

2011 IEEE Symposium on Industrial Electronics and Applications

(ISIEA)

**Langkawi, Malaysia
25 – 28 September 2011**



**IEEE Catalog Number: CFP1149H-PRT
ISBN: 978-1-4577-1418-4**

TABLE OF CONTENTS

Robust Decoupling Current Control to Magnetic Saturation for SynRM Using Flux Observer	1
<i>Takafumi Gemma, Masaru Hasegawa</i>	
Sensorless Control of Non-Salient PMSM using Asymmetric Alternating Carrier Injection	7
<i>Mohammad A. Ghazimoghadam, Farzad Tahami</i>	
Identification of DC Motor Drive System Model using Radial Basis Function (RBF) Neural Network	13
<i>Ihsan Mohd Yassin, Mohd Nasir Taib, Mohd Zafran Abdul Aziz, Norasmadi Abdul Rahim, Nooritawati Tahir, Aiman Johar</i>	
Suggesting a DC-DC Buck Converter for Compensating Shaft Induced Voltage and Bearing Current	19
<i>R. Kazemi Golkhandan, M. Tavakoli Bina, M. A. Golkar, M. Jokar</i>	
Simulink/ModelSim Co-Simulation of Sensorless PMSM Speed Controller	24
<i>Ying-Shieh Kung, Nguyen Vu Quynh, Chung-Chun Huang, Liang-Chiao Huang</i>	
Robust Speed Control of a PMSM through Sliding Mode Controller Design	30
<i>Chungil Kim, Taeyeon Kim, Joon Lyou</i>	
A Decomposition Procedure to Linearize the Nonaffine State Space Average Model of STATCOM	36
<i>M. Moradpour, M. Tavakoli Bina, A. Khaki Sedigh, M. Ayati</i>	
An Intelligent Actuator Controller for Wireless Sensor/Actuator Networks	42
<i>Zhicheng Deng, Xiaotao Bi, Ming Zhu</i>	
Realization of an FPGA-based Motion Control System for Electric Standing Wheelchairs	47
<i>Ying-Shieh Kung, Ping-Hang Huang, Fong-Chin Su, Tain-Song Chen</i>	
Shape-Based Matching: Defect Inspection of Glue Process in Vision System	53
<i>H. M. Haniff, M. Sulaiman, H. N. M. Shah, L. W. Teck</i>	
Development of Rubber Tire Gantry Crane (Prototype) Obstacles Avoidance Method Using a Single Sensor on Microcontroller Based	58
<i>Mohd Bazli Bin Bahar, Zamani Bin Sani</i>	
Design and Implementation of Fuzzy Based Controller for Modern Elevator Group	63
<i>M.M. Rashid, Nahrul A. Rashid, Alias Farouq, Ataur Rahman</i>	
Efficient Test Environment for Multi-level Simulations of Mixed-signal Systems on Chip	69
<i>Tommaso Cecchini, Tommaso Baldetti, Luca Fanucci, Alessandro Rocchi</i>	
A CMOS LED Print Head Driver with Compensation Circuits	75
<i>Cheng-Ta Chiang, Chun-Ting Kuo, Yu-Chung Huang</i>	
Voltage-Mode MISO OTA-C Biquad Filter	79
<i>Montree Kummern, Usa Torteanchai</i>	
Analysis of Configuration Bit Criticality in Designs Implemented with SRAM-based FPGAs	83
<i>J.B. Ferron, L. Anghel, R. Leveugle</i>	
Design and Implementation of BPSK Transmitter and Receiver for Software Defined Radio on a Model Based Development Platform	89
<i>Rehan Muzammil, M. Salim Beg, Mohsin M. Jamali</i>	
Assessment of Non-destructive Test and Hypothesis Techniques in Monitoring Lubricant's Condition	95
<i>N. Khairudin, M.F. Idros, F. N. Osman, H. Hashim, S.A.M Al Junid</i>	
1.575 GHz to 2.48 GHz Multi-standard Low Noise Amplifier using 0.18-μm CMOS with On-Chip Matching	100
<i>Tan Thiam Loong, Awatif Hashim, Mohd Tafir Mustaffa, Norlaili Noh</i>	
Design of UWB LNA with Interference Rejection using Coupled Inductors	104
