engine with Approach of Dynamic Test Rig: A Concept Study</b>	172
N. Sa'at, A. Samsuri, N.A. Latif, N.F. Nasir, R.H. Madon and S.A. Osman	

### Chapter 3: Ceramics

<b>Comparative Study on the Performance of ZTA Cutting Tool with the Addition of Different Particle Size of MgO Additive</b>	181
R.N. Mudzaffar, H.H.M. Khairy, N.K.M. Zaki, A.Z.A. Azhar, H. Manshor, N.A. Rejab and A. Ali	
<b>Comparison between Solid State Reaction and Coprecipitation Method of Titanium Oxide Addition on the YBa<sub>2</sub>Cu<sub>3</sub>O<sub>8</sub> Ceramics</b>	187
A. Ali, A. Nadiah and N.A. Auli	
<b>Effect of Alumina (Al<sub>2</sub>O<sub>3</sub>) to the Properties of Whiteware Porcelain</b>	194
H. Yahya, A. Ahmad and I. Ismail	
<b>Effect of Milling Parameters on the Structural, Microstructural and Physical Properties of Alumina-Titania-Graphite Nanocomposite</b>	200
F.W. Ismail, M.H. Razali, N.N.A. Nik Yusoff and M. Yusoff	
<b>Effect of Sintering Temperature on Properties of Setiu Clay Sediments</b>	206
M.A.A. Muhamad Nor, N.A. Ismail Adnen, M.Z. Noh, M.W.A. Rashid and J.J. Mohamed	
<b>Effect of Sintering Temperature on the Preparation and Characterization of Green Glass Ceramic from Rice Husk Ash as a Matrix</b>	211
S. Saad, A. Chik, K.R. Ahmad and S.S.S. Bakar	
<b>Effect of Soaking Time on Crystal Structure of Lithium Aluminosilicate Glass Ceramic</b>	216
H.A. Lutpi, H. Mohamed and T.K. Abdullah	
<b>Formation of Yttria Aluminium Garnet by Microwave Sintering</b>	222
A.A.A. Abdul Halim, I. Sudin, W.F.F. Wan Ali, R. Yasak, R. Md. Sirat, M.A. Othman, N.S. Abdullah and Z.A. Ahmad	
<b>Investigation of CaCu<sub>3</sub>Ti<sub>4</sub>O<sub>12</sub> Precursor by Simultaneous TGA and DSC Analysis in Oxygen Environment</b>	228
N. Daud, J.J. Mohamed, M.J. bin Abu, M.F. Ab Rahman, S.R. binti Hassan, H. Mohammed and Z.A. Ahmad	

<b>Microstructural and Dielectric Responses of Calcium Copper Titanate Added Soda-Lime Glass for High Frequency Devices</b> M.F. Ab Rahman, M.F. Ain, J.J. Mohamed, S.R. binti Hassan and Z.A. Ahmad	233
<b>Microstructure and Mechanical Behavior of CaCu<sub>3</sub>Ti<sub>4</sub>O<sub>12</sub> Ceramics Hollow Fiber Prepared via Dry/Wet Spinning Method</b> M. Ahmadipour, T.A. Oritoju, M. Arjmand, Z.A. Ahmad and S.Y. Pung	239
<b>Prediction Model and Influence of Fe<sub>2</sub>O<sub>3</sub> on the Mechanical Properties of Porcelain with POFA as Quartz Replacement</b> S.G. Durumin-Iya, M.Z. Noh, N. Sharip, S.N. Ab Razak, M.W.A. Rashid, J.J. Mohamed and M.A.A. Muhamad Nor	244
<b>Structural Characteristic and Dielectric Properties of Zirconia Toughened Alumina</b> N.A. Rejab, N.K. Su, W.F.F. Wan Ali, M.F. Ain, Z.A. Ahmad and N.S. Abdullah	250
<b>The Effect of Calcium Carbonate Added into Mambong Clay</b> N.A. Bakar, N. Daud, S.M. Mat Nor, N.M. Nik Muhammad and J.J. Mohamed	256
<b>The Effect of Pressing Load on 8 mol% Yttria Stabilized Zirconia Grade 204NS-G</b> T. Selvaraj, B. Johar and K.S. Fhan	262
<b>1+xCu<sub>3</sub>Ti<sub>4</sub>O<sub>12+x</sub> Precursor in Nitrogen and Oxygen Environment at 1000 °C</b> J.J. Mohamed, N. Daud, M.J. bin Abu, M.F. Ab Rahman, S.R. binti Hassan, H. Mohamad and Z.A. Ahmad	268
<b>Thermal and Dynamic Mechanical Behaviours of CCTO/ENR-25 Composite</b> S.M. Sharifuddin, M.S. Mat Nor, F.A.M. Pabli, P. Luangchuang, W. Chueangchayaphan and M.A. Sulaiman	274
<b>Effect of H<sub>2</sub>/N<sub>2</sub> Mixtures on Reduction of Nickel Oxide</b> S.S. Che Abdullah, N.N. Mohd Nasri, N.H. Ahmad Zaidi, S.H. Salleh and I.H. Wan Nordin	280
<b>Tungsten Carbide-Nickel (WC-Ni) Coating as Potential Wear and Corrosion Protection for Metal</b> A.S.Y. Ning, K. Zakiah, A. Ainun Rahmahwati, R. Hussin and I.S. Aida	286
<b>Dielectric and Curing Properties of ZnFe<sub>2</sub>O<sub>4</sub> Loaded Epoxidized Natural Rubber (ENR 25)</b> S.S. Sukri, S.M. Sharifuddin, M.S. Mat Nor, F.A.M. Pabli, P. Luangchuang, W. Chueangchayaphan and M.A. Sulaiman	292

