2014 4th International Conference on Engineering Technology and Technopreneurship

(ICE2T 2014)

Kuala Lumpur, Malaysia
27-29 August 2014
Information Technology Adoption, possible challenges, and Framework of Supply Chain Management: a Case Study of a Leading Gulf Economy
Habib Ullah Khan (Qatar University & Qatar University, Qatar), Hassan A. Artail (American University of Beirut, Lebanon), Zaki Malik (Wayne state university, USA), Mahmood Niazi (King Fahd University of Petroleum and Mineral, KSA., Saudi Arabia) ......................................................... 1

Role of customer knowledge in developing new products and services
Maziar Irani (Universiti Teknologi Malaysia (UTM), Malaysia), Tan Sri Ir. Dr. Mohd Zulkifli bin Tan Sri Mohd Ghazali (Universiti Teknologi Malaysia (UTM), Malaysia) .............................................................. 6

Issues and Challenges in Implementing Entrepreneurial Students Character Building (SCB) Activities: A Study at UniKL BMI
Norida Kamrudin (UniKL BMI, Malaysia), Sudirman Zainal Abidin (Universiti Kuala Lumpur BMI, Malaysia), Anis Nur Assila Rozmi (Universiti Kuala Lumpur BMI, Malaysia) ........................................... 10

An Overview of Business Simulation System for Malaysian Entrepreneur
Rosilah Hassan (Universiti Kebangsaan Malaysia & UKM, Malaysia), Norgainy Tawil (Universiti Kebangsaan Malaysia (UKM), Malaysia), Norizan Razak (Universiti Kebangsaan Malaysia, Malaysia) .................................................................................. 15

Driving Factors of Purchase Intention Towards Organic Food: A Conceptual Study
Mohamed Basha (Universiti of Kuala Lumpur, UAE) ..................................................................................... 19

Mohd Hazli Mohd Rosli (Universiti Kuala Lumpur, Malaysia), Anis Nur Assila Rozmi (Universiti Kuala Lumpur BMI, Malaysia) ........................................................................................................... 23

Evaluation of Economic Benefits for Market Models in Restructured Electricity Supply Industry (ESI)
Norhafiza Mohamad (Universiti Kuala Lumpur, Malaysia) .............................................................................. 28

Review on Constraint Based Modelling in Intelligent Learning Environment
Rajermani Thinakaran (Nilai University, Malaysia), Rosmah Ali (Universiti Teknologi Malaysia, Malaysia) ................................................................................................................................. 33

Information System Model for the Measurement of Learning Outcome Attainment
Shamsul Anuar Mokhtar (University Kuala Lumpur, Malaysia) ......................................................................... 37

Competency Assessment of Short Free Text Answers
Normaziah Abdul Aziz (International Islamic University Malaysia, Malaysia), Adidah Lajis (University Kuala Lumpur, Malaysia) ............................................................................................................ 41

Day 1 Communication

LTE Higher Layer Performance with 4-NIRA MANET Routing
Farukh Rahman (RMIT University, Australia), Mark A. Gregory (RMIT University, Australia) ................. 46

PHY Layer Performance of Heterogeneous LTE-Advanced Network in 3D Extended Channel Models
Zuhanis Mansor (University of Kuala Lumpur British Malaysian Institute (UniKl-BMI), Malaysia) .......................................................................................................................... 52

Multi-Criteria Load Balancing Decision Algorithm for LTE Network
Nathaniel Salawu (University Technology Malaysia, Malaysia), Sharifah Hafizah Syed Ariffin (Universiti Teknologi Malaysia, Malaysia), Ali Farzamnia (Universiti Teknologi Malaysia, Malaysia), Joshua A. Abolarinwa (Universiti Teknologi Malaysia & FUTMin, Malaysia) .............................................. 57
Performance Evaluation of IPv6 Test-bed Network at UKM
Mohammad Mirwais Yousafzai (Universiti Kebangsaan Malaysia, Malaysia), Rosilah Hassan (Universiti Kebangsaan Malaysia & UKM, Malaysia), Nor Effendy Othman (Universiti Kebangsaan Malaysia, Malaysia), Samer Sami Hasan (University Kebangsaan Malaysia & UKM, Malaysia), Umi Kalthom Ali (Universiti Kebangsaan Malaysia, Malaysia) .................................................. 63