<i>E. Abiri, M.R. Salehi, H. Rezaei</i>	
An Ultra-Low Energy Digital Filter for Smart Dust Using STSCL	109
<i>Murad Kabir Nipun, Sajib Roy, Abdulah Korishe, Hasan Maruf, Arifur Rahman</i>	
Prediction of Interface Conductivity of Cement Slurry during Early Hydration Considering the Effect of Curing Temperature and Pressure	114
<i>S. Ridha, S. Irawan, B. Ariwahjoedi</i>	
A 0.13μm Inductively Degenerated Cascode CMOS LNA at 2.14GHz	120
<i>M.Muhamad, N.Soin, H.Ramiah, N.M.Noh, C.W.Keat</i>	
A CMOS Retinal Rotational Sensor for Clockwise/Counterclockwise Detecting and Velocity Measuring	124
<i>Cheng-Ta Chiang</i>	
Bypassing the Short-Circuit Faults in the Switch- Ladder Multi-Level Inverter	128
<i>Ehsan Esfandiari, Norman Bin Mariun</i>	

Simulation of Grid Connected THIPWM-Three-Phase Inverter Using SIMULINK	133
<i>M.A.A. Younis, N. A. Rahim, S. Mekhilef</i>	
DC Power Supply Based on Single-Phase Matrix Converter with Reduced Number of Switches	138
<i>R. Baharom, N.R. Hamzah, M.K. Hamzah</i>	
Simulation of Cascaded H-bridge Multilevel Inverter for Liquid Food Sterilization with Various Distance of the Electrodes Gap	144
<i>Hanifah Jambari, Mohamed Afendi Mohamed Piah, Naziha Ahmad Azli</i>	
A Comparative Study of Proportional Integral Derivative Controller and Fuzzy Logic Controller on DC/DC Buck-Boost Converter	149
<i>Nik Fasdi Nik Ismail, Norazlan Hashim, Rahimi Baharom</i>	
A Novel Method of Implementing Real-Time Buck Boost Converter with Improved Transient Response for Low Power Applications	155
<i>K. Boopathy.K. Bhoopathy Bagan</i>	
Controlling and Modeling Power-Electronic Interface DERs in Islanding Mode Operation Micro Grid	161
<i>M. H Ashourian, A. A Mohd Zin, A. S. Mokhtar, S.J Mirazimi, Z. Muda</i>	
Comparison Between Transformer-Based Vs. Transformer-Less UPS Systems	167
<i>Faisal Al Dubaikel</i>	
Passive Damping Network for a Single Phase Matrix Converter (SPMC) Operating As a Rectifier	173
<i>Puteri Nor Ashikin Megat Yunus, Awang Jusoh, Mustafar Kamal Hamzah</i>	
Minimum Power Loss for High-Side Power MOSFETs in DC-DC Converter with TBO and High Cell Density	178
<i>Jeong Yong Hun, Bong Bui Ngo, Chai Sian Han</i>	
Fuzzy Logic Controller for MPPT SEPIC Converter and PV Single-Phase Inverter	182
<i>Ahmad El Khateb, Nasrudin Abdul Rahim, Jeyraj Selvaraj</i>	
Multi-output ZCS-SR Inverter Fed Voltage Multiplier Based High Voltage DC-DC Converter	188
<i>Shahid Iqbal, Sze Sing Lee, Mohamad Kamarol</i>	
Energy Level Performance of Error Control Schemes in WSN over Rayleigh Fading Channel	194
<i>Arnab Nandi, Sumit Kundu</i>	
Investigation of Indoor Wireless-N Radio Frequency Signal Strength	200
<i>Abdul Halim Ali</i>	
Synthesis of Linear Array Antenna with Uniform Side Lobe Level and Fixed Dynamic Range Ratio Using Iterative Fast Fourier Transform	204
<i>B.C.Mahato, G.K.Mahanti, A.K.Panda</i>	
Outage and Energy Level Performance of Layered CDMA Wireless Sensor Networks with Space Diversity	207
<i>U. Datta, S. Kundu</i>	
Implementation of the Advanced Encryption Standard on GPUs with the NVIDIA CUDA Framework	213