## Chapter 4: Materials for Fuel Cells, Energy Storage and Electronics

<b>Conductivity Study of Cassava Starch Coated Anode for Zinc-Air Fuel Cell System</b> W.M.I.W. Ismail, L.J. Chien, H.K. Adli, H. Salleh and M.N. Masri	301
<b>Electronic Properties of Calcium and Zirconium Co-Doped BaTiO<sub>3</sub></b> A.A. Adewale, A. Chik and R.M. Zaki	308
<b>Influence of Heating Temperature on Structure, Morphology and Electrochemical Performance of LiV<sub>3</sub>O<sub>8</sub> Cathode for Lithium-Ion Batteries Application</b> M.I. Ishak, K.R. Ahmad, R.A.M. Osman and M.S. Idris	314
<b>Near Surface Studies on the Role of Graphene Oxide in the Carbon Species Activities in IT-SOFC Cathode Materials</b> D. Murizam, N.M.N. Azira, M.A. Idris and N.F.M. Yunos	321
<b>The Effect of Sn Doping on the Thermoelectric Properties of SiGe Using First Principle Technique</b> A. Chik, H.W. Kheng, R.M. Zaki, F.C. Pa, A.A. Adewale and Y.C. Keat	327
<b>Thermoelectric Properties of Sm Doped CaMnO<sub>3</sub> Using Density Functional Theory Method</b> A. Chik, R.M. Zaki, A.A. Adewale, F.C. Pa and Y.C. Keat	334
<b>Electrical Behavior of Graphene/SiO<sub>2</sub>/Silicon Material Irradiated by Electron for Field Effect Transistor (FET) Applications</b> A.S. Zamzuri, N.I. Ayob, Y. Abdullah, N.U. Saidin and C.R.C. Hak	339
<b>Tailoring of Optical and Physical Properties of ZnO Films by Co-Doping Concentration</b> A. Ainun Rahmahwati, S.S.M. Ismail and N.A. Yusuf	346

## Chapter 5: Materials and Technologies of Chemical Production

<b>XRD Studies on Transformation of Dolomite under CO<sub>2</sub> and N<sub>2</sub> Atmosphere</b> S.S. Sulhadi, M.N. Abu Tahari, S. Samidin, W.N.R. Wan Isahak, M.R. Yusop and M.A. Yarmo	355
---	-----