Applying QoS to 4-N Intelligent MANET Routing Algorithm by IPv6 Association
Farukh Rahman (RMIT University, Australia), Mark A. Gregory (RMIT University, Australia) ................... 67

An Evidential Network Forensics Analysis with Metrics for Conviction Evidence
Ahmad Roshidi Amran (Universiti Kuala Lumpur, Malaysia), Amna Saad (Universiti Kuala Lumpur, Malaysia) .............................................................................................................. 73

Bandwidth Efficient Router Design With Introduction of Buffering to Reduce Retransmission Cost of Corrupt Data
Abbad Ur Rehman (Beijing Institute of Technology, P.R. China), Shaheer Hussain (The Islamia University of Bahawalpur, Pakistan), Muhammad Arslan Akbar (The Islamia University of Bahawalpur, Pakistan), Asad Sharif (The Islamia University of Bahawalpur, Pakistan), Muhammad Attique Qamar (Beijing Institute of Technology, P.R. China) ................................................................. 79

Security Threats for IPv6 Transition Strategies: A Review
Amjed Sid Ahmed Mohamed Sid Ahmed (Universiti Kebangsaan Malaysia, Malaysia), Rosilah Hassan (Universiti Kebangsaan Malaysia & UKM, Malaysia), Nor Effendy Othman (Universiti Kebangsaan Malaysia, Malaysia) .......................................................... 83

WLAN Environment for Indoor Localization
Muhammad Fadli Burhan (Universiti Tenaga Nasional & UNITEN, Malaysia), Nagaletchumi Balasubramaniam (Universiti Tenaga Nasional, Malaysia) ................................................................. 89

Statistical Electromagnetic Analysis of PEC Sphere Scattering
Qian Xu (The University of Liverpool, United Kingdom), Yi Huang (University of Liverpool, United Kingdom), Xu Zhu (University of Liverpool, United Kingdom), Lei Xing (University of Liverpool, United Kingdom), Aznida Abu Bakar Sajak (University of Liverpool & University of Kuala Lumpur, United Kingdom) ...................................................................................................................... 94

Day 1 Electrical

An Intelligent Wind Farm Model for Three-phase Unbalanced Power Flow Studies
Chandrabhanu Opathella (Ryerson University, Canada), Daniel Cheng (Ryerson University, Canada), Bala Venkatesh (Ryerson University, Canada) ......................................................................................................................... 99

A Simulation Study on the Airfoils using VAWT Design For Low Wind Speed Application
Pusparini Dewi Abd. Aziz (Universiti Kuala Lumpur & British Malaysian Institute, Malaysia), Ahmad Kairul Ramzi Mohamad (Universiti Kuala Lumpur British Malaysian Institute, Malaysia), Fatimah Zaharah Hamidon (Universiti Kuala Lumpur British Malaysian Institute, Malaysia), Norhafiza Mohamad (Universiti Kuala Lumpur, Malaysia), Najiyah Saleh (Universiti Kuala Lumpur-British Malaysian Institute, Malaysia), Noor Hidayah Mohd Yunus (Technical University, Malaysia) ............................................................................................................................... 105

Power quality improvement of grid connected doubly fed induction generator using STATCOM and BESS
Mohamad Javad Ghorbanian (University of Malaya, Malaysia), Fatemeh Goodarzvand (Department of Electrical Engineering, Malaysia), Ali Reza Pourdaryaei (University of Malaya, Malaysia), Wan Nor Liza Wan Mahadi (University of Malaya, Malaysia) .............................................................................................................................. 110

