

# **8th International Conference on Mechanical and Manufacturing Engineering 2017 (ICME'17)**

MATEC Web of Conferences Volume 135 (2017)

Langkawi, Malaysia  
22 - 23 July 2017

## **Editors:**

**M.N. Nik Hisyamudin  
K. Amir  
I. Al Emran  
I. Mohd Rasidi  
M.B. Mohd Faizal**

**Md J. Mohd Azlis Sani  
T.A. Ahmad Mubarak  
Z. Izzuddin  
M. Sofian**

ISBN: 978-1-5108-5206-8

**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 license:  
<http://creativecommons.org/licenses/by/2.0/>

**You are free to:**

**Share** – copy and redistribute the material in any medium or format.

**Adapt** – remix, transform, and build upon the material for any purpose, even commercial.

The licensor cannot revoke these freedoms as long as you follow the license terms.

**Under the following terms:**

You must give appropriate credit, provide a link to the license, and indicate if changes were made.

You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. The copyright is retained by the corresponding authors.

Printed by Curran Associates, Inc. (2017)

For additional information, please contact EDP Sciences – Web of Conferences  
at the address below.

EDP Sciences – Web of Conferences  
17, Avenue du Hoggar  
Parc d'Activité de Courtabœuf  
BP 112  
F-91944 Les Ulis Cedex A  
France

Phone: +33 (0) 1 69 18 75 75

Fax: +33 (0) 1 69 28 84 91

[contact-edps@webofconferences.org](mailto:contact-edps@webofconferences.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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

<b>COMBINED-HOLE FILM COOLING WITH THE APPLICATION OF DOUBLE FLOW CONTROL DEVICES</b> .....	1
<i>Hassan Haswira, Abdullah Kamil</i>	
<b>AN INVESTIGATION OF VISCOSITIES, CALORIFIC VALUES AND DENSITIES OF BINARY BIOFUEL BLENDS</b> .....	10
<i>Che Mat Sharzali, Idroas M. Y., Teoh Y. H., Hamid M. F.</i>	
<b>PHYSICAL CHARACTERIZATION OF PALM FATTY ACID DISTILLATE (PFAD) BLENDS AS BIOFUEL</b> .....	18
<i>Mantari M.H.A.R., Hassim H.M., Rahman R.A., Zin A.F.M., Mohamad M.A.H., Asmuin N.</i>	
<b>NUMERICAL STUDY ON SELF-CLEANING CANISTER FILTER WITH ADD-ON FILTER CAP</b> .....	25
<i>Mohammed Akmal Nizam, Sahrudin Mohd Sahrizan, Zolkhaely Mohd Hafiz, Sapit Azwan, Abdullah Mohd Kamil, Md Seri Suzairin, Taib Ishkrizat, Nordin Normayati</i>	
<b>HYBRID MICRO-HYDRO POWER GENERATION DEVELOPMENT IN ENDAU ROMPIN NATIONAL PARK JOHOR, MALAYSIA</b> .....	31