<b>Comparative Adsorption Isotherm for Beryllium Oxide/Iron (III) Oxide Toward CO<sub>2</sub> Adsorption and Desorption Studies</b>	
A.H. Lahuri, M.A. Yarmo, M.N. Abu Tahari, T.S. Marliza, T.S. Tengku Saharuddin, M.L.W. Fui and N. Dzakaria	361
<b>Application of Octadecylamine-Based Adsorbent on Carbon Dioxide Capture</b>	
M.N. Abu Tahari, A.H. Lahuri, Z. Ghazali, S. Samidin, S.S. Sulhadi, N. Dzakaria and M.A. Yarmo	367
<b>Effect of Cobalt on Nickel Oxide Toward Reduction Behaviour in Hydrogen and Carbon Monoxide Atmosphere</b>	
N. Dzakaria, M.N. Abu Tahari, S. Samidin, T.S. Tengku Saharuddin, F. Salleh, A.H. Lahuri and M.A. Yarmo	373
<b>Chemical Reduction Behaviour of NiO under Various Concentration of Carbon Monoxide Using TPR and XRD Techniques</b>	
S. Samidin, M.N. Abu Tahari, S.S. Sulhadi, F. Salleh, N. Dzakaria, W.N.R. Wan Isahak, M.R. Yusop and M.A. Yarmo	379
<b>Obtaining TiO<sub>2</sub> and Fe<sub>2</sub>O<sub>3</sub> from Ilmenite via Alkaline Fusion Method</b>	
R. Hazan, M.A. Muhamad Yusop, W. S. Paulus and K. Mohamed Takip	385
<b>Phase Evolution during Carbothermal Reduction of Langkawi Ilmenite Ore at Different Reaction Times</b>	
N.F.M. Yunos, J.H. Chong, A.I. Mohammed and M.A. Idris	391
<b>Self - Cleaning Property of Ag/TiO<sub>2</sub> Thin Film</b>	
K.A. Razak, D.S.C. Halin, M.M.A.B. Abdullah, A. Azani, M.A.A. Mohd Salleh, N. Mahmed and V. Chobpattana	397
<b>Synthesis of Visible-Light Active Monoclinic WO<sub>3</sub> by Thermal Oxidation of Tungsten Powder for Photoreduction of Cr(VI)</b>	
N. Bashirom and Q.L. Lee	405
<b>Photocatalytic Activity of Bilayer TiO<sub>2</sub>/ZnO and ZnO TiO<sub>2</sub> Thin Films</b>	
R. Hussin, N.S. Zulkiflee, K. Zakiah, A. Ainun Rahmahwati, Z. Harun and M.N. Mohamed Hatta	411
<b>Iron Oxide Catalyst for Oxidative Desulfurization of Model Diesel Fuel</b>	
N.A.S. Mohd Nazmi, W.N. Wan Abdullah, F. Adam, W.N.A. Wan Mokhtar, N. Yahaya and N. Mohd Shukri	418
<b>Synthesis and Characterizations of Nickel Supported on Activated Charcoal and its Application for Green Fuel Production</b>	
W.N.A. Wan Khalit, T.S. Marliza and Y.H. Taufiq-Yap	424

## Chapter 6: Sustainable Natural Materials for Engineering Application

<b>Characterizations on Microencapsulated Sunflower Oil as Self-Healing Agent Using <i>In Situ</i> Polymerization Method</b>	
Z. Baharom, M.I. Idris, T.C. Lee, S.A.S. Abu Bakar and H.Z. Abdullah	433
<b>Comparative Study on Microencapsulated of Natural and Waste Sunflower Oil as Self-Healing Agent</b>	
Z. Baharom, M.I. Idris, T.C. Lee and H.Z. Abdullah	439
<b>Effect Band Gap of Chitosan Film in Converting Water Vapour Into Electrical Current</b>	
M. Balyan, T.I. Nasution, I. Nainggolan, H. Mohamad and Z.A. Ahmad	445
<b>Effect of Activation Agents on COD Reduction Using Activated Carbon from Agricultural Residue</b>	
M.Z. Mohd Alias, R. Mohd Ghazi, N.R. Nik Yusoff and M.H. Jamaludin	453
<b>Effect of Stacking Sequences on Mechanical Properties of Kenaf Hybrid Composites</b>	
I. Yusuff, N. Sariffudin, A. Ali, I. Hanafi and S. Norbahiyah	459
<b>Effects of Ultraviolet (UV) Treatment on the Properties of Black Tilapia Fish Skins Gelatin</b>	
N. Ismail, M.I. Idris and H.Z. Abdullah	465
<b>Estimating Suitable Starch Extraction from Mango Seeds Using Analytical Hierarchy Process (AHP) Method</b>	
N.A. Shahrim, N. Sariffudin, H.H.M. Zaki and A.Z.A. Azhar	471
<b>Methylene Blue Removal Using Foxtail Palm Fruits as Potential Activated Carbon</b>	
N.R. Nik Yusoff, S.J. Mohamed Jefry, Y.T. Lai, N.S. Abdul Halim and N.S. Subki	477

