

1st International Symposium on Engineering and Technology (ISETech 2019)

IOP Conference Series: Materials Science and Engineering
Volume 767

Kangar, Malaysia
23 December 2019

ISBN: 978-1-7138-4705-2
ISSN: 1757-8981

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

This work is licensed under a Creative Commons Attribution 3.0 International Licence.
Licence details: <http://creativecommons.org/licenses/by/3.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2022)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Preface	
Committee	
Peer review statement	
Application of FSS for Microstrip Antenna for Gain Enhancement	1
<i>F.N.M. Zaid, S.N. Azemi, C.B.M. Rashidi</i>	
Personal Shopper – Mobile Phone Applications	10
<i>F N Zamani, S N Azemi, Amiza Amir, Naimah Yaakob</i>	
Defected Ground Plane of Wearable Circular Patch Antenna.....	18
<i>A Ali, S N Azemi, M Jusoh, T Sabapathy</i>	
Simulation of differential relay for transformer protection	23
<i>N S Azizan, C L Wooi, B Ismail, S N M Arshad, M Isa, W A Mustafa, MNK Rohani</i>	
Development of U-Shape Slot Wearable Antenna for In-Body Communications	36
<i>N A Kamaruddin, S N Azemi, S Z Ibrahim, C B Mrashidi</i>	
Characteristic of melted slag from wrought iron industry as green concrete material	46
<i>Zainul Faizien Haza, M. Afif Shulhan, Karolus Boromeus Kadis, Arbianto</i>	
A Review of Oil Palm Fruit Ripeness Monitoring Using Microwave Techniques in Malaysia.....	53
<i>K Y You, F H Wee, Y S Lee, Z Abbas, K Y Lee, E M Cheng, C S Khe, M F Jamlos</i>	
A study of electronic payment system.....	63
<i>Marwah Naeem, Methaq Hameed, Mustafa Sabah Taha</i>	
Implementation of Sine Cosine Algorithm (SCA) for Combinatorial Testing	73
<i>J M Altmemi, R R Othman, R Ahmad, A S Ali</i>	
Numerical Study of Fiber Reinforced Polymer Reinforced Normal Strength Concrete (FRPNSC) under Hydrocarbon Fire	82
<i>N I M Shukeri, N Rusli</i>	
Comparison of Laguerre-Gaussian and Hermite–Gaussian Modes for Optical-CDMA over Multi- Mode Fiber	91
<i>Alaan Ghazi, S A Aljunid, Syed Zulkarnain Syed Idrus, Alaa Fareed, C B M Rashidi, Aras Al- dawoodi</i>	
An IoT platform for seizure alert wearable device	101
<i>P A Emelia Akashah, A Noor Shita</i>	
The Growth Morphology and Yield of Grey Oyster Mushrooms (<i>Pleurotus sajor-caju</i>) Subjected to Different Durations of Acoustic Sound Treatment.....	107
<i>Mazlin Nur Iman Binti Hasnoel Mazidi, Roshita Ibrahim, Noorulnajwa Diyana Yaacob</i>	
Assessing the Effect of Different Covariates Distributions on Parameter Estimates for Multinomial Logistic Regression (MLR)	114
<i>Hamzah Abdul Hamid, Siti Raudhah Ismail, Sahimel Azwal Sulaiman, Nor Azrita Mohd Amin</i>	

Full Reference Image Quality Assessment Algorithm based on Haar Wavelet and Edge Perceptual Similarity	123
<i>F Mokhtar, R Ngadiran</i>	
Cloud-based Embedded System for Object Detection and Recognition	129
<i>Z T Olalekan, S A Anwar</i>	
A Self-Adapting Ant Colony Optimization Algorithm Using Fuzzy Logic (ACOF) for Combinatorial Test Suite Generation	139
<i>Mohd Zamri Zahir Ahmad, Rozmie Razif Othman, Mohd Shaiful Aziz Rashid Ali, Nuraminah Ramli</i>	
Adaptive DCO-FBMC in Visible Light Communication	149
<i>Abdullah Ali Qasim, M F L Abdullah, R Talib</i>	
Designing One Degree of Freedom Nursing Robot for Stroke Rehabilitation	159
<i>Nurul Muthmainnah Mohd Noor, Muhammad Haziq Suhaimi</i>	
A Modified Artificial Bee Colony Based Test Suite Generation Strategy for Uniform T-Way Testing	169
<i>Mohd Shaiful Aziz Rashid Ali, Rozmie Razif Othman, Zainor Ridzuan Yahya, Mohd Zamri Zahir</i>	
Prediction of carbon concentration profile within carburised-carbon steel 1024 using Alternating Direction Implicit (ADI) method.....	179
<i>A H Norzilah, N Rusli</i>	
A Review on Methods to Improve and Balance the Assembly Line	189
<i>M H Kharuddin, M F Ramli</i>	
Effect of RTV coating on the electrical performance of porcelain insulator string under dry condition.....	196
<i>M Othman, M Isa, Z C M Kasa, M N Mazlee, M A M Piah</i>	
Investigation on the Effect of Deflected Ground Structure in Multi-Direction Steerable Antenna for WSN	203
<i>N A F M Zainudin, M N Osman, T Sabapathy, M Jusoh</i>	
Determination of soft starter firing angle performance to mitigate motor high inrush current using current limitation method	211
<i>Mohamad Shukor Abdul Rahim, Muhammad Mokhzaini Azizan, Mohd Irwan Yusoff, Mohd Hafizuddin Mat, Nur Irwany Binti Ahmad, Noor Fazliana Binti Fadzail, Suhaira Binti Md Esa</i>	
Design and on-body evaluations of a low-cost wearable PIFA for on-body applications.....	220
<i>Azadeh Ahmadihaji, Hadi Aliakbarian, Nordiana Mohamad Saaid, Ping Jack Soh</i>	
Digital photonics parity bit error detection system.....	230
<i>M. Rakib Uddin, F. K. Law</i>	
Characterizations of Cascaded Micro-ring Resonators.....	238
<i>M Rakib Uddin, M Yazid, F K Law, C B M Rashidi</i>	
Beam Steering Monopole Antenna for Low Power Wireless Communication in WSN	247
<i>N A F Mahdir, M N Osman, T Sabapathy, M Jusoh, N A F M Zainudin</i>	