<i>Yusop Azli, Yahaya Izat, Kadis Ghazali, Ishak Maizul, Abdullah Mohd Sufyan, Razak Mohd Fadly, Sidek Azmi, Abdul Rahman Ismail</i>	
<b>DETACHED-EDDY SIMULATION OF TRAILING-EDGE (TE) CUTBACK TURBINE BLADE COOLING</b> .....	40
<i>Effendy Marwan, Yao Yufeng, Marchant Denis R.</i>	
<b>CHARACTERIZATION OF BOTTOM AND FLY ASHES GENERATED CO-INCINERATION OF BIOMASS WITH AUTOMOTIVE SHREDDER RESIDUE</b> .....	53
<i>Othaman Muhamad Fazli, Sabudin Sulastrri, Mohideen Mohd Faizal</i>	
<b>SPRAY AND COMBUSTION CHARACTERISTICS OF A NOVEL MULTI-CIRCULAR JET PLATE IN AIR-ASSISTED ATOMIZER</b> .....	62
<i>Hisham Amirnordin Shahrin, Khalid Amir, Igram Patrick David, Faizal Mohideen Batcha Mohd, Fawzi Mohd Ali Mas</i>	
<b>FEASIBILITY STUDY ON PRODUCTION OF METAL MATRIX COMPOSITE (MMC) MATERIAL FOR ELECTRICAL DISCHARGE MACHINING (EDM) TOOLS USING RAPID PROTOTYPING (RP) TECHNIQUE</b> .....	70
<i>Shamsudin S., Lajis M. A.</i>	
<b>FLAME SPREAD BEHAVIOUR OVER COMBUSTIBLE SOLID OF PAPER, BAGASSE AND PAPER/BAGASSE</b> .....	80
<i>Ramli Afifah, Razali Mohd Azahari, Sapit Azwan, Hushim Mohd Faisal, Nordin Normayati, Khalid Amir, Mohammad Md Nor Anuar</i>	
<b>SOLID-STATE RECYCLING OF LIGHT METAL REINFORCED INCLUSIONS BY EQUAL CHANNEL ANGULAR PRESSING: A REVIEW</b> .....	88
<i>Al-Alimi Sami., Lajis M. A., Shamsudin S.</i>	
<b>IMPROVEMENT OF SOLID-GAS INTERACTION IN FLUIDIZED BED SYSTEMS VIA SECONDARY AIR- INJECTION</b> .....	98
<i>Mohideen Batcha Mohd Faizal, Sabudin Sulastrri, Zakaria Jamal Hazri</i>	
<b>PERFORMANCE MEASUREMENT OF A NEW CONCEPT RECIPROCATING PISTON EXPANDER (RPE) USING A NEWLY DEVELOPED SMALL-SCALE DYNAMOMETER UNIT</b> .....	105
<i>Mohamad MNA, Hushim MF, Muhammad WNAW, Razali A, Khalid A, Zakaria MF</i>	
<b>PRELIMINARY INVESTIGATION OF PARAMETRIC OPTIMIZATION ON TURNING PROCESS USING UVAT TOOL HOLDER BASED ON TAGUCHI METHOD</b> .....	114
<i>Rachmat Haris, Ibrahim Mohd Rasidi, Hasan Sulaiman</i>	
<b>DESIGNING TRAIN PASSENGER SEAT BY KANSEI ENGINEERING IN INDONESIA</b> .....	124
<i>Hapsari Sakya Nabila, Sjafrizal Teddy, Anugraha Rino Andias</i>	
<b>DESIGN AND DEVELOPMENT OF A PORTABLE METAL CHIP BALER USING A SYSTEM DESIGN APPROACH</b> .....	137
<i>Hassan Mohd Fahrul, Afham Mohd Faiz, Tajul Arifin Ahmad Mubarak, Ismail Al Emran, Ibrahim Mohd Rasidi, Rahim Mohammad Zulafiff, Ahmad Md Fauzi</i>	
<b>SHAPE OPTIMIZATION OF HIGH-SPEED RAIL BY BIOMIMETIC</b> .....	146
<i>Foo Chin Toong, Omar Badrul, Taib Ishkrizat</i>	