Solar Water Pumping Optimization for Domestic Use in Kota Bharu, East Coast of Peninsular Malaysia
Wan Mustafa Wan Sulong (Universiti Kuala Lumpur Malaysia France Institute, Malaysia), Mohd Fairus Bin Humar (Universiti Kuala Lumpur, Malaysia), Kairul Parman Zakaria (Universiti Kuala Lumpur, Malaysia), Hisham Hamid (Universiti Kuala Lumpur Malaysia France Institute, Malaysia) .................................................................................................................. 116

Techno-Economical Feasibility Study of UniKL MICET Lighting Fixture Energy Saving By Using Motion Sensor
Abdul Hakim Abu Bakar (Universiti Kuala Lumpur, Malaysia) ........................................................................... 121
Day 2 Application of Engineering Technology

**Community Energy Storage, a Critical Element in Smart Grid: A Review of Technology, Prospect, Challenges and Opportunity**
Junainah Sardi (Universiti Teknikal Malaysia Melaka, Malaysia), Mithulan Nadarajah (University of Queensland, Australia) .......................................................... 125

**Mitigating Voltage Sag by Implementing STATCOM on DFIG-based Wind Farms Connected to a Power System**
Mohamad Javad Ghorbanian (University of Malaya, Malaysia), Fatemeh Goodarzvand (Department of Electrical Engineering, Malaysia), Alireza Pourdaryaei (University of Malaya, Malaysia), Wan Nor Liza Wan Mahadi (University of Malaya, Malaysia) .......................................................... 131

**Dual Control Direct Digital Synthesizer (DCDDS) For Electronic Testing and Experimental Work**
Nurul Amziah Md Yunus (Universiti Putra Malaysia, Malaysia), Nasri Sulaiman (Universiti Putra Malaysia, Malaysia), Noor Ain Kamsani (Universiti Putra Malaysia, Malaysia), Seaw Wei Tan (Universiti Putra Malaysia, Malaysia) .......................................................... 137

**Aligned-Gap Multiple Split Ring Resonator for Dielectric Sensing Application**
Izyani Mat Rusni (Universiti Putra Malaysia, Malaysia), Alyani Ismail (Universiti Putra Malaysia, Malaysia), Adam Reda Hasan Alhawari (Universiti Putra Malaysia, Malaysia), Mohd Nizar Hamidon (Universiti Putra Malaysia, Malaysia), Nor Azah Yusof (Universiti Putra Malaysia, Malaysia) .......................................................... 143

**Using a Biometric System to Control Access and Exit of Vehicles at Shopping Malls in South Africa**
Robert Hans (Tshwane University of Technology, South Africa) .......................................................... 148

**ZigBee Environment for Indoor Localization**
Muhammad Fadli Burhan (Universiti Tenaga Nasional & UNITEN, Malaysia), Nagaletchumi Balasubramaniam (Universiti Tenaga Nasional, Malaysia) .......................................................... 152

**Multiple Pulse K-Nearest Neighbors Authentication for Malay ECG Based Class Attendance System**
Sairul Safie (Universiti Kuala Lumpur, Malaysia), Mohd Ismail Yusof (Universiti Kuala Lumpur, Malaysia), Haidawati Nasir (Universiti Kuala Lumpur, Malaysia), Kushsairy Kadir (Universiti Kuala Lumpur British Malaysian Institute, Malaysia) .......................................................... 156

**Wheat Yield Prediction: Artificial Neural Network based Approach**
Muhd Abdul Kadir (UniKL BMI, Malaysia), Mohd Ayob (Universiti Kuala Lumpur & University of York, Malaysia), Nadaraj Miniappan (UniKL BMI, Malaysia) .......................................................... 161

**Integration of Principal Component Analysis and Neural Classifier for Fault Detection and Diagnosis of Tennessee Eastman Process**
Mostafa Noruzi Nashalji (Islamic Azad University & Young Research Club, Iran), Seyedamin Arvand (KTH Royal Institute of Technology, Sweden), Mohammad Norouzifard (Islamic Azad University, Parand Branch, Iran) .......................................................... 166

**Air Contaminants Monitoring of Carbon Monoxide and Hydrogen using Standalone Microcontroller Based System for Passive Smoker**
Mohamed Kamarul Zaman Mohamed Zaiedi (Universiti Kuala Lumpur & Malaysia Institute of Information Technology, Malaysia) .......................................................... 171

**An Instance Based Schema Matching Between Opaque Database Schemas**
Sameer Munir, Munir (The University of Faisalabad, Pakistan), Muhammad Riaz (Blekinge Institute of Information Technology, Sweden), Faraz Khan (The University of Faisalabad, Pakistan) .......................................................... 177

**Influence of the chemical composition of Polyurethane block on the surface roughness in machining**
Louis Denis Kevin Catherine (Universiti Kuala Lumpur IPROM, Malaysia), Mohd Yazid (Lecturer in Unikl iprom, Malaysia) .......................................................... 183

**Fatigue Life Assessment and Enhancement on Welded Structure: Review on Assessment Methods withCase Study and Recent Technology**
Dahia Andud (UNiKL MFI, Malaysia) .......................................................... 189
Day 2 Communication

A Comparison of the Effect of Substrate on the Performance of THz Antenna
Aznida Abu Bakar Sajak (University of Liverpool & University of Kuala Lumpur, United Kingdom), Rula Alrawashdeh (The University of Liverpool, United Kingdom), Lei Xing (University of Liverpool, United Kingdom), Saqer S. Alja'afreh (University of Liverpool, United Kingdom), Yaochun Shen (University of Liverpool, United Kingdom) .......................................................... 195

Evaluation of Slot Patch Unit Cell for Discrete Lens Antenna Applications
Abdisamad Ali Awaleh (University Tun Hussein Onn Malaysia, Malaysia), Samsul Haimi Dahlan (Universiti Tun Hussien Onn Malaysia, Malaysia) .................................................................................................................. 199

Integration of Split Ring Resonators (SRRs) to UHF RFID Tag Antenna for Size Reduction
Nor Hidayah Daud (University Putra Malaysia, Malaysia) .................................................................................................................. 204

A Singly-Fed Wideband Circularly Polarized Cylindrical Dielectric Resonator Antenna Using Conformal Half-Loop Excitation
Mohamad Ismail Sulaiman (Universiti Kuala Lumpur & British Malaysian Institute, Malaysia), Hafiz Basarudin (University Kuala Lumpur British Malaysian Institute, Malaysia) .......................................................... 209

RFID and ZigBee Integrated Environment for Indoor Localization
Muhammad Fadi Burhan (Universiti Tenaga Nasional & UNITEN, Malaysia), Nagalechumi Balasubramaniam (Universiti Tenaga Nasional, Malaysia) .................................................................................................................. 213

Preliminary study of EUMETSAT’s Multi-Sensor Precipitation Estimate product for microwave links in Malaysia
Hafiz Basarudin (University Kuala Lumpur British Malaysian Institute, Malaysia), Tengku Azita Tengku Azita (Universiti Kuala Lumpur British Malaysian Institute, Malaysia), Mohamad Ismail Sulaiman (Universiti Kuala Lumpur & British Malaysian Institute, Malaysia), Abdul Halim Ali (Universiti Kuala Lumpur - International College & Wireless Research Lab, Malaysia) .......................................................... 218

Effect of Rain Induced Scintillation on Ku-Band Satellite Link in Tropical Region
Hassan Dao (Universiti Kuala Lumpur, Malaysia), Md Rafiqul Islam (International Islamic University Malaysia, Malaysia), Megat Farez Azril Zuhairi (Universiti Kuala Lumpur & Universiti Kuala Lumpur, Malaysia), Megat Norulazmi Megat Mohamed Noor (Universiti Kuala Lumpur, Malaysia), Sayed Aziz Sayed Hussin (Universiti Kuala Lumpur, Malaysia) .......................................................... 222

IGMP Behaviour in Multicast over Satellite
Sameer Munir, Munir (The University of Faisalabad, Pakistan), Faraz Khan (The University of Faisalabad, Pakistan) .................................................................................................................. 226

Performance Analysis of Rayleigh fading channels in GI-Less OFDM System using QAM modulations
Mohd Zain Ismail (Universiti Kuala Lumpur British Malaysian Institute, Malaysia) .......................................................... 231

Day 2 Electrical

Switched-Capacitor DC-DC Boost Converter of Variable Output Voltage
Ahmed Rasheed (The University of Faisalabad, Faisalabad & Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Pakistan) .................................................................................................................. 235

Fault Tree Analysis in UPS Reliability Estimation
Mohd Rahmat (University of Kuala Lumpur & British Malaysian Institute, Malaysia) .................................................................................................................. 240

GSM Wireless Datalogger of Small Hydro Power Generation System
Mohd Fairus Bin Humar (Universiti Kuala Lumpur, Malaysia), Engku Ahmad Azrulhisham (Universiti Kuala Lumpur, Malaysia), Khaiful Hamzani (UnikL MFI, Malaysia), Wan Mustafa Wan Sulong (Universiti Kuala Lumpur Malaysia France Institute, Malaysia), Samizee Abdullah (Universiti Kuala Lumpur, Malaysia), Mohd Juhari Mat Basri (Universiti Kuala Lumpur, Malaysia), Mohd Akram Dandu, Dandu (University of Kuala Lumpur & British Malaysian Institute, Malaysia) .................................................................................................................. 246
Prototype Development of Brown Planthopper (BPH) Detector and Data Logger
Mohd Ayob (Universiti Kuala Lumpur & University of York, Malaysia), Abdul Halim Abdul Rahman (Universiti Kuala Lumpur, Malaysia), Muhd Khairulzaman Abdul Kadir (University of Warwick, United Kingdom), Nur Husna Izzati Hashim (Universiti Kuala Lumpur British Malaysian Institute, Malaysia), Noorsahida Saleha Sahlan (UniKL BMI, Malaysia), Mohd Desa Haji Hassim (Ministry of Agriculture Malaysia & IADA Barat Laut Selangor, Malaysia) ........................................ 252

Fuzzy Logic Controller for Shunt Active Power Filter
Azuki Abdul Salam (Universiti Kuala Lumpur British Malaysian Institute, Malaysia), Nik Azran Ab Hadi (Universiti Teknikal Malaysia, Melaka Malaysia, Malaysia), Ismail Adam (University Kuala Lumpur British Malaysian Institute, Malaysia) ............................................................................. 256

Discrete Time Optimum Power Flow Simulation of 118 IEEE Test Bus with Intermittent Generation
Saharuddin Bin Othman Othman (UniKL BMI, Malaysia) ................................................................. 260

Design of Single Phase to Three Phase Static Power Converter
Fatimah Zaharah Hamidon (Universiti Kuala Lumpur British Malaysian Institute, Malaysia), Imran Hanif Mohd Ali (Universiti Kuala Lumpur British Malaysian Institute, Malaysia), Mohd Nurfaizad Khadari (Universiti Kuala Lumpur British Malaysian Institute, Malaysia), Pusparini Dewi Abd Aziz (Universiti Kuala Lumpur British Malaysian Institute, Malaysia), Noor Hidayah Mohd Yunus (Universiti Kuala Lumpur BMI, Malaysia) ................................................................................................. 266

Emulation of Petri Net Controller with Programmable Logic Controller in Industrial Process Plant
Mohamad Shaiful Osman (Universiti Kuala Lumpur, Malaysia) .......................................................... 272

Analysis of Voltage Stability Problems in Power System
Noor Ropidah Bujal (University of Technical Malaysia & Merlimau Melaka Polytechnic Malaysia, Malaysia), Amilia Hasan (Universiti Technical Malaysia Malacca & Polytechnic Merlimau, Malacca, Malaysia), Marizan Sulaiman (Supervisor, Malaysia) ................................................................. 278

Day 3 Biomedical

Design of an Artificial Arm with Hand Gripper for Telemedicine System
Nurul Fazlin Roslan (UNIKL BRITISH MALAYSIAN INSTITUTE, Malaysia), Abdul Malik Mohd Ali (Universiti Kuala Lumpur-British Malaysian Institute, Malaysia), Suhairi Rizuan Che Ahmad (Universiti Kuala Lumpur-British Malaysia Institute, Malaysia) .......................................................................................................................... 284