<i>Paolo Maistri, Florian Masson, Regis Leveugle</i>	
Spectral Efficiency of Unipolar SAC–OCDMA System Considering Noise Effects	218
<i>Hamza M. R. Al-Khafaji, S. A. Aljunid, Hilal A. Fadhil</i>	
Third Order Intermodulation Distortion Effect on the Constellation Error in RF Transmitter of IEEE 802.11a WLAN System	223
<i>N. N. A. Shairi, I. M. Ibrahim, T. A. Rahman</i>	
Hybrid OCDMA/WDM System Using Complementary Detection Technique for FTTH Access Networks	227
<i>N. Ahmed, S. A. Aljunid, A. Fadil, R. B. Ahmad, M. A. Rashid</i>	
Craziness Particle Swarm Optimization Based Synthesis of Concentric Circular Antenna Array with Non-isotropic Elements	231
<i>Durbadal Mandal, Debanjali Sadhu,Rajib Kar, Sakti Prasad Ghoshal</i>	
Performance Analysis of Transparent and Non-transparent Relays in MMR WiMAX Networks	237
<i>Rohaiza Yusoff, Mohd Dani Baba, Ruhani Abd Rahman, Muhammad Ibrahim, Naimah Mat Isa</i>	
Extending Wireless Sensor Network Lifetime with Base Station Repositioning	241
<i>Nurul Adilah Abdul Latiff, Nurul Muazzah Abdullatiff, R Badlishah Ahmad</i>	
Minimization of Side Lobe Level and Side Band Radiation of a Uniformly Excited Time Modulated Linear Antenna Array by Using Artificial Bee Colony Algorithm	247
<i>S. K. Mandal, Rowdra Ghatak, G. K. Mahanti</i>	
Voltage-Mode SIMO OTA-C Universal Filter	251
<i>Montree Kumngern, Jimlee Sarasri, Boonying Knobnob</i>	
Asynchronous to Synchronous: A Design Methodology	255
<i>C.K.Ong, M.T.Mustaffa, L.H.Goh</i>	

Multiple Polynomial Regression for Modeling a MOSFET in Saturation to Validate the Early Voltage: Channel Length Modulation Approximation Establishes The Early Voltage, Where A Numerical Approach Shows Its Consistency	261
<i>Arafat Hossain Khan, A. S. M. Zahidur Rahman, Tanvir Muntasir, Uzzal Kumar Acharjee, Abu Layek</i>	
Cone Extraction Technique for Incremental Static Timing Analysis.....	267
<i>Lay Sean Ang, Bakhtiar Affendi Rosdi, Kok Tiong Tee</i>	
A Methodology For Automation Structured Datapath Placement In VLSI Design.....	273
<i>Liew Yian Mei, Bakhtiar Affendi Bin Rosdi, Lee Cheen Kok</i>	
Composite Video Transmission As Current Overlay Using The Powerline Concept Of FAMPLC In The Remotely Operated Vehicle.....	279
<i>Mohd Rizal Arshad, Alireza Nazem</i>	
CAD Automation Module Based on Cell Moving Algorithm for ECO Timing Optimization.....	284
<i>Kan Mei War, Bakhtiar Affendi Bin Rosdi, Chew Eik Wee</i>	
An Improved Interconnect Noise Methodology For Reduced Pessimism Using dAP Model	289
<i>Wong Wai Mun</i>	
A Digitally Programmable Folded Cascode OTA with Variable Load Applications.....	295
<i>Ashis Kumar Mal, Rishi Todani</i>	
A CMOS Retinal Computational Sensor for 2-D Image Tracking and Velocity Measuring.....	300
<i>Cheng-Ta Chiang</i>	
Performance Analysis of a Power Line Communication System Over a Non-white Additive Gaussian Noise Channel	304
<i>M Mahbubur Rahman, S P Majumder</i>	
Relationship Between Acoustic Emission Signal Strength And Damage Evaluation Of Reinforced Concrete Structure: Case Studies.....	308
<i>Noorsuhada Nor, Norazura Muhamad Bunnori, Azmi Ibrahim, Shahiron Shahidan, Soffian Noor Mat Saliah</i>	
Linear Phase FIR High Pass Filter Design using PSO-CFIWA with Least Square Approach	314
<i>Vasundhara, Rajib Kar, Durbadal Mandal, Sakti Prasad Ghoshal</i>	
A Scaled Experiment for Verificaton of SPLINE Interpolation Technique for Sea Bed Logging Method.....	320
<i>Hanita Daud, Noorhana Yahya, M Yunus Nayan, Vijanth Sagayan, Muizzuddin Talib</i>	
Optimization of Linear Phase FIR Band Pass Filter using Particle Swarm Optimization with Constriction Factor and Inertia Weight Approach.....	326
<i>Rajib Kar, Durbadal Mandal, Soumi Bardhan, S. P. Ghoshal</i>	
A Modified Structural Method for Shape Recognition	332
<i>Ehsan Moomivand, Erfan Abolfazli</i>	
Damage Severity Evaluation on Reinforced Concrete Beam by means of Acoustic Emission Signal and Intensity Analysis.....	337
<i>Shahiron Shahidan, Norazura Muhamad Bunnori, Noorshuhada Nor, Siti Ramziah Basri</i>	
Navigation and Surveillance using Night Vision and Image Fusion.....	342
<i>Gaurav Bhatnagar, Q.M. Jonathan Wu, Balasubramanian Raman</i>	
Time-Frequency based Signal Restoration for Laser- Ultrasound signals with Applications in Nondestructive Testing.....	348
<i>Uvais Qidwai, Mohammed Maqbool, Mahmoud Alam, Safwan Kserawi</i>	
Two-Class Classifier Cellular Automata	354
<i>Jetsada Ponkaew, Sartra Wongthanavas, Chidchanok Lursinsap</i>	
Subjective Assessment of 3D Visual Sensation and Preference	360
<i>Liqin Xue, Lianfang Tian</i>	
Dynamic Path Planning Algorithm in Mobile Robot Navigation	364
<i>Soh Chin Yun, S. Parasuraman, Velappa Ganapathy</i>	
Feedback Control Schemes for Gantry Crane System Incorporating Payload.....	370
<i>M.A. Zawawi, W.M.S. Wan Zamani, M.A. Ahmad, M.S. Saealal, R.E. Samin</i>	
Design and Analysis of Wireless Controller Panel using RF Module's for Robotic Wheelchair	376
<i>M. Thamrin, R. Rosman, D.S. Sarmawi</i>	
Experimental Evaluation of Active Vibration Control of a Flexible Plate using Proportional Gain Controller	382
<i>T. A. Zahidi Rahman, I. Z. M. Darus</i>	
TriBot: Dragging Locomotion Three-finger Robot	387
<i>Khairul Shariman Kalid, Patrick Sebastian, Abu Bakar Sayuti Saman</i>	
Neural Network Based Model Reference Adaptive Control (NMRAC) for Steam Temperature Regulation in Steam Distillation Process	393
<i>Mohd Khairul Azli Azmi, Nurhani Kasuan, Mohd Hezri Fazalul Rahiman, Mohd Nasir Taib</i>	

Advanced Container Transportation Equipment using Transfer Robot and Alignment System	399
<i>Young Jin Lee, Dong Seop Han, Kwon Soon Lee</i>	
An Investigation of Color Based Marker Recognition for 3D Instrument Localization in Surgical Applications	405
<i>Nurdiana binti Nordin, Nazrin bin Muhammad</i>	
3WD Omni-Wheeled Mobile Robot using ARM Processor for Line Following Application	410
<i>Mohammad Afif Bin Ayob, Mohamad Fauzi Zakaria</i>	
Protection Unit Design and Simulation for Synchronous Generator Based FPGA Technology	415
<i>Raad Salih Hamad</i>	
Transmission Loss Minimization Using SVC Based on Particle Swarm Optimization	419
<i>Siti Amely Jumaat, Ismail Musirin, Muhammad Murtadha Othman, Hazlie Mokhlis</i>	
Scalable Storage Architecture in Modular Hardware Accelerators	425
<i>Khai Lik, Khoo, Fadzil Ain, Chee Hak, Teh Weng,</i>	
Effect of Nitrogen Doping on Electrical Properties of Amorphous Carbon Thin Film Prepared by Aerosol-Assisted Thermal CVD	431
<i>A.N. Fadzilah, M. Rusop</i>	
Optical Characterization of Different LED Packages At Various Biasing Current	436
<i>Zhi-Yin Lee, Mutharasu Devarajan</i>	
Effect of the Precursor Solution Concentration of Copper (I) Iodide (CuI) Thin Film Deposited By Mister Atomizer Method	440
<i>M.N. Amalina, M.Rusop</i>	
Scalable Host Controller for Modular Hardware Accelerator	445
<i>Chen Kah Yee, Othman bin Sidek, Teh Chee Hak*, Leow Weng Li*</i>	
Effect of Thickness on the Electrical and Optical Properties of MEH-PPV:TiO₂ Nanocomposite for Organic Solar Cell Application	449
<i>F.S.S. Zahid, M.S.P. Sarah, M. Rusop</i>	
An Automated Clock Distribution Topology in SoC Designs	453
<i>Lai Yit Siang, Bakhtiar Affendi Bin Rosdi, Eng Keong, Chai Forng, Christiana Loh Sze Xying</i>	
Effect of Deposition Time SnO₂ Thin Film Deposited using Thermal CVD for Humidity Sensor Application	458
<i>N. D. Md Sin, S.A. Kamaruddin, M.Z Musa, M. Rusop</i>	
Characteristics of Aligned Aluminum-Doped Zinc Oxide Nanorod Arrays via a Novel Sonicated Sol-Gel Immersion	462
<i>M. H. Mamat, M. Z. Musa, N.D.M. Sin, M. Rusop, Z. Khusaimi, M. Rusop</i>	
Molar Concentration Effect on MgO Thin Films Properties	467
<i>Habibah Zulkefle, Lyly Nyl Ismail, Raudah Abu Bakar, Mohamad Rusop Mahmood</i>	
Design, Simulation and Fabrication of a Fuel Efficient Urban Class Series Hybrid Vehicle	471
<i>Syed Hassaan Ali, Humza Akhtar, Shuja Munir, Umair bin Ikram</i>	
Optimization of Tesla Turbine Using Computational Fluid Dynamics Approach	476
<i>Tan Wee Choon, Rahman. A. A., Foo Shy Jer, Lim Eng Aik</i>	
Behaviour of Grid Connected Photovoltaic Systems	480
<i>Azuki Abdul Salam, Ismail Adam, Fatimah Zaharah Hamidon, Ahmed M. A. Haidar</i>	
An Iterative Method for Designing High Reliable Standalone PV Systems at Minimum Cost for Malaysia	485
<i>Tamer Khatib, A. Mohamed, K. Sopian, M. Mahmoud</i>	
The Numerical Estimation Method of Series FACTS Compensator Based on Injection Model of Voltage Source Inverter	489
<i>Amidaddin Shahariari, Hazlie Mokhlies, Halim Bin Abu Bakar, Mazaher Karimi</i>	
A Very Fast Power Factor Calculation Method	494
<i>Ali Al-Khalid,</i>	
Development of Intellectual Property for Brushless DC Motor Drives	498
<i>Wei-Chih Chen, Ming-Yang Cheng, Tai-Haur Kuo, Cheng-Lin Li</i>	
Sizing Grid-Connected Photovoltaic System Using Genetic Algorithm	504
<i>Shahril Irwan Sulaiman, Titik Khawa Abdul Rahman, Ismail Musirin, Sulaiman Shaari</i>	
Implementation of an Internet-based Power Quality Monitoring System by Dual Microprocessors	509
<i>Ming-Tang Chen, Sheng-Jen Hsiao, Chen-Wen Lu, Che-Min Lin, Cong-Jun Han</i>	
Integration of Pitch Regulated Fixed Speed Wind Turbine in a Radial Distribution System	514
<i>S. J. Mirazimi, A. B. Khairudin, M. H.Ashurian, M. Fathi</i>	
Transient Stability Analysis on Sarawak’s Grid using Power System Simulator for Engineering (PSS/E)	520
<i>Arfah Marini Mohamad, Norazlan Hashim, Noraliza Hamzah, Nik Faldi Nik Ismail, Fuad Abdul Latip</i>	

Input-Input Relationship Constraints in T-Way Testing	526
<i>Rozmie R. Othman, Kamal Z. Zamli</i>	
Developing Land Use Scenario Dynamics Using Cellular Automata and Agent Integrated Model	531
<i>Lim Eng Aik, Tan Wee Choon</i>	
Computational Fluid Dynamics Analysis of Shelland- double Concentric-tube Heat Exchanger	534
<i>Tan Wee Choon, Shahril Shariff, Matthew Law, Lim Eng Aik</i>	
Developing E-market Model using Social Networks.....	538
<i>Nael Kabbany, Shen Si Ming, Anas Radwan</i>	
Multi-User Navigation: A 3D Mobile Device Interactive Support.....	544
<i>Teddy Mantoro, Adamu Abubakar, Media A. Ayu</i>	
Comparison of Metahuristic Test Generation Strategies Based on Interaction Elements Coverage Criterion.....	549
<i>Bestoun S. Ahmed, Kamal Z. Zamli</i>	
Effects of Traffic Speed Level on Frustration Index in Cellular Automata Traffic Simulation	554
<i>Lim Eng Aik, Tan Wee Choon</i>	
Interaction Test Data Generation Using Harmony Search Algorithm.....	558
<i>Abdul Rahman, A. Alsewari, Kamal Z. Zamli</i>	
The Implementation of Crossover Factor, FTIG in the Finite Persisting Sphere Genetic Algorithm.....	564
<i>K. Kamil, K.H. Chong, S.K. Tiong, K.H Yeap</i>	
An Example-Based Machine Translation Approach for Bahasa Indonesia to English: An Experiment Using MOSES	569
<i>Media A. Ayu, Teddy Mantoro</i>	
Attitudes Toward Dysfunctional Audit Behaviour: The Effect Of Budget Emphasis, Leadership Behaviour, And Effectiveness Of Audit Review.....	573
<i>Halil Paino, Azlan Thani, Syed Iskandar, Halil Paino, Azlan Thani, Syed Iskandar</i>	
Comparative Analysis of Simplified and Standard Fuzzy Logic Controller in Vector Controlled PMSM Drive	578
<i>Siti Noormiza Mat Isa, Zulkifilie Ibrahim, Jurifa Mat Lazi</i>	
CMOS Image Sensor Binning Circuit for Low-Light Imaging.....	584
<i>Hong-Yi Huang, Patrick Adrian Conge, Li-Wei Huang</i>	
Side-Coupled Single-Mode Ring Resonator with Transmission Zeros	588
<i>N. Ab Wahab, M. K. Mohd Salleh, O.H. Hassan, Z. Awang</i>	
A Novel Approach of Feeding, Impedance Matching and Frequency Tuning of Microstrip Patch Antenna by Single Microstrip line.....	591
<i>Nazifa Tahir, Graham Brooker</i>	
Circuit Diagram of a Single-Mode Microwave Ring Resonator	596
<i>N. Ab Wahab, M. K. Mohd Salleh, O.H. Hassan, Z. Awang</i>	
Internal Ringing Effect in Capacitive Micromachined Ultrasonic Transducer	599
<i>M.S. Salim, M.F. Abd Malek, R.B.W. Heng, N. Sabri Salim</i>	
Thermal Measurements of Two Layered Thin Films of Different Orders on Copper.....	604
<i>K. Dinash, D. Mutharasu, Y.T Lee</i>	
GaNAs QW with GaNAs Intermediate Layer for Long Wavelength Laser.....	608
<i>F. Maskuriy, M. S. Alias, S. M. Mitani, A. A. Manaf</i>	
Safe Operating Condition and Lifetime Estimation in p-MOSFET Device Due To Negative Bias Temperature Instability	612
<i>H. Hussin, N.Soin</i>	
Paper Study on Thermal Conductivity of Al₂O₃ Thin Film of Different Thicknesses on Copper Substrate under Different Contact Pressures.....	618
<i>K. Dinash, D. Mutharasu, Y.T. Lee</i>	
Integration of Scalar Control in Space Vector Pulse-Width Modulation for Robust Motion Controller	622
<i>A. Mohd Nazlee, N. H. Hamid, F. A. Hussin, N. B. Zain Ali</i>	
Prototype of Channel Coding Algorithms for Digital Signal Processing Board.....	627
<i>Roslina Mohamad, Yuslinda Wati, Mohamad Yusof, Ahmad Shafiq Razelan</i>	
Surgical and Non-surgical Prosthetic Hands Control: A Review	632
<i>Hanif Mohd Zaini, Siti A. Ahmad</i>	
The Importance of the Very Low Frequency Power of Heart Rate Variability in Screening of Patients with Obstructive Sleep Apnea.....	636
<i>Abdulnasir Hossen, Bader Al Ghunaimi, Mohammed Hassan</i>	
Screening of Bone Marrow Slide Images for Leukemia Using Multilayer Perceptron (MLP)	641
<i>E.U. Francis, M.Y. Mashor, R. Hassan, A.A. Abdullah</i>	
Study On The Stability Of Nanodrugs Using Particulate Growth Technique.....	647
<i>R. Radzuan, A.B. Abdul Majeed, M.K. Mohd Salleh, M.K. Hamzah</i>	

Characterizing Autistic Disorder based on Principle Component Analysis	651
<i>Wafaa Khazaal Shams, Abdul Wahab, Abdul Rahman</i>	
Development of PI Controller for Disc Speed	656
<i>Nur Huda Mohd Amin, Hyreil Anuar Kasdirin, Mohamad Riduwan Nawawi, Mohd Ruddin Ab. Ghani</i>	
Contextual Classification of Cropcam UAV High Resolution Images Using Frequency-Based Approach for Land Use/Land Cover Mapping: Case Study: Pinang Island	661
<i>Faez M. Hassan, M.Z. Mat Jafri, H.S.Lim</i>	
The Effect of Anomaly Detection Accuracy in Varying the Angular Resolution of Sonar Using Repetitive Observation Strategy	667
<i>Mohd Nurul Al-Haftz Sha'abani, Muhamad Fahmi Miskon</i>	
Design and Development of Electrical Powered Wheelchair Model for Navigation Control	673
<i>Rafidah Rosman, Afiqah Yaacob, Norashikin M.Thamrin, Jamilah Karim</i>	
Z-Source Inverter With Improved Performance for Photovoltaic Applications	679
<i>U. Shajith Ali, V. Kamaraj</i>	
Design of Long Range MIMO Wireless Data Acquisition System	685
<i>Abdullah Eroglu, Ersin Gose, Anish Matthew, Todd Hauter</i>	
An Automatic Biomedical Acquisition System for Hospital Registration	690
<i>Somphong Kittipiyakul, Sarot Charoenkul, Wuthipong Pornsukjantra, Phubate Udomsaph</i>	
Outsource Bond Pad Reliability Methodology Setup for Foundry Process Changes	694
<i>Hong Seng</i>	
Design and Development of MY 2nd EYE for Visually Impaired Person	698
<i>A. M. Kassim, M. H. Jamaluddin, M. R. Yaacob, N. S. N. Anwar, Z. M. Sani, A. Noordin</i>	
Towards Smart Wireless Sensor Actor Networks: Design Factors and Applications	702
<i>Naseer Sabri, S. A. Aljunid, R. B. Ahmad, M.F.Malik, Abid Yahya, R. Kamaruddin, M.S.Salim</i>	
Minimizing Torque Ripple and Copper Losses in Variable Speed Brushless DC Motor	707
<i>Tarun Maandi, Farshad Fahimi, David Brown</i>	
XILINX FPGA Design for Sinusoidal Pulse Width Modulation (SPWM) control of Single-phase Matrix Converter	712
<i>S.Z. Mohammad Noor, M.K. Hamzah, N.F. Abdul, Z. Idris</i>	
State-Space Approach Controller Design for PLC-based PWM-Driven Variable Speed Drive	718
<i>Muhammad Kamarul Baharin, Nordin Saad, Taib Ibrahim</i>	
Author Index	