

Table of Contents

No.	Description of Paper	Page No.
1	Degradation Studies of Microcrystalline Cellulose Reinforced Polylactic Acid Composites (<i>Paper 2CE1</i>) A. Najwa Borhan, M. M. Pang	1
2	Extraction of High Quality Silica and Carbon from Rice Husk (<i>Paper 2CE2</i>) A. Fadhilah M. Azmy, W. Y. Wong, T. Lee	15
3	Effect of Pre-Washing on Odour of Empty Palm Fruit Bunch (EPFB) Fibre (<i>Paper 2CE3</i>) S. K. Ang, R. Lim, R. Y. Teh	30
4	Investigation on Treatment Technique to Reduce the Odour of the Empty Palm Fruit Bunch (EPFB) Fibre (<i>Paper 2CE4</i>) S. K. Ang, R. Lim, R. Y. Teh	45
5	Ultrasonic Extraction and Antioxidant Activity from Labisia Pumila Leaves (<i>Paper 2CE5</i>) Archana Aravinthen, Rajesh Rajasekaran, C. H. Chong, K. Pin	61
6	Ultrasound Assisted Extraction of Total Phenolic Compound from Carica Papaya Leaves (<i>Paper 2CE7</i>) W. Q. Chia, C. H. Chong, J. M. Jee	74
7	Development of Nanosilica in Cement Based Materials from Rice Husk (<i>Paper 2CE8</i>) W. R. Chin, T. Lee, W. Y. Wong	92
8	Removal of Congo Red by Using Hibiscus Sabdariffa for Coagulation and Flocculation Process (<i>Paper 2CE9</i>) Y. Y. Chin, Nurhazwani Ismail	104
9	Antioxidant Potential of Malaysian Fruit Extract (Myristica Fragrans) (<i>Paper 2CE10</i>) D. Priya L. Thanathurai, Rajesh Rajasekaran, K. Pin	117
10	Reduction of Antibiotic by Fenton Oxidation Process (<i>Paper 2CE11</i>) H. Puddoo, Rajesh Rajasekaran	131
11	Creatinine Adsorption by Activated Carbon Fibre (ACF) Derived from Empty Fruit Bunch (EFB) Fibre (<i>Paper 2CE12</i>) V. K. Chai, R. Lim, T. Lim	145
12	Synthesis of Zinc Oxide Nanoparticles using Liquid-Phase Laser Ablation and its Antibacterial Activity (<i>Paper 2CE13</i>) J. N. Low, W. Y. Wong, R. G. Walvekar	157
13	Starch polymers with water exchanging properties to improve soil suitability for landscaping purposes (<i>Paper 2CE14</i>) W. K. Low, C. H. Chong	172

14	Drying Characteristics and Product Quality of Cassia Alata (CA) <i>(Paper 2CE15)</i> W. C. Khaw, C. H. Chong, J. M. Jee	187
15	Antioxidant Activity Determination and Optimization of the Isolated Compounds from the Roots of Chlorophytum Borivilianum (safed musli) <i>(Paper 2CE16)</i> C. J. Khoo, B. L. Chua	205
16	Experimental Studies on Deep Eutectic Solvents Based Carbon Nanotubes Nanolubricant <i>(Paper 2CE17)</i> P. K. Lee, R. G. Walvekar, W. Y. Wong	218
17	Anti-Inflammatory Activity Determination and Optimization of the Isolated Compounds from the Roots of Chlorophytum Borivilianum (safed musli) <i>(Paper 2CE18)</i> L. Liaw, B. L. Chua	230
18	Comparison of Adsorption and Coagulation Processes in Treating Heavy Metals from Wastewater <i>(Paper 2CE19)</i> T. W. Leong, Rajesh Rajasekaran	246
19	Life Cycle Assessment of Direct Carbon Fuel Cell Using Biomass as a Fuel Source <i>(Paper 2CE20)</i> M. Gunawan, Veena D. A. K. Doshi	249
20	Optimization of Bioactive Compounds from Garlic, Oregano, and Parsley Using Response Surface Methodology <i>(Paper 2CE21)</i> R. Anne, Rajesh Rajasekaran	264
21	Thermophysical and Electrical Properties of SiO₂-Graphene/Transformer Oil Nanofluid <i>(Paper 2CE22)</i> H. Q. Soo, R. G. Walvekar, Mohsen N. Poor	279
22	Performance of Mesocarp Fibre as a Fuel Source in Direct Carbon Fuel Cell <i>(Paper 2CE23)</i> S. R. Tan, Veena D. A. Doshi	295
23	Urea Release Rate Study in Starch-Derivative–Alginate Based Formulation <i>(Paper 2CE24)</i> W. J. Tee, E. Phang, T. S. Lee	309
24	DCFC Performance Study Using Rice Husk-Derived Biochar <i>(Paper 2CE25)</i> J. J. Yap, W. Y. Wong	322
25	Hardware Simulation of A New Anti-windup PI Control for Motor Speed Application <i>(Paper 2EE1)</i> T. L. Chiah, C. L. Hoo	338
26	Development of a Non-Intrusive Pressure Sensor for Sensing Pressure Inside a Fluid Pipe <i>(Paper 2EE2)</i> H. Aslam, Mohsen N. Poor	354
27	A New High Torque Density Brushless DC Motor for Electric Vehicle Application <i>(Paper 2EE3)</i> J. L. Heng, Aravind C. V., C. Raymond Sarimuthu	363