<b>Particleboard Based on Glutardialdehyde Treated Oil Palm Trunk Particles Made at Different Pressing Temperatures</b>	483
M.H.M. Amini, N.S. Sulaiman, M.A. Bakri, M.B. Abu Bakar, M. Mohamed, M.N. Masri and N.A.A. Nik Yusuf	
<b>Potential of Agricultural Waste Material (<i>Ananas cosmos</i>) as Biosorbent for Heavy Metal Removal in Polluted Water</b>	489
A.H. Yusoff, R. Mohammad, M. Mohamad, A.Z. Sulaiman, N.A. Che Zaudin, N. Rosmadi, F. Aqsa, M. Yusoff and P.T. Teo	
<b>Preparation and Characterization of Kenaf and Oil Palm Nanocellulose by Acid Hydrolysis Method</b>	495
N.A. Mocktar, M.K.A.A. Razab, A. Mohamed Noor and N.H. Abdullah	
<b>Preparation of Nanosilica Powder Using Rice Husk via Precipitation Method</b>	501
F.D.M. Daud, N.A.M. Azmy, M.S. Mahmud, N. Sariffudin and H.H.M. Zaki	
<b>Preparation of TiO<sub>2</sub> Decorated Eggshell Membrane for Photocatalytic Dye Degradation</b>	508
E.K. Samsuddin, I.S. Aida, M. Noraini and A.Z.M. Rus	
<b>Swelling, Tensile and Thermal Behaviors of Citric Acid Crosslinked Tapioca Starch/Cellulose Biocomposite Films</b>	514
S.M. Noor Zulaika, H.L. Ong and F. Zainuddin	
<b>The Effects of Henna Fillers on the Properties of Polyurethane Foam Composites</b>	520
S.A. Adnan, F. Zainuddin, N.H. Ahmad Zaidi, N.A. Zulkeply, N.M.S. Adzali and Z. Che Daud	
<b>Surface Modification of 1-Butyl-3-Methylimidazolium Chloride -Treated Lignocellulosic Materials</b>	526
A. Radhi, A. Othman, M.A. Aziz and N.R. Nik Yusoff	
<b>Effect of Acid Leaching on Different State of Rice Husk</b>	532
N.H.M. Muzni, N.H. Jamil, F.C. Pa and W.M. Arif	