Analysis of Droplet Mixing and Splitting Operations by a Low Actuation Voltage Electrowetting-on-dielectric Device
Mst Fateha Samad (Deakin University, Australia), Abbas Z. Kouzani (Deakin University, Australia), Md Kamal Hosain (Deakin University, Australia), Kevin Magniez (Deakin University, Australia), Md Saiful Islam (Deakin University, Australia), Akif Kaynak (Deakin University, Australia), Subrat Das (Deakin University, Australia), Mohd Alam (Deakin University, Australia), Amir Moghadam (Deakin University, Australia) .......................................................................................................................... 289

Virtual Reality-based Technique for Stress Therapy
Imran Mahaili (Universiti Tenaga Nasional & Uniten, Malaysia), Mohd E Haznee Rusli (Universiti Tenaga Nasional, Malaysia), Mohd Zaliman Mohd Yusoff (Universiti Tenaga Nasional, Malaysia), Azmi Mohd Yusof (College of Information Technology, Universiti Tenaga Nasiaonal, Malaysia), Ahmad Zainudin (College of Information Technology, Universiti Tenaga Nasiaonal, Malaysia) ............................................................................................................. 295

Segmentation of Heart Sound Signals into Cycles based on Peak Intervals Pattern
Mohd Zubir Suboh (Universiti Kuala Lumpur, Malaysia), Muhny Yaakop (Universiti Kuala Lumpur, Malaysia), Mohd Syazwan Md Yid (Universiti Kuala Lumpur, Malaysia), Mohammad Hendra Che Morad (Universiti Kuala Lumpur, Malaysia) .......................................................................... 301

Development of Artificial hand Gripper by using Flex Force Sensor
Mohammad Miqdad Abdul Aziz (Universiti Kuala Lumpur, Malaysia), Suhairi Rizuan Che Ahmad (Universiti Kuala Lumpur-British Malaysia Institute, Malaysia), Pusparini Dewi Abd Aziz (Universiti Kuala Lumpur British Malaysian Institute Malaysia, Malaysia), Nurul Fazlin Roslan (UNIKL BRITISH MALAYSIAN INSTITUTE, Malaysia), Abdul Malik Mohd Ali (Universiti Kuala Lumpur-British Malaysian Institute, Malaysia) ................................................................................. 305
Day 3 Electronics

Designing of a Control Scheme for the Solar Rickshaw in Comparative Study with Conventional Auto Rickshaw
   Bilal Masood (Superior University, Lahore, Pakistan), Rao Asif (Superior University, Pakistan), Rizwan Superior University (Naqvi, Pakistan) ................................................................. 324

An Active Power Filter With 5-Level NPC Inverter
   Mahadzir Abdul Ghani (Universiti Kuala Lumpur, Malaysia) ................................................................. 330

A Comparative Study between LBP and Haar-like features for Face Detection Using OpenCV
   MohdKhairi Kamaruddin (Universiti Kuala Lumpur & British Malaysian Institute, Malaysia) ........... 335

Adaptive Fuzzy Logic Traffic Light Management System
   Muhyi Yaakop (Universiti Kuala Lumpur, Malaysia) .................................................................................. 340

High Level Modeling Of Physical Layer Noise Parameters Using SystemC
   Sundaresan Chidambaram (Manipal University, India), Vishnu Satya Chaitanya (Manipal University, India) ................................................................. 344

Web Based Graphic User Interface (W-GUI) through C# Platform for Environment Data Management System
   Mohd Amir Abas (Universiti Kuala Lumpur, Malaysia) ............................................................................... 348

Maximum Power Point Tracking using Hybrid Perturb & Observe and Incremental Conductance Techniques
   Muhammad Shahzad Siddique (Superior University, Pakistan), Bilal Masood (Superior University, Lahore, Pakistan), Rao Asif (SUPRIOR UNIVERSITY, Pakistan), Muhammad Zia Ul Haq (Superior University, Pakistan) ............................................................................... 354