

2011 Fifth Asia Modelling Symposium

AMS 2011

Table of Contents

Message from General Chairs.....	x
Conference Organization.....	xii
International Program Committee.....	xiii
International Reviewers.....	xv
Technical Sponsors.....	xvi
Keynote Speakers.....	xvii
Tutorial.....	xxi

Track 1A - Intelligent Systems

Predictive Modeling of Material Properties Using GMDH-based Abductive Networks	1
<i>Isah A. Lawal and Yahaya O. Mohammed</i>	
Enhanced Nadaraya-Watson Kernel Regression: Surface Approximation for Extremely Small Samples	5
<i>Mohd Ibrahim Shapiai, Zuwairie Ibrahim, Marzuki Khalid, Lee Wen Jau, and Vladimir Pavlovich</i>	
Modeling and Simulation of Influenza with Biological Agent, A New Approach for Increasing System Robustness	11
<i>Touraj Banirostam and Mehdi N. Fesharaki</i>	
Road Visual Condition Rating Assessment Using Artificial Neural Network and Support Vector Machine	16
<i>Egan Louis J. Fajardo</i>	
A Signal Denoising Method for Text Meaning Vectors	21
<i>Sergio Hernández, Philip Sallis, and Kathy Garden</i>	
Comparison of Two Cost Functions for Evolutionary Synthesis of Control Law for Higher Periodic Chaotic Logistic Equation	24
<i>Zuzana Oplatková, Roman Senkerik, Ivan Zelinka, and Roman Jasek</i>	

Convergence and Diversity Measurement for Vector Evaluated Particle Swarm Optimization Based on ZDT Test Problems	30
<i>Kian Sheng Lim, Salinda Buyamin, and Zuwairie Ibrahim</i>	

Track 2B - Hybrid Intelligent Systems & Hybrid Soft Computing

Survey of Plagiarism Detection Methods	35
<i>Asim M. El Tahir Ali, Hussam M. Dahwa Abdulla, and Vaclav Snasel</i>	
IGCRGA: A Novel Heuristic Approach for Personalization of Cold Start Problem	39
<i>Mohammed Abdul Hameed, S. Ramachandram, and Omar Al Jadaan</i>	

Track 3C - Methodologies, Tools, and Operations Research

Evaluation of Object-Based and Ontology-Based Models in Context-Aware Systems	45
<i>Mohammad Hossein Anisi, Abdul Hanan Abdullah, and Shukor Abd Razak</i>	
Timed Parallel Automaton: A Mathematical Tool for Defining Highly Expressive Formal Workflows	50
<i>Carlos Fernandez-Llatas, Salvatore F. Pileggi, Vicente Traver, and Jose M. Benedi</i>	
Toward High Accuracy Transaction Level Energy Modeling for System-on-Chip Buses	56
<i>Shengnan Xu and Yangdong Deng</i>	
Usability Testing Methodology: Effectiveness of Heuristic Evaluation in E-Government Website Development	62
<i>Ashok Sivaji, Azween Abdullah, and Alan Giffin Downe</i>	

Track 4D - Bio-informatics and Bio-medical Simulation

A Spatio-temporal Model for the Population Dynamics of Pyrodinium Bahamense var. Compressum with a Nutrient Source and Wind Effects	67
<i>Diego Manansala, Remb Talastasin, Wilson Tan, and Adrian Roy Valdez</i>	
Time Frequency Analysis of Electrooculograph (EOG) Signal of Eye Movement Potentials Based on Wavelet Energy Distribution	73
<i>W.M. Bukhari W. Daud and Rubita Sudirman</i>	

Track 6F - Image, Speech and Signal Processing

Image Pixel Comparison Using Block Based Positioning Subtraction Technique for Motion Estimation	79
<i>S.H.D.S. Jitvinder, S.S.S. Ranjit, K.C. Lim, and A.J. Salim</i>	

Diagnostic Model of Gutatte Lesion Utilizing Gaussian RGB Indices through ANN	84
<i>Noor Ezan Abdullah, Hadzli Hashim, and Aida Sulinda Kusim</i>	
Building a Rich Arabic Speech Database	90
<i>Mansour M. Alsulaiman, Ghulam Muhammad, Mohamed A. Bencherif, Awais Mahmood, Zulfiqar Ali, and Mohammad Aljabri</i>	

Track 7G - Industry, Business and Management

Malaysian SMEs Perspective on Factors Affecting ERP System Adoption	96
<i>Siti Shafrah Shahawai and Rosnah Idrus</i>	

Track 9J - Engineering: Civil, Mechanical, Chemical, Industrial, Manufacturing and Control

Simulation of Routing in Nano-manipulation for Creating Pattern with Atomic Force Microscopy Using Genetic Algorithm	101
<i>Ahmad Naebi, Mojtaba Hoseinzadeh, Moharam Habibnejad Korayem, Mohammad Reza Neghabi, and Iman Rezazadeh</i>	
Stabilizing a Driven Pendulum Using DLQR Control	107
<i>Amin Farmanbordar, Narges Zaeri, and Somaye Rahimi</i>	
Numerical Analysis of Line Contact Elastohydrodynamic Lubrication with Biobased Oils	111
<i>J. Md. Sheriff, K. Osman, and D.R.P. Cupu</i>	
A Mathematical Model for Optimal Partitions of Warehouse Storage Space Based on Turnover Density	117
<i>Subir S. Rao and Gajendra K. Adil</i>	
A Simulation Model for Dispersion Equation in a Bounded Domain	122
<i>Agostino Bruzzone and Roberto Cianci</i>	
An Event-State Depiction Algorithm Using CPA Methods with Continuous Feed Data	128
<i>Philip Sallis and Sergio Hernández</i>	

Track 10K - Energy, Power Generation and Distribution

A Model Free Estimation Based Neurocontroller for Synchronous Generator Excitation to Enhance Transient Stability	133
<i>Abdul Ghani Abro and Junita Mohamad-Saleh</i>	
Improving Grid Power Quality with FACTS Device on Integration of Wind Energy System	139
<i>V. Yuvaraj, S.N. Deepa, A.P. Roger Rozario, and Madhusudan Kumar</i>	

Exergy Analysis of Novel Cycles Generating Power Using Fuel Cells	145
<i>Karim Maghsoudi Mehraban, Seyyed Vahid Mahmoodi Jezeh, and Seyyed Hossein Moosa Kazemi</i>	

Multi-objective Transmission Expansion Planning Using an Elitist Non-dominated Sorting Genetic Algorithm with Fuzzy Decision Analysis	150
<i>BenJeMar-Hope F. Flores, Joseph Henry M. Salonga, and Allan C. Nerves</i>	

Track 12M - Virtual Reality, Visualization and Computer Games

Visualizing Work Progress Information of Construction Project by Web and VR Application	156
<i>Leen-Seok Kang, Hyoun-Seok Moon, Hyun-Seoung Kim, Gwang-Ryul Choi, Nam-Jin Park, and Chang-Hak Kim</i>	

Track 13N - Parallel and Distributed Architectures and Systems

A Model to Increase the Trust in Service Oriented Architecture	160
<i>Mohammad Ghafari, Mortaza Saleh, and Nasser Modiri</i>	
Structural Framing of Protocol for Secure Multiparty Cloud Computation	164
<i>Nikhar Maheshwari and Krati Kiyawat</i>	
Reservoir: An Alternative Load Balancing Technique for Parallel Ray Tracing	170
<i>Francis Joseph Serifa and Joy Alinda Reyes Madamba</i>	
Many-Core Processor Based High Performance Traffic Multiplier	175
<i>Zhitao Wan</i>	
Simulation of Energy-Aware Mobile Agent Based Network Management System	180
<i>Suh Forbacha and Colin Pattinson</i>	

Track 15R - Mobile/Ad Hoc Wireless Networks, Mobicast, Sensor Placement, Target Tracking

Amplifying Matrix Design for Distributed Noncooperative SIMO Wireless Relay Networks under Jamming Environment	186
<i>Zuojun Wang, Hyuck M. Kwon, Yanwu Ding, Kanghee Lee, and Yazan Ibdah</i>	
Effects of Node Geometry on Noncooperative Distributed SIMO Wireless Relay Networks	191
<i>Kanghee Lee, Hyuck M. Kwon, Yanwu Ding, Yazan Ibdah, and Zuojun Wang</i>	
Boundary Node Selection Algorithms by Simple Geometrical Properties in WSNs	196
<i>Ali Rafiei</i>	

Broadband Jamming and Channel Uncertainty for Noncooperative Wireless Relay Networks Under Received Power Constraint	202
<i>Yazan Ibdah, Hyuck M. Kwon, Kanghee Lee, Zuojun Wang, Yu Bi, and Mansik Jo</i>	
Impact of Variations of Bluetooth Transmitting Power in the Presence of WLAN Interfering Signal	207
<i>Abbas Ali Lotfi Neyestanak and Seyed Reza Jokar Naraghi</i>	
Appraisal of Long Term Evolution System with Diversified TCP's	211
<i>Ghassan A. Abed, Mahamod Ismail, and Kasmiran Jumari</i>	

Track 16S - Performance Engineering of Computer & Communication Systems

Performance Metrics of Compute Intensive Applications of a Single Processor Computer System	215
<i>O.E. Oguike, D.U. Ebem, M.N. Agu, S.C. Echezona, H.O.D. Longe, and O. Abass</i>	
Effect of Traffic Interval on Buffering in Go-Back-2 Network in NS2	220
<i>Ravinder Bahl, Chandra Mauli Sharma, and Tripti Sharma</i>	
Low Complexity OFDM Modulator and Demodulator Based on Discrete Hartley Transform	224
<i>Zakaria Sembiring, Mohd Fareq Abd Malek, and Hasliza Rahim</i>	

Track 17T - Circuits, Sensors and Devices

Static Dual Edge Flip Flop Implementations on the 90nm Process	229
<i>Joseph Bernard A. Constantino and Joy Alinda Reyes Madamba</i>	
Logic Style Comparison Using 32-Bit CLA in 90Nm Technology	235
<i>Sherry Joy Alvionne V. Sebastian and Joy Alinda P. Reyes</i>	
Comparative Analysis of Low Power Multiplier Architectures	240
<i>Alvin Joseph J. Tang and Joy Alinda Reyes</i>	
Comparison of Replica Bitline Technique and Chain Delay Technique as Read Timing Control for Low-Power Asynchronous SRAM	245
<i>Christiensen D.C. Arandilla and Joy Alinda R. Madamba</i>	
Author Index	249