## Chapter 7: Materials for Biomedical Application

<b>A Study on Chitosan Coated Polycaprolactone (Ch-PCL) Microspheres Prepared via Double Emulsion Solvent Evaporation Method</b>	541
Z.Y. Te, W.H. Yeoh, M.A. Shahidan and N.N. Shahidan	
<b>Behavior of Osteoclast Cells Response on Dicalcium Phosphate Dihydrate Layer-Coated <math>\beta</math>-Tricalcium Phosphate Granular</b>	549
K.A. Shariff, M.H. Abu Bakar and A. Cahyanto	
<b>Bio-Composite of Sodium Alginate-Titanium Dioxide for Wound Healing Applications</b>	555
S.N.A. Bakil, H.Z. Abdullah, M.A. Selimin, T.C. Lee and M.I. Idris	
<b>Characterization of GO:I-131 for Radioactive Clinical Waste Water Management in Nuclear Medicine</b>	561
M.K.A.A. Razab, M.S. Mansor, A. Mohamed Noor, N.F.F.A. Latif, S.M. Rozi, K.N. Jaafar and F. Jamaludin	
<b>Effect of Sintered Magnesium Substituted Biphasic Calcium Phosphate (Mg-BCP)</b>	567
M.H.M. Marahat, H. Mohamad and S.R. Kasim	
<b>Extraction and Characterization of Natural Hydroxyapatite from Goat Bone for Biomedical Applications</b>	573
S.A. Ismail and H.Z. Abdullah	
<b>Extraction of Biological Hydroxyapatite from Bovine Bone for Biomedical Applications</b>	579
N.A.S. Mohd Pu'ad, A.F.A. Latif, N.D. Ramli, M.S. Muhamad, H.Z. Abdullah, M.I. Idris and T.C. Lee	
<b>Extraction of Biological Hydroxyapatite from Tuna Fish Bone for Biomedical Applications</b>	584
A.F.A. Latif, N.A.S. Mohd Pu'ad, N.A.A. Ramli, M.S. Muhamad, H.Z. Abdullah, M.I. Idris and T.C. Lee	
<b>Graphene Oxide Silver Cellulose Alginate for Antibacterial</b>	590
F.A. Mohd Zin, A. Mohamed Noor, S.W. Lee, M.S. Sajab, M.K.A.A. Razab, N.H. Abdullah, W.M.F. Wan Ishak, K.N.S.S. Wong and N.A. Che Zaudin	
<b>Preparation and Characterization of Calcium Hydroxyphosphate (Hydroxyapatite) from Tilapia Fish Bones and Scales via Calcination Method</b>	596
N.H. Abdullah, A. Mohamed Noor, M.S. Mat Rasat, S. Mamat, M. Mohamed, N.A. Mohd Shohaimi, A.Z. Ab Halim, N. Mohd Shukri, M.K.A.A. Razab and M.F. Mohd Amin	

<b>Surface Properties of Alginate/Chitosan Biofilm for Wound Healing Application</b> M.I. Idris, M.F. Adzhari, S.N.A. Bakil, T.C. Lee, M.A. Selimin and H.Z. Abdullah	602
<b>Tensile Strength on Seven Type of Fruits Skin Fiber Thermoplastic Poyurethane (TPU)</b> N.A. Ahad, Y. Ju Ann, N.A. Norozi and A.A. Azman	608
<b>Effect of Sr on the Bioactivity of Sol-Gel Derived New Silicate Bioglass S55P4</b> T.S. Thet, H. Mohamad and K.A. Shariff	613
<b>Mechanical Properties of Bioactive Glass Fabricated Using Natural Resources Materials</b> A.K. Fakhruddin and H. Mohamad	620
<b>Synthesis and Characterization of 50S8P Bioglass through Sol Gel Method</b> S.A. Syed Salim, H. Mohamad and S.N.F. Mohd Noor	626
<b>Characterization of NiTi Shape Memory Alloy Sintered at Different Temperatures in Reducing Environment</b> H.H.M. Zaki, N.A. Mohd Sobri, J. Abdullah, N. Sariffudin and F.D.M. Daud	632
<b>Chitosan/Polyethylene Oxide (PEO) Filled Carbonized Wood Fiber Conductive Composite Film</b> M.P.M. Hanif, J. Abd Jalil, M.F.H. Anisah and A. Tilagavathy	638

## Chapter 8: Building Materials

<b>Efficiency of Impressed Current Cathodic Protection in Repaired Reinforced Concrete</b> R.A. Malek, A. Hattori, K. Hirotaka and N. Kamaruddin	647
<b>Effects of Metakoalin on Municipal Solid Waste Incineration (MSWI) Bottom Ash-Cement Composite</b> R. Che Amat, K.N. Ismail, K.R. Ahmad and N.M. Ibrahim	653
<b>Effect of Adding Sago and Sintering to the Properties of Geopolymer Mortar</b> M.A.Z. Aziz, M.M.R. Faizal, I.B. Johari and S.R. Kasim	659
<b>Effect of Different Firing Temperature on Thermal Conductivity of Ceramic Tiles</b> K.A. Shariff, M.S. Juhari, L.W.L. Chan and S.R. Kasim	665
<b>Rheological and Fired Properties of Malaysia Clay from Ipoh (Perak) and its Application in Ceramic Tiles</b> C.L. Chin and Z.A. Ahmad	672
<b>Strength and Microstructural Study of Lightweight Aggregate Concrete (LWAC) Using Lightweight Expended Clay Aggregates (LECA)</b> K.N. Ismail and F. Halim	678