<b>REVIEW ON DESIGN FOR MEDICAL DEVICE</b> .....	159
<i>Azman Naqibah, Muhd Nor Nik Hisyamudin, Hassan Mohd Fahrul, Jamian Saifulnizan, Abd Rashid Muhammad Hanif, Omar Badrul, Mohd Muji Siti Zarina, Mohamad Fariza, Ahmad Mohd Fauzi, Turan Faiz Mohd, Bakar Elmi Abu</i>	
<b>AN ANALYSIS OF IRON FLUX BRIDGES TOPOLOGIES FOR 12SLOT-14POLE HE-FSM</b> .....	169
<i>Rahimi Siti Khalidah, Ahmad Md. Zarafi, Sulaiman Erwan, Othman S.M.N.S.</i>	
<b>COMBINATION OF SKID CONTROL AND DIRECT YAW MOMENT CONTROL TO IMPROVE THE SAFETY AND STABILITY OF THE SMALL ELECTRIC VEHICLE WITH TWO IN-WHEEL MOTORS</b> .....	177
<i>Heerwan P.M., Ashraf S.M., Ishak M.I.</i>	
<b>A REVIEW ON METHODS FOR ASSESSING RISK FACTORS OF THE UPPER LIMB DISORDERS AMONG CASHIERS IN GROCERY RETAIL INDUSTRIES</b> .....	189
<i>Ahmad Zuhaidi Muhammad Fareez, Abdol Rahman Mohd Nasrull</i>	
<b>INTER-RATER RELIABILITY OF THE NEW OBSERVATIONAL METHOD FOR ASSESSING AN EXPOSURE TO RISK FACTORS RELATED TO WORK-RELATED MUSCULOSKELETAL DISORDERS (WMSDS)</b> .....	196
<i>Rahman Mohd Nasrull Abdol, Aziana Abdul Rahman Syahrul, Ismail Al Emran, Sadikin Azmahani</i>	
<b>FEEDBACK SURVEY ON THE USABILITY OF THE OFFERA METHOD FOR ASSESSING AN EXPOSURE RISKS OF COMPUTER WORK RELATED TO WMSDS</b> .....	204
<i>Rahman Mohd Nasrull Abdol, Mohamad Siti Shafika, Md Salleh Salihatun, Mahzan Shahrudin, Ahmad Sufizar</i>	
<b>THE BALANCE IMPROVEMENT OF FINAL ASSEMBLY WATER PUMP BUSINESS UNIT TRACKS SECTION : CASE STUDY</b> .....	216
<i>Siregar Ikhsan, Margaretha Gretty, Hamonangan Nasution Tigor, Andayani Ulfi</i>	
<b>FACTORS TO CONSIDER IN SELECTING AN ORGANISATIONAL IMPROVEMENT INITIATIVE: SURVEY RESULTS</b> .....	226
<i>Mohammad Musli, Ali Hussein Maher, Shahir Yahya Mohd</i>	
<b>IMPLEMENTATION OF TOTAL PRODUCTIVE MAINTENANCE (TPM) TO IMPROVE SHEETER MACHINE PERFORMANCE</b> .....	233
<i>Candra Nofri Eka, Susilawati Anita, Herisiswanto, Setiady Wahyu</i>	
<b>USABILITY OF THE UPPER LIMB RISK ASSESSMENT (UPLIRA) METHOD FOR ASSESSING THE RISK FACTORS OF UPPER LIMB DISORDERS</b> .....	244
<i>Abd Razak Noor Syafiq, Abdol Rahman Mohd Nasrull</i>	
<b>REVIEW ON ITEM SELECTION FOR DEVELOPMENT OF THE SELF-REPORTED QUESTIONNAIRE RELATED TO LOWER BACK DISORDERS AT WORKPLACE</b> .....	255
<i>Jaffar Nur Atifah, Abdol Rahman Mohd Nasrull</i>	
<b>SAFETY CULTURE AND ISSUE IN THE MALAYSIAN MANUFACTURING SECTOR</b> .....	264
<i>Ali Danish, Yusof Yusri, Adam Anbia</i>	
<b>VALUE STREAM MAPPING TO IMPROVE WORKPLACE TO SUPPORT LEAN ENVIRONMENT</b> .....	274
<i>Ahmad Ahmad Nur Aizat, Lee Te Chuan, Ramlan Rohaizan, Ahmad Md. Fauzi, Husin Noraffah, Abdul Rahim Mustaqim</i>	
<b>A NOVEL APPROACH FOR AUTOMATIC MACHINING FEATURE RECOGNITION WITH EDGE BLEND FEATURE</b> .....	285
<i>Keong Chen Wong, Yusof Yusri</i>	
<b>THE DISPOSITIONAL ATTRIBUTION OF CUSTOMER SATISFACTION THROUGH THE JUXTAPosition OF QFD AAND SERVQUAL IN SERVICE INDUSTRY DESIGN</b> .....	291
<i>Mohamed Sahari Khairul Salleh, Hasini Hasril, Megat Hamdan A.M., Syahmi A.Z</i>	
<b>EVALUATION OF BUSINESS EXCELLENCE AMONG HALAL CERTIFIED FOOD MANUFACTURERS IN MALAYSIA</b> .....	302
<i>Masrom Nor Ratna binti, Mohd Rasi Raja Zuraidah binti Raja, Daut Badru At Tamam bin</i>	
<b>DIRECT INVESTMENT CASTING FOR PATTERN DEVELOPED BY DESKTOP 3D PRINTER</b> .....	308
<i>Marwah O.M.F., Shukri M.S., Mohamad E.J., Johar M.A., Haq R.H.A., Khirudin R.K.</i>	
<b>EVALUATION OF INJECTION MOLDING PROCESS PARAMETERS FOR MANUFACTURING POLYETHYLENE TEREPHTHALATE</b> .....	316
<i>Marwah O.M.F., Darsani A., Johar M.A., Rosden A.A., Mohamad E.J., Shaari M.F., Haq R.H.A., Amin A.M.</i>	
<b>GREEN DENSITY OPTIMIZATION OF STAINLESS STEEL POWDER VIA METAL INJECTION MOLDING BY TAGUCHI METHOD</b> .....	326
<i>Amin AM, Ibrahim MHI, Hashim MY, Marwah OMF, Othman MH, Johar Muhammad Akmal, Ng CH</i>	
<b>EFFECT OF WELDING SPEED ON MICROSTRUCTURE AND MECHANICAL PROPERTIES DUE TO THE DEPOSITION OF REINFORCEMENTS ON FