

2011 4th International Conference on Modeling, Simulation and Applied Optimization

(ICMSAO 2011)

**Kuala Lumpur, Malaysia
19 – 21 April 2011**

Pages 1-539



**IEEE Catalog Number: CFP1176N-PRT
ISBN: 978-1-4577-0003-3**

TABLE OF CONTENTS

A Preconditioner Construction for Domain Decomposition Analysis of Large Scale 3D Magnetostatic Problems.....	1
<i>H. Kanayama, M. Ogino, S. Sugimoto, Q. Yao</i>	
Heat Integration – History, Recent Developments and Achievements	5
<i>J. Klemes, P. Varbanov</i>	
The Role of Computer-Aided Chemical Engineering Education within the European Bologna Three-Cycle Study System	13
<i>Z. Kravanja, J. Klemes</i>	
Life Cycle-Based Optimization of Agro-Industrial Energy Supply Chains	19
<i>R. Tan</i>	
Modeling, Simulation And Optimization In Waste/Biomass-To-Energy Processes	24
<i>P. Stehlik</i>	
Building Models Based on Environment with Hybrid Uncertainty.....	32
<i>J. Watada</i>	
Qualitative Trend Analysis for the Monitoring of Process Plant.....	47
<i>Y. Yamashita</i>	
A One- Dimensional Simulation of An Electrofusion Welding Process	51
<i>H. Osman, S. Ahmad, K. Arshad</i>	
Gold Price Prediction Using Radial Basis Function Neural Network	56
<i>S. Hussein, M. Shah, M. Jalal, S. Abdullah</i>	
Optimization of Handover Algorithms in 3GPP Long Term Evolution System	67
<i>C. Lin, K. Sandrasegaran, H. Ramli, R. Basukala, R. Patachaianand</i>	
A Game-Theoretic Multi-Level Optimization Model for Control of an International Biofuel Market.....	72
<i>I. Barilea, J. Kang, R. Tan</i>	
Simulation of Radiation Performance for Mobile Antennas using a Hybrid FEM-FDTD Computational Technique.....	76
<i>R. Alias</i>	
PID Controller Optimization for a Rotational Inverted Pendulum using Genetic Algorithm	81
<i>M. Rani, H. Selamat, H. Zamzuri, F. Ahmad</i>	
Compression of Volumetric Data using 3D Delaunay Triangulation	87
<i>R. Jovanovic, R. Lorentz</i>	
Fixed Satellite Service (FSS) and High Altitude Platform (HAP) Interference Assessment for Adjacent Channels inside HAPS Coverage Area	92
<i>M. Nia, T. Rahman</i>	
A Review On Reconfiguration Of Radial Electrical Distribution Network Through Heuristic Methods.....	97
<i>A. Ferdavani, A. Zin, A. Khairuddin, M. Naeini</i>	
Reliable and Cost Effective Anti-collision Technique for RFID UHF Tag	102
<i>J. Sampe, K. Zakaria, F. Hashim, M. Othman</i>	
Optimization Of Biodiesel Production From Waste Cooking Oil Using Ion Exchange Resins	107
<i>M. Kolyaei, G. Zahedi, M. Nasef</i>	
Identification and Control for a Single-Axis PZT Nanopositioner Stage.....	112
<i>B. Badr, W. Ali</i>	
Modeling and Optimization of Molar Volume for the Binary Systems Containing Nearcritical and Supercritical CO₂ Applicable to Micro and Nanoparticles Production	118
<i>R. Alinia, E. Lay</i>	
The Use of Fourier Descriptors to Recognize Particle Profile.....	123
<i>M. Laghari, T. Soomro, G. Khuwaja</i>	
Improving Multi - Stream Heat Exchanger Design by Reducing the Number of Sections.....	129
<i>F. Joda, G. Polley, N. Tahouni, M. Panjeshahi</i>	
Four Step Implicit Block Method of Runge-Kutta Type for Solving First Order Ordinary Differential Equations.....	134
<i>H. Radzi, Z. Majid, F. Ismail, M. Suleiman</i>	
Preparation of Meteorological Input for AERMOD using Malaysian Meteorological Data.....	139
<i>T. Chen, L. Abdullah, T. Aun</i>	
Recipe Generation from Small Samples by Weighted Kernel Regression	145
<i>M. Shapiai, Z. Ibrahim, M. Khalid, L. Jau, S. Ong, V. Pavlovich</i>	

Performance Analysis Indoor Location Tracking Framework with SIP on IPv6 Island.....	149
<i>S. Hossain, S. Ariffin, N. Fisal, N. Hassan, L. Latiff, C. Neng</i>	
Module for Online Assignment Submission	156
<i>A. Quteishat, A. Al-Mofleh, M. Al-Mefleh, M. Al-Batah</i>	
Application of Fractional Factorial Design (FFD) for Screening of Significant Factor in Influencing Succinic acid Production from Biodiesel Based Glycerol Using Escherichia Coli.....	162
<i>E. Hidawati, A. Sakinah, A. Suhana</i>	
P-graph Methodology for Cost-Effective Reduction of Carbon Emissions Involving Fuel Cell Combined Cycles	167
<i>P. Varbanov, F. Friedler</i>	
A 0.8 V Class-AB Linear OTA using DTMOs for High-Frequency Applications	175
<i>A. Suadet, T. Thongleam, A. Kanjanop, P. Singhanath, B. Hirunsing, W. Chuenta, V. Kasemsuwan</i>	
MPEG-4 Video Transmission using Distributed TDMA MAC Protocol over IEEE 802.15.4 Wireless Technology	180
<i>N. Ismail, F. Yunus, S. Ariffin, A. Shahidan, R. Rashid, W. Embong, N. Fisal, S. Yusof</i>	
Formal Methods and Automation for System Verification.....	186
<i>H. Krad</i>	
An Optimal Method for Narrowband Interference Mitigation in the GPS	198
<i>M. Nouri, S. Aghdam, V. Vakili</i>	
On the Design of Output Feedback Sliding Mode Control for a Class of Uncertain System	202
<i>E. Gatavi, A. Husain, A. Shirdel, M. Ahmad</i>	
Dedicated Protection Scheme for Optical Networks Survivability	206
<i>S. Halida, S. Idrus, M. Farabi, N. Zulkifli</i>	
Geosynchronous Transfer Orbit Design: A Practical Approach	211
<i>E. Hernandez, J. Bolivar, Q. Wang</i>	
Solving Delay Differential Equations Using Coupled Block Method	215
<i>H. San, Z. Majid, M. Othman</i>	
Seamless SIP Multimedia Session Transfer on IPv6 Network Via Device Switching	219
<i>S. Hossain, S. Ariffin, N. Fisal, N. Hassan, L. Latiff, C. Neng</i>	
Optimized Pit Configuration for Efficient Grounding of the Power System in High Resistivity Soils using Low Resistivity Materials.....	226
<i>A. Al-Arainy, Y. Khan, M. Qureshi, N. Malik, F. Pazheri</i>	
Prolonging Lifetime of Wireless Sensor Networks with Mobile Base Station using Particle Swarm Optimization	231
<i>N. Latiff, R. Ahmad</i>	
Building a Multilevel Modeling Network for Lipid Processing Systems.....	237
<i>A. Mustafa, C. Diaz-Tovar, A. Hukkerikar, A. Quaglia, G. Sin, G. Kontogeorgis, B. Sarup, R. Gani</i>	
Robust Humanoid Turning-In-Place Using Fourier Series And Genetic Algorithm	244
<i>A. Abdolmaleki, N. Aghae, M. Khayyambashi, A. Monadjemi</i>	
Modelling Nonlinear Relationship Among Vegetable Oil Price Time Series.....	249
<i>M. Ismail</i>	
Fitting the Distributions of Wet Spell Duration with Probability Models	254
<i>S. Shamsudin, S. Dan'Azumi, A. Rahman</i>	
RAGHC: Reliable Authenticated Group Head Communication for Wireless Mesh Networks.....	260
<i>L. Zafar, F. Hadi, F. Muhaya, A. Naseer</i>	
Least Square Application on Frequency Weighted Model Reduction Technique.....	265
<i>S. Sahlan, M. Maidin, N. Wahab</i>	
Active Vibration Control of Flexible Beam System Using Proportional Control Scheme in Finite Difference Simulation Platform.....	271
<i>M. Saad, H. Jamaluddin, I. Darus</i>	
A Local Tone Mapping Operator for High Dynamic Range Images.....	276
<i>T. Qian, S. Shafie, M. Saripan</i>	
Combined Method of Spring-forward and Spring-back for Die Compensation Acceleration.....	282
<i>A. Anggono, W. Siswanto, B. Omar</i>	
Modeling and Optimization of Struvite Precipitation Process for Phosphorus Recovery from Wastewater.....	288
<i>K. Fattah, D. Mavinic</i>	
A Sequential Approach For Fault Detection And Identification Of Vehicles' Ultrasonic Parking Sensors.....	294
<i>M. Abdel-Hafez, A. Nabulsi, A. Jafari, F. Zaabi, M. Sleiman, A. Abuhatab</i>	
Wayang Kulit : Digital Puppetry Character Rigging Using Maya MEL Language	300
<i>D. Ghani</i>	

A Solution Approach for the Stochastic Airport Bus Routing Problem	305
<i>F. Abdelaziz, H. Masri, H. Alaya</i>	
Simulation Of MQC Code Of SAC/Optical CDMA And WDM Hybrid Overlay System	309
<i>I. Ashour, M. Shalaby, S. Shaari, P. Menon</i>	
Criteria Of Integration Of Sociability And Physical Environment In Sustainable Developments (The Case Study Of Malaysia).....	314
<i>R. Mahboubeh, T. Fatemeh, T. Nasim</i>	
A Direct 4-Point Predictor-Corrector Block Method for Solving General Third Order ODEs.....	321
<i>N. Waeleh, Z. Majid, F. Ismail, L. Soon</i>	
"Police": Agent Based Threat Modelling	325
<i>A. Mangla, A. Dubli</i>	
Application of Neural Network Observer for On-line Estimation of Salient-Pole Synchronous Generators' Dynamic Parameters using the Operating Data	330
<i>O. Shariati, A. Zin, M. Aghamohammadi</i>	
Load Carriage Analysis for Malaysian Military Using Functional Data Analysis Technique: Trial Experiment.....	339
<i>W. Din, A. Rambely, A. Jemain</i>	
Application of Third-order Polynomial Approximate Solution to Enzymatic Glucose Isomerization and Lactose Hydrolysis Reactions	347
<i>I. Abu-Reesh</i>	
Single Input Fuzzy Controller (SFLC) Based Maximum Power Point Tracking.....	353
<i>A. Nabulsi, R. Dhaouadi, H. Rehman</i>	
Modelling and Simulation of Solar Chimney Power Plant Performances In Southern Region of Algeria	358
<i>T. Chergui, S. Larbi, A. Bouhdjar</i>	
Two-Stage Data Envelopment Analysis Based on Interval Data	363
<i>P. Mohammad, T. Ghasem, R. Shabnam</i>	
Optimization of Nonlinearities through Control Techniques of the Quadrotor Aerial Vehicle.....	366
<i>P. Nathan, H. Almurib</i>	
SDR Design for Cognitive Radio	372
<i>R. Raut, K. Kulat</i>	
Prediction Of Fatigue Crack Growth Rate Using Rule-Based Systems	380
<i>M. Abdulrazzaq, A. Ariffin, A. El-Shafie, S. Abdullah, Z. Sajuri</i>	
On A Coupled Fourth Order Thermoelastic System With Nonlocal Constraints	388
<i>S. Mesloub, A. Al-Hammali</i>	
A Fuzzy Time Series Model for Kuala Lumpur Composite Index Forecasting	398
<i>L. Abdullah, C. Ling</i>	
Optimizing Palm Biomass Energy though Size Reduction.....	403
<i>M. Aziz, N. Morad, N. Wambeck, M. Shah</i>	
Possibility of Genetic Restoration for a Disease Treatment	409
<i>T. Tsukahara, Y. Ooka, S. Alam, H. Suzuki, K. Fujimoto</i>	
Prediction Of FRP-Concrete Ultimate Bond Strength Using Artificial Neural Network.....	413
<i>J. Abdalla, R. Hawileh, A. Al-Tamimi</i>	
Tracking Human Movement in Office Environment using Video Processing.....	417
<i>M. Ramli, H. Zamzuri, M. Abidin</i>	
Challenges For Antisense Oligonucleotide-Based Therapeutics, In Particular For Exon 51-Skipping In Duchenne Muscular Dystrophy	423
<i>Y. Aoki, T. Nagata, Y. Shimizu, S. Takeda</i>	
Numerical Simulation of Buckling of Pretwisted Non-circular Bars	429
<i>F. Abed, S. Barakat, M. Alhamaydeh</i>	
Identification of Dynamic Linear Models of Automotive Palm Bio-diesel Engine for Real-Time Speed Control Applications	435
<i>M. Azuwir, M. Abdulmuin, A. Adom</i>	
Design of Fuzzy Logic Controller for Overdamped Temperature Response of a Process Air Heater System.....	441
<i>S. Mohamad, A. Ishak, S. Aishah, S. Kadir</i>	
Hagen-Poiseuille Flow In Tubes Of Semi-Circular Cross-Sections	445
<i>R. Alassar</i>	
Modeling Of Non Isothermal CSTR With The Method Of RBF NN	447
<i>S. Attaran, S. Abdullah</i>	
A Rejuvenation Method Of Inducing The Proliferation And Differentiation Of Glomerular Podocyte	453
<i>P. Wang, S. Komuro, Y. Murasawa</i>	

Coordination of PID Based Power System Stabilizer and AVR Using Combination Bacterial Foraging Technique – Particle Swarm Optimization.....	458
<i>I. Manuaba, M. Abdullah, A. Soeprijanto, M. Hery</i>	
Proposal of Whole Surface Inspection System by Simultaneous Six-image Capture of Prolate Spheroid-shaped Fruit and Vegetables	465
<i>Y. Shiraishi, F. Takeda</i>	
A Comparison of SLM and PTS Peak-to-Average Power Ratio Reduction Schemes for OFDM Systems	470
<i>Y. Hassan, M. El-Tarhuni</i>	
A Solution Proposal to the Transportation Problem with the Linear Fractional Objective Function	474
<i>M. Sivri, I. Emiroglu, C. Guler, F. Tasci</i>	
Low Voltage Adjustable CMOS Schmitt Trigger	481
<i>P. Singhanath, A. Suadet, A. Kanjanop, T. Thongleam</i>	
Modeling and Control of Magnetic Levitation System via Fuzzy Logic Controller.....	485
<i>K. Ishaque, Y. Saleem, S. Abdullah, M. Amjad, M. Rashid, S. Kazi</i>	
Range Distribution and Electronic Stopping Power for Cobalt (Co) ions in Gallium Arsenide (GaAs) Optoelectronic Devices	491
<i>F. Chee, H. Amir, S. Salleh</i>	
An Ultra Low Voltage Rail-to-Rail DT MOS Voltage Follower	496
<i>A. Kanjanop, A. Suadet, P. Singhanath, T. Thongleam, S. Kuankid, V. Kasemsuwan</i>	
Robust Fault Detection And Isolation Of Steer By Wire System Under Various Class Of Fault And System Uncertainties	501
<i>A. Kheirandish, A. Husain, M. Kazemi, E. Gatavi, M. Ahmad</i>	
Hand Motion Detection From EMG Signals By Using ANN Based Classifier For Human Computer Interaction	505
<i>M. Ahsan, M. Ibrahimy, O. Khalifa</i>	
Empirical Modeling and Control for Spray Drying of Orange Juice Powder	511
<i>L. Tan, F. Taip, M. Ibrahim, R. Kamil</i>	
Prediction Of Afflux Of Bridge Constriction With Piers Using Artificial Neural Network	517
<i>S. Atabay, J. Abdalla, G. Seckin, M. Mortula</i>	
Operation Improvement of Indoor Robot by Gesture Recognition.....	521
<i>T. Shiraishi, A. Ishitani</i>	
Two-Stage Data Envelopment Analysis With Imprecise Data	525
<i>P. Mohammed, T. Ghasem, R. Shabnam</i>	
Indoor Free Space Optical Communications for Aircraft Passenger Cabin.....	530
<i>E. Yousefi-M, S. Idrus, C. Lee, M. Arsat, A. Supa'At, N. Safri</i>	
Shape Identification of Frost Formation around a Refrigeration Tube via Adjoint-Based Optimization Method	535
<i>M. Mirzaei, H. Fazeli</i>	
Optimization of Depth Control for Unmanned Underwater Vehicle Using Surrogate Modeling Technique	540
<i>A. Faruq, S. Abdullah, M. Nor-S</i>	
CO₂ Solubility Modeling in the Binary Systems at High Pressures	547
<i>R. Alinia, E. Lay</i>	
Active Control of Smart Beam with Time Delay	553
<i>I. Kucuk, I. Sadek, Y. Yilmaz</i>	
A Cost Effective Minimum Water Network Model For Intra And Interplant System	558
<i>S. Alwi, H. Ching, Z. Handani, Z. Manan, H. Hashim</i>	
A New Optimum Method for Sharing Tire Forces in Electronic Stability Control System	564
<i>A. Javadian, O. Gholami</i>	
A New Family of Conjugate Gradient Methods for Unconstrained Optimization.....	570
<i>M. Rivaie, M. Fauzi, M. Mamat</i>	
Genetic Algorithm for Solving Total Weighted Tardiness and Sum of Earliness and Tardiness Penalties of Job-shop Scheduling Problem	574
<i>M. Omar, N. Anuar, Y. Supaya</i>	
Model of Bi-tandem Queues with Multi Input Arrival and with Linear and Non Linear Service Rates	580
<i>S. Agrawal, L. Tiwari, S. Kapoor</i>	
Modelling and Analysis of Different Aspect of Mechanisms in Lightning Injury	585
<i>N. Misbah, M. Kadir, C. Gomes</i>	
Local/Global Frame Switching In Sensor-Based Outdoor Navigation In A Wheeled Mobile Robot	590
<i>Y. Lwin, D. Takahashi, Y. Yamamoto</i>	

Cross-layer Routing Approach in Highly Dynamic Networks	596
<i>N. Nazirah, N. Satiman, A. Izzati, N. Fisal, S. Yusof, S. Ariffin, M. Abbas</i>	
Ambient Vibration-based MEMS Piezoelectric Energy Harvester for Green Energy Source.....	601
<i>S. Saadon, O. Sidek</i>	
Symmetric Matrices Properties to Duality in Linear Programming Problem	607
<i>I. Romli, Taufik, A. Saptari, M. Jusoh</i>	
A 0.5 V Class AB Quasi FGMOS Pseudo Fully Differential CMOS Op-Amp with Rail-to-Rail Input/Output Swing.....	614
<i>T. Thongleam, A. Suadet, A. Kanjanop, P. Singhanath, B. Hirunsing, W. Chuenta, V. Kasemsuwan</i>	
Simulation of Single Stage Cascode Low Noise Amplifier at 5.8GHz Using T-matching Network	619
<i>A. Ibrahim, M. Husain, A. Othman, M. Johal</i>	
A Mixed Integer Linear Programming (MILP) Model for Optimal Design of Water Network	624
<i>Z. Handani, H. Hashim, S. Alwi, Z. Manan</i>	
Robustness of Reduction Method for Stabilization of Uncertain Input-Delayed Process Plant.....	630
<i>A. Cahyadi, R. Yusof, M. Khalid, Y. Yamamoto</i>	
Investigations To The Side-Metal-Effect Of Inductive Proximity Sensors Under Usage Of 3D Time-Harmonic Eddy-Current Field Solver	636
<i>F. Lebahn, H. Kruger, H. Ewald</i>	
Multi Period Planning on Grid-Wide Carbon Sequestration Retrofit in Power Generation Sector with Pinch Analysis	639
<i>R. Ooi, D. Foo, R. Tan</i>	
Feature Selection Method for Music Mood Score Detection.....	643
<i>M. Miyoshi, S. Tsuge, T. Oyama, M. Ito, M. Fukumi</i>	
Simultaneous Targeting and Design for Non-Mass Transfer Based Water and Energy Reduction.....	649
<i>A. Ismail, S. Alwi, Z. Manan</i>	
Trigonometric Methods as Special Case of Exp Function Method.....	657
<i>J. Biazar, Z. Ayati</i>	
Prototyping Eco Power Generator Using Giant Magnetostriction Material	661
<i>A. Matsui, Y. Yamamoto, Y. Matsui</i>	
Optimal Control of a Continuous-Review Integrated Production - Forecasting System with Stock-Dependent Demand and Deteriorating Items.....	666
<i>R. Hedjar, C. Abid, L. Tadj</i>	
Flood Wave Dynamics Using Lagrangian Block Advection.....	672
<i>L. Tan, V. Chu</i>	
An Image Encryption Model Based on Using Frei-Chen Bases.....	678
<i>M. Al-Khassaweneh</i>	
Investigating the Impact of Quality Control Decisions on Cost of Quality.....	682
<i>M. Omar, S. Murugan</i>	
Proper Planning of Multiple Distributed Generation Sources Using Heuristic Approach.....	688
<i>M. Alrashidi, M. Alhajri</i>	
Active Control of Tool Position in the Presence of Nonlinear Cutting Force and Machine Tool Dynamics in Orthogonal Cutting	693
<i>A. Elsimawi, S. Emam</i>	
Design of Tailor-Made Chemical Blend Using a Decomposition-Based Computer-Aided Approach	699
<i>N. Yunus, K. Gernaey, Z. Manan, J. Woodley, R. Gani</i>	
Numerical Simulation of Photonic Band Gap Structures for CWDM Applications.....	705
<i>S. Robinson, R. Nakkeeran</i>	
Fixed Satellite Service (FSS)and High Altitude Platform (HAP) Interference Evaluation for Adjacent Channels Outside Platform Area Coverage	710
<i>M. Nia, T. Rahman</i>	
QoS Adaptation in Distributed Multimedia based Collaborative Environment	714
<i>S. Bhattacharjee, A. Dutta</i>	
Two-Step Diagonal Newton Method for Large-Scale Systems of Nonlinear Equations	721
<i>M. Waziri, W. Leong, M. Hassan, M. Monsi</i>	
Thermal Analysis On PCB Using Galerkin Approach	725
<i>M. Soh, I. Bugis, I. Jamaludin, R. Ranom</i>	
Development Of Oval-Shaped Agricultural Product Inspection And Sorting System With Simultaneous Six-Angle Photograph Taking.....	731
<i>N. Nakatani, Y. Shiraishi, F. Takeda</i>	
Modeling Tourist's Mode Choice Behavior under Parking and Cordon Charge Policies.....	737
<i>K. Azari, S. Arintono, H. Hamid</i>	

A Cost-Effective Design Approach for Integrated Positioning System	741
<i>X. Kong, L. Liu, D. Lowe</i>	
Gene Expression Profiles Predict Survival of Patients with Advanced Non-small Cell Lung Cancers	747
<i>R. Harun, J. Hadi, N. Hazir, P. Chyang, I. Manap, M. Anshar, N. Tajuddin, A. Li, A. Jamal</i>	
Quantifying the Relationship between the Climate and Hand-Foot-Mouth Disease (HFMD) Incidences	751
<i>P. Leong, J. Labadin, S. Rahman, S. Juan</i>	
Pressure Distribution Model For Pressure Garments And Its Verification	756
<i>M. Salleh, M. Acar, N. Burns</i>	
Artificial Neural Network - Naïve Bayes Fusion for Solving Classification Problem of Imbalanced Dataset	762
<i>A. Adam, M. Shapiai, Z. Ibrahim, M. Khalid</i>	
Groundwater Modeling to Simulate Groundwater Levels Due to Interlinking of Rivers in Varada River Basin, India	767
<i>H. Ramesh, A. Mahesha</i>	
A Non-Radial Super-Efficiency Model For Ranking Decision Making Units In DEA	773
<i>A. Ashrafi, L. Lee, A. Jaafar</i>	
Mechanical Characterization of Acrylic –Emulsion Polymer-Modified Concrete Reinforced with Steel Fibre by Taguchi Application	778
<i>D. Hazimmah, S. Mohd</i>	
Systematic Procedure for Generating Operational Policies to Achieve Target Crystal Size Distribution (CSD) in Batch Cooling Crystallization	783
<i>N. Samad, R. Singh, G. Sin, K. Gernaey, R. Gani</i>	
Prediction Of The Bending Strength Using Response Surface Methodology	789
<i>A. Kamely, E. Sachlan, S. Subramonian</i>	
Application of Shuffled Complex Evolution Global Optimization Technique in the Design of Truss Structures	793
<i>S. Barakat, H. Ibrahim</i>	
Effect of Forging on Ferromagnetic Properties of Low-Carbon Steel	799
<i>M. Ghodsi, S. Loghmanian</i>	
Development of Energy Harvesting Device using Piezoelectric Material	802
<i>R. Ahmad, M. Hashim</i>	
3-D Finite Element Temperature Field Modelling for Direct Diode Laser Hardening of Carbon Steel	808
<i>T. Kusuvara, J. Morimoto, N. Abe, M. Tsukamoto</i>	
Mapping of Hydrocarbon with Marine EM Method using 2-D Forward Modeling	812
<i>N. Hussain, M. Karsiti, N. Yahya, Z. Burhanuddin</i>	
Detection of Multiple Cracks in Beams Using Particle Swarm Optimization and Artificial Neural Network	818
<i>M. Kazemi, F. Nazari, M. Karimi, S. Baghalian</i>	
A Simulation Optimization Approach To Un-Paced Assembly Line Balancing Problem-II With Additional Reworking Issue	823
<i>M. Noushabadi, U. Bahalke, K. Dolatkahli, A. Yilmeh</i>	
Proposal for the Awakening Behavior Detection System Using Images and Adaptation for Fluctuation of Brightness Quantity in the Captured Image	829
<i>H. Satoh, T. Ohkura, F. Takeda</i>	
Forward and Inverse Kinematics Model for Robotic Welding Process Using KR-16KS KUKA Robot	836
<i>M. Dahari, J. Tan</i>	
Modelling of Uncertain Systems Using Fuzzy Numbers	842
<i>P. Husek</i>	
Musculoskeletal Computational Analysis Of The Influence Of Car-Seat Design/Adjustment On Fatigue-Induced Driving	847
<i>N. Majid, M. Notomi, J. Rasmussen</i>	
Dual LQG-PID Control of a Highly Nonlinear Magnetic Levitation System	853
<i>A. Elsinawi, S. Emam</i>	
Empirical Prediction of Stress Concentration Factor for a Pair of Spherical Cavities	857
<i>S. Bidhar, O. Kuwazuru, Y. Hangai, T. Yano</i>	
On m-Symmetric d-Orthogonal Polynomials	864
<i>M. Blel</i>	
Triplen Harmonics Currents Propagation Through Medium Voltage Distribution Network	885
<i>M. Abdullah, N. Hamid, Z. Baharudin, M. Khamis</i>	
MRI Brain Classification Using Support Vector Machine	890
<i>M. Othman, N. Abdullah, N. Kamal</i>	

Retrofit of Low-Temperature Gas Separation Section of an Olefin Plant.....	894
<i>N. Tahouni, N. Bagheri, J. Towfighi, M. Panjeshahi</i>	
Photonics Alcohol Detector System For Syari'ah Compliance Food And Beverages	898
<i>S. Maharom, N. Hussin, S. Idrus, A. Safar, N. Zulkifli</i>	
HARQ Aware Scheduling Algorithm for the Downlink LTE System	902
<i>H. Ramli, K. Sandrasegaran, R. Basukala, T. Afrin</i>	
Reconstruction of Turbulence Statistics in a Dump Combustor Using Neural Networks	906
<i>A. Alsharif, S. Ahmed, H. Kadi</i>	
Robust H-Infinity Controller Synthesis Using Multi-Objectives Differential Evolution Algorithm (MODE) For Two-Mass-Spring System	911
<i>I. Tijani, R. Akmeliawati, A. Legowo, M. Iwan, A. Muthalif</i>	
Pursuing Entertainment Aspects of SONY AIBO Quadruped Robots	918
<i>N. Suzuki, Y. Yamamoto</i>	
Performance Investigation on New Refrigerant Mixture	923
<i>E. Khorshid, B. Alshriaan, A. Alsairafi, A. Alazemi, A. Alhaddad</i>	
Application of Electrical Capacitance Tomography and Differential Pressure Measurement in an Air-Water Bubble Column for Online Analysis of Void Fraction	927
<i>I. Ismail, A. Shafquet, M. Karsiti</i>	
CO₂ Emissions Reduction Targeting for Existing Plant through Heat Exchanger Network Retrofit and Fuel Switching with MINLP	933
<i>B. Tiew, M. Shuhaimi, H. Haslenda</i>	
Genetic And Hybrid Shuffled Frog Leaping Algorithms For Solving A 2-Stage Model For A Hub Covering Location Network.....	940
<i>M. Mohammadi, R. Tavakkoli-Moghaddam, H. Rostami</i>	
Metamodeling Approach for PID Controller Optimization in an Evaporator Process	946