28	A New Intelligent STATCOM Controller for Transmission System <i>(Paper 2EE4)</i> H. Ali, C. Raymond Sarimuthu, Aravind C. V.	374
29	Comparison of Proportional Integral Controller With and Without Neural Network For DSTATCOM Operation <i>(Paper 2EE5)</i> C. F. Koh, C. Raymond Sarimuthu, Aravind C. V.	384
30	Mathematical Modeling, Simulation Analysis and Efficiency of a Photovoltaics Thermal System <i>(Paper 2EE7)</i> Mohammed A. A., Taghi Hajibeigy	395
31	On the Phenomenon of Lightning Side Flashing from Trees <i>(Paper 2EE8)</i> N. Azizi Jallani, C. L. Siow	413
32	Evaluation of Magnet Size Ratio of a Permanent Magnet Generator For Wind Applications <i>(Paper 2EE9)</i> Z. A. Maqsood, Aravind C. V.	424
33	Upper Limb Animation System <i>(Paper 2ME1)</i> A. Firdaus A. Farid, J. Chin, W. Y. Leong	433
34	Finite Element Modelling and Calibration of Rubber Bushing for Impact Simulation Application <i>(Paper 2ME2)</i> A. Hanis, S. Y. Ch'ng, K. H. Yap	458
35	The Development of an Optimal Aerodynamic Design for a Human Powered Vehicle <i>(Paper 2ME3)</i> A. L. Laimon, Satesh N. Namasimayam	470
36	Using k-ϵ Models to Compare the Flow-Induced Vibration for Water Flowing in a Pipe With Orifice Plate <i>(Paper 2ME4)</i> A. Syafiq Samsuddin, M. Nassir, Hardie Hidayat	481
37	Design and Analysis of Adjustable Track Using Finite Element Method <i>(Paper 2ME5)</i> B. Venugopal, J. Chin	495
38	Simulation of the Mullins Effect in Rubbers for Vibration Isolator <i>(Paper 2ME6)</i> G. K. Putra, S. Y. Ch'ng, K. H. Cheah	511
39	Design and Analysis of Microheater for Efficient Vaporization of Liquid Propellant <i>(Paper 2ME7)</i> I. Iskandar Ismail, K. H. Cheah	521
40	Numerical Analysis of the Effect of the Number of the Dimples on Aerodynamic Efficiency of NACA 012 Airfoil <i>(Paper 2ME8)</i> S. W. Law, Abdulkareem S. M. Al-Obaidi	536
41	Characterization of Alumina/Y-TZP Ceramic Composites <i>(Paper 2ME9)</i> Y. K. Theah, W. J. Kelvin Chew, S. Ramesh	552
42	Effect of Atmospheric Altitude on the Drag of Wings at Subsonic and Supersonic Speeds <i>(Paper 2ME10)</i> X. Y. Justin Moo, Abdulkareem S. M. Al-Obaidi	562