Implementation of Particle Swarm Optimization and Genetic Algorithms to Tackle the PAPR Problem of OFDM System.....	254
<i>A Abdalmunam, MS Anuar, MN Junta, NM Nawawi, A Noori</i>	
A Mini-Review of Coupled Convection-Diffusion Equations in a Fixed-Bed Adsorption.....	264
<i>Nurhusnina Mohd Supian, Norzilah Abdul Halif, Nursalasawati Rusli</i>	
Design of C-band Low-noise Amplifier (LNA) Using E-pHEMT Device for Satellite Communication System.....	276
<i>F Kamsaini, M S Razalli, S Z Ibrahim, M Z Ilyas</i>	
An Identification of Software Requirement for Web Based Judging System	286
<i>N.A.A. Zahari, R.A.JM. Gining, S.S.M. Fauzi, T.R. Razak, M.N.F. Jamaluddin</i>	
Design and Development of GreedLea Routing Protocol for Internet of Vehicle (IoV).....	295
<i>Normaliza Omar, Naimah Yaakob, Zulkifli Husin, Mohamed Elshaikh</i>	
A New Modulation Technique to Improve Received Power Under Turbulence Effects For Free Space Optical Communication	304
<i>A K Rahman, A L Tom, N.A.A Mohtadzar, YMY Buswig, Nurdiani Zamhari, D N A Zaidel, S K Sahari, N Julai</i>	
Investigation to Reduce Flux Variance Effects Using Partial Coherent Beam in Free Space Optical Communication	310
<i>A K Rahman, A L Tom, N A A Mohtadzar, YMY Buswig, Nurdiani Zamhari, M R M Sharip, S K Sahari</i>	
Optimizing Speedup on Multicore Platform with OpenMP Schedule Clause and Chunk Size.....	318
<i>Z I Abdul Khalib, H Q Ng, M Elshaikh, M N Othman</i>	
Development and Performance Analysis of the Rogowski coil sensor for Arcing Fault Measurement	325
<i>A N Nanyan, M Isa, M N K H Rohani, H A Hamid, A S Rosmi, M. Othman, A. Z. Abdullah, Z.C.M Kasa, A. Nazifah Abdullah</i>	
Critical Review: Adaptive Pole Assignment PID Controller on DC-DC Converters.....	334
<i>A W N Husna, M H Mat, M N M Yasin, M Jusoh, Y M Irwan, M S Abdul Rahim, S Md Esa</i>	
An Overview of Enhance Bandwidth Management in Cellular Network.....	342
<i>H M Isam, B L Ong, R B Ahmad, M Elshaikh, I Al-Mejibli</i>	
Design and Implementation of Lifting Wavelet Transform Using Field Programmable Gate Arrays	352
<i>T B Taha, R Ngadiran, P L Ehkan</i>	
Performance improvement of multi access OCDMA system based on a new zero cross correlation code	358
<i>M Alayedi, A Cherifi, A F Hamida, C B M Rashidi, B S Bouazza</i>	
Explosive Pressing Experiment and Its Challenges to Conduct it on University Level	365
<i>A.H. Hilmi, M.A. Yusuf</i>	
Potential of developing an energy self-sufficient village through mini hydro powerplant technology	374
<i>B Aminullah, R Wirawan</i>	
Pilot spacing controller in orthogonal frequency division multiplexing systems	383
<i>M S Abu Hassan, R B Ahmad, N Shoib</i>	