<i>M. Shah, M. Zainal, A. Faruq, S. Abdullah</i>	
Sequential Selection Approach for Selecting the Best System	950
<i>M. Almomani, R. Rahman</i>	
Structure Damage Modelling For Guided Waves-Based SHM Systems Testing	955
<i>P. Packo, L. Ambrozinski, T. Uhl</i>	
A Route Selection Algorithm for WiMAX Mobile Multi-hop Relay Networks	961
<i>N. Satiman, N. Maarof, A. Zamani, N. Fisal, S. Yusuf, S. Ariffin, M. Abbas</i>	
Modeling and Validation of Brushless DC Motor	967
<i>M. Hussin, M. Azuwir, Y. Zaiazmin</i>	
Design Consideration for the Development of a Low Power Infrared (IR) Transmitter IC	971
<i>A. Yahaya, I. Baharin, K. Velu-R</i>	
Link Aware Unsolicited Grant Service Packet Scheduling for Mobile WiMAX	975
<i>D. Shu'Aibu, S. Yusof, N. Fisal</i>	
Multi-Objective Optimization Problems: Method and Application	980
<i>F. Ismail, R. Yusof, S. Waqiyuddin</i>	
Effects of Genetic Algorithm Parameters on Multiobjective Optimization Algorithm Applied to System Identification Problem.....	986
<i>M. Zakaria, H. Jamaluddin, R. Ahmad, A. Muhaimin</i>	
On A Novel Optimization Approach Of Electromagnetic Energy Harvesters	991
<i>C. Cepnik, U. Wallrabe, O. Radler, S. Rosenbaum, T. Strohla</i>	
Low Power BPSK Modulator for the Application of Capsule Endoscope	997
<i>L. Xing, S. Shafie, H. Ramiah</i>	
Proposed Transport Protocol for Reliable Data Transfer in Wireless Sensor Network (WSN)	1001
<i>F. Yunus, N. Ismail, S. Ariffin, A. Shahidan, N. Fisal, S. Syed-Yusof</i>	
On the Placement of Line Arrester on Underbuilt Overhead Distribution Line.....	1008
<i>Z. Nawi, M. Kadir, W. Ahmad</i>	
On the Performance of Space-Time Cooperative Relay in Fading Channel.....	1013
<i>A. Izzati, N. Fisal, S. Yusof, M. Abbas</i>	
Single Input Fuzzy Logic Controller for Magnetic Levitation System.....	1018
<i>K. Ishaque, Y. Saleem, S. Abdullah, M. Amjad, M. Rashid, S. Kazi</i>	
Fault-Tolerant Clustering Based on Neighborhood Benchmark Score and Hop Number Combination in Mobile Sensor Network.....	1024
<i>M. Khoshkholghi, M. Bafandehkar, M. Kheyrandish, A. Osareh</i>	
On The Regularizations Fourier Series Of Distributions	1028
<i>A. Rakhimov</i>	

Fast Low Voltage Ride-Through of Wind Generation Systems Using Supercapacitor Based Energy Storage Systems	1033
<i>A. Rahim, A. Alam</i>	
Solution of Advection Diffusion Equation Using Finite Element Method.....	1039
<i>S. Dhawan, S. Rawat, S. Kumar, S. Kapoor</i>	
Optimal Control Problem of Reaction-Diffusion Economic System	1043
<i>M. Bokhari, I. Sadek</i>	
Nonlinear Dynamic System Identification Using Volterra Series: Multi-Objective Optimization Approach	1048
<i>S. Loghmanian, R. Yusof, M. Khalid</i>	
Analytical Study Of MHD Natural Convective Flow Of Incompressible Fluid Flow From A Vertical Flat Plate In Porous Medium.....	1053
<i>S. Kapoor, P. Alam, R. Gupta, L. Tiwari, S. Aggarwal</i>	
Chlorella Vulgaris: A Miracle Plant?	1059
<i>Y. Yusof, N. Mokti, S. Saad, S. Sulaiman, N. Yahaya, E. Azamai, S. Makpol, W. Ngah</i>	
Supply and Target Based Superstructure Synthesis of Heat and Mass Exchange Networks.....	1065
<i>S. Azeez, N. Isafiade, D. Fraser</i>	
A Hybrid Optimization Model for Preliminary Conceptual Design of a Sustainable Integrated Biorefinery with Maximum Economic Performance	1071
<i>D. Tay, Z. Shabbir, D. Ng</i>	
Author Index	