43	Blended Polycaprolactone with Forsterite for the Enhancement of Hardness (Paper 2ME11) Y. K. Kong, L. C. Yong, J. Chin	578
44	Development of Torsional Thrust Stand that Resolves Micronewton Force (Paper 2ME12) J. K. Lam, K. H. Cheah	589
45	The Behaviour of Unsteady Turbulent Flow Through an Orifice at Low Aspect Ratio (Paper 2ME13) D. C. Lee, M. Nassir, Hardie Hidayat	604
46	Modelling the Mullins Effect in Stress-Strain Behaviour of Rubber (Paper 2ME14) K. F. Lee, S. Y. Ch'ng, A. Andriyana	616
47	Characterization of Alumina-doped Y-TZP Ceramics (Paper 2ME15) Y. B. Leong, W. J. Kelvin Chew, S. Ramesh	629
48	Blended Polycaprolactone with forsterite for the enhancement of biodegradability (Paper 2ME16) H. C. Lim, L. C. Yong, J. Chin	641
49	Numerical Analysis of the Airfoil of the Wind Turbine Blade (Paper 2ME17) Manish Kumar Sing Domun, M. Hosseini Fouladi, A. G. Abbas	650
50	Preparation of Graphene Oxide Nanofluid in Application of Flow Battery (Paper 2ME18) M. Akmal Zulkifli, A. G. Abbas, M. Taghi Hajibeigy	658
51	Design and Building Compressed Air Driven Engine (Paper 2ME19) N. Jeyapalan, D. K. T. Tong	672
52	Design of a Small Scale High Torque Stirling Engine (Paper 2ME20) Y. M. Ng, C. H. Lim	680
53	The Effect of Sintering Additives on the Properties of Steatite Ceramic (Paper 2ME21) C. K. Ooi, J. Chin, S. Kumar Sivanesan	693
54	Two Stage Sintering of Iron Oxide Doped Y-TZP Ceramics (Paper 2ME22) C. Y. Pang, S. Kumar Sivanesan, Satish N. Namasimayam, Mohsen N. Poor	707
55	Numerical Model Analysis and Design of Piezoelectric Energy Harvester (Paper 2ME23) S. X. Tan, M. Hosseini Fouladi, Satish N. Namasivayam	721
56	Experimental Analysis of Vibration of Chest Wall (Paper 2ME24) S. Sarah M. Ariff, M. Hosseini Fouladi, N. Krishnasamy, Mohsen N. Poor, Satish N. Namasivayam, P. Madhavan, E. H. Wong	734
57	Numerical Analysis of the Shape of Dimple on the Aerodynamic Efficiency of NACA 0012 Airfoil (Paper 2ME25) Z. P. Soh, Abdulkareem S. M. Al-Obaidi	746
58	Initial Look on Mechanical Power of a Kite-Based Airborne Wind Energy System in Malaysia for Microgeneration (Paper 2ME26) T. M. Faris T. Salehudin, D. K. T. Tong, B. L. Ooi	760

59	To investigate the effects of coil geometry towards the electromagnetic induction on energy harvesting application <i>(Paper 2ME27)</i> C. S. Hee, C. K. Thein, C. H. Lim	778
60	The Influence of Mixing Factors on Flammability of R32 Refrigerant and Compressor Oil Mixture <i>(Paper 2ME28)</i> K. L. Toh, A. G. Abbas	791
61	Further Development of Non-Contact Vibration Sensor for Rotating Machine <i>(Paper 2ME29)</i> W. Wai, C. H. Lim	804
62	Design, Fabrication and Characterization of a Two Axis Gimbal System for Dynamic Balance <i>(Paper 2ME30)</i> Sundrrakannan, K. H. Cheah	822
63	Home Automation System Using Verilog Hardware Description Language in Xilinx- Spartan3e and Altera- Cyclone II Field Programmable Gate Array Boards <i>(Paper EE_UG002)</i> J. N. C. Bongulto, Jayvee T. Medalla, Bernalyn M. Desate, Rionel Belen Caldo	835
64	Microcontroller-Based Body Mass Index Calculator and Monitoring System with Classifier Using Fuzzy Logic Algorithm <i>(Paper EE_UG005)</i> Z. P. Caranay, Chexel D. Agustin, Christian G. Lizardo, Kristine Jade F. Magpantay, Rio A. Aguilar, Rionel Belen Caldo	851
65	Implementation of Enhanced Aluminum–Copper Based Solid Oxide Fuel Cell (SOFC) for Warning Light <i>(Paper EE_UG008)</i> J. J. B. Catapang, John Marlo C. Agbuya, Ma. Jonalyn B. Babasa, John Eric B. Precilla, Rionel Belen Caldo	866
66	Remote – Switching Application System for Intelligent Home: A Comparative Analysis of Telephone Line and Mobile Telephony <i>(Paper EE_UG009)</i> L. C. Dorado, Alyanna Rozel T. Cruz, Sarah Dyan S. Garraton, Alexis M. Malolos, Jonalyn G. Ebron, Rionel Belen Caldo	877
67	Data Management System of an FLC-Based Temperature Monitoring for Air Conditioning System <i>(Paper EE_UG010)</i> L. C. Dorado, Harold Jay A. Bernardo, Billy James A. Gandeza, Nelmar A. Mendoza, Van Allen T. Rivera, Rionel Belen Caldo	890
68	Design and Development of an FLC - Based Ground Grid Integrity Testing Equipment for Sotero H. Laurel (SHL) Bldg. Of Lyceum of the Philippines University – Laguna (LPLU – L) <i>(Paper EE_UG011)</i> J. K. C. Filler, Bryan M. Dimayuga, Kevin Martin E. Jaron, Alexander T. Montero, Mark Kenneth Z. Peros, Rionel Belen Caldo	901
69	An Artificial Intelligence System of Monitoring and Security Using Optical Character Recognition for Vehicular Plate Number in Lyceum of the Philippines University - Laguna <i>(Paper EE_UG012)</i> O. M. Mico, P. Angelino, Angelino P. Flores, Veryll John Sumague, Rionel Belen Caldo	915

70	Implementation of an FLC Based Indoor Air Quality Monitoring System with Ventilation Control Mechanism <i>(Paper EE_UG015)</i> A. A. T. Sanchez, Irra Edralyn Manalo, Paul Jonathan Dimaano, Jed Daryl Louise Lingat, Denmor Colinares, Maricar Mirano, Rionel B. Caldo	928
71	Realization of Fuzzy Logic Controller for DC-DC Buck Converter in an FPGA <i>(Paper EE_UG016)</i> J. T. Seranilla, Rionel B. Caldo	937
72	Water Quality Assessment Using Back Propagation Network for Aquatic Life Preservation in Taal Lake <i>(Paper EE_UG017)</i> J. T. Seranilla, Rionel Belen Caldo	951
73	Preliminary Study on EEG Extraction for Meditation <i>(Paper PG01)</i> Jen-Looi, Tee, Wai-Yie Leong	962
74	Cryogenic Liquefaction of Air as an Energy Storage for Cold Storage Applications <i>(Paper PG02)</i> Y. Lim, Mushtak Al-Atabi, Richard A. Williams	973
75	A Numerical Study of the Effect of a Perforation on Natural Frequencies of Guitar Soundboards <i>(Paper PG03)</i> M. K. Lee, M. Hosseini Fouladi, N.N. Satesh	988
76	Extraction of Tremor Feature from ECG Signals <i>(Paper PG04)</i> S. O. Chow, W. Y. Leong	998
77	Acoustic Absorption Phenomena of Fibro-Granular Composites <i>(Paper PG05)</i> Hasina Mamtaz, Mohammad Hosseini Fouladi, Mushtak Al-Atabi, Satesh Narayana Namasivayam	1011
78	An Arduino-Based Voting System with Security Using Arduino IDE <i>(Paper EE_UG013)</i> A. A. T. Sanchez, Charles Erick C. Liggitan, Kurt C. Cuaresma, Allen B. Flores, Rionel B. Caldo	1022