Development of a synchronverter for a grid connected photovoltaic system.....	392
<i>M J Y Liaw, C R Sarimuthu</i>	
Modelling the statistical dependence of rainfall variables using copula: A case study of Terengganu state.....	401
<i>M F Fauzi, U F Abdul Rauf, R Khan, N A A Jamaludin</i>	
A review of detecting outlier in a circular regression model.....	407
<i>I M Ramlee, S Ibrahim, W Z Leow, M I Yusoff</i>	
A cloud-based automated parking system for smart campus.....	415
<i>O C Yee, N Yaakob, M Elshaikh, F Azahar</i>	
Development of system identification from traditional concepts to real-time soft computing based.....	425
<i>A M Kwad, D Hanafi, R Omar, H Abdul Rahman</i>	
Implementation of Li-Fi based home automation system.....	436
<i>S Ismail, N Ahmad, I D Arshad</i>	
Technologies of solar tracking systems: A review	442
<i>A.R. Amelia, Y.M. Irwan, I. Safwati, W.Z. Leow, M.H. Mat, Mohd Shukor Abdul Rahim</i>	
Voice-Based Malay Commands Recognition by Using Audio Fingerprint Method for Smart House Applications.....	452
<i>M Abu, A Amir, N A H Zahri, R Ngadiran</i>	
Comparative Study of Parallelism and Pipelining of RGB to HSL Colour Space Conversion Architecture on FPGA.....	462
<i>Phaklen Ehkan, Soon Voon Siew, Fazrul Faiz Zakaria, Mohd Nazri Mohd Warip, Mohd Zaizu Ilyas</i>	
Plastic optical fibre power splitter for surface profiling of 3-D object.....	472
<i>N Syafiqah Mohamed-Kassim, M Kamil Abd-Rahman</i>	
Automatic vehicle identification system using number plate recognition in POLIMAS	481
<i>Nui Din Keraf, Phaklen Ehkan, Virakwan Hai Kelian, Norulhuda Mohd Noor, Hafifah Darus, Eunice Loke</i>	
Indoor Navigation System for Vision Impairment People through Visible Light Communications.....	492
<i>Muhamad Nurnajib Rithuan, 'Aini Syuhada Md Zain, Norizan Mohamed Nawawi</i>	
Design of Compact UHF-RFID Tag Antenna with Meander Line Technique.....	501
<i>A F M Fazilah, M Jusoh, A Zakaria, T Sabapathy, M F Ibrahim, M N Osman, M N Yaasin, S Malhotra, H A Rahim</i>	
Shared Cache Partitioning Based on Performance Gain Estimations.....	507
<i>N Mahrom, M J Liebelt</i>	
Miniaturized and high gain RFID reader antenna at 13.56MHz.....	517
<i>Y.M. Saleh, F.H. Wee, B.S. Yew, S. Z. Ibrahim, Y.S. Lee</i>	
LaundryMama: Humanising Laundry Tasks using Laundry Management System and Laundry-On-Demand Mobile Applications.....	522
<i>Leong Yi Mei, Ku Nurul Fazira Ku Azir, Siti Zuraidah Ibrahim, Saidatul Norlyana Azemi</i>	

Mobile Augmented Reality (AR) Marker-based for Indoor Library Navigation.....	532
<i>Rusnida Romli, Amir Firdhaus Razali, Nur Hafizah Ghazali, Nik Adilah Hanin, Siti Zuraidah Ibrahim</i>	
Effect of acids formation on the breakdown voltage properties of transformer insulating oil	541
<i>Imran Sutan Chairul, Sharin Ab Ghani, Norazhar Abu Bakar, Nor Hidayah Rahim, Nur Hakimah Ab Aziz</i>	
Automated Detection of Printed Circuit Boards (PCB) Defects by Using Machine Learning in Electronic Manufacturing: Current Approaches.....	547
<i>S S Zakaria, A Amir, N Yaakob, S Nazemi</i>	
Hybrid Animation: Implementation of Motion Capture.....	554
<i>Syed Muhammad Hazry Asraf, Nazreen Abdullasim, Rusnida Romli</i>	
Real-Time Drowsiness Detection System for Driver Monitoring	561
<i>M Arunasalam, N Yaakob, A. Amir, M Elshaikh, N F Azahar</i>	
Machine Learning Algorithms for Optic Pathway Disease Diagnostics: A Review	572
<i>M Abu, N A H Zahri, A Amir, I Ismail</i>	
A Proposal of Low Cost Home Automation System Using IoT and Voice Recognition	582
<i>Phaklen Ehkan, Nui Din Keraf, Virakwan Hai Kelian, Fazrul Faiz Zakaria, Sin Zhen Bei</i>	
Textile Bowtie Patch Antenna for Potential RF Energy Harvesting Application at GSM 1800	593
<i>N M Saaid, P J Soh, S A Baharuddin, H M A Said, M K Abdi, A Hassan Hirey, M F Che Mansor</i>	
Estimation of Harumanis (<i>Mangifera indica</i> L.) Sweetness using Near-Infrared (NIR) Spectroscopy	598
<i>M S Amirul, R Endut, C B M Rashidi, S A Aljunid, N Ali, M H Laili, A R Laili, M N M Ismail</i>	
Low Cost Autonomous Robot Cleaner using Mapping Algorithm based on Internet of Things (IoT)	606
<i>R J Ong, K N F Ku Azir</i>	

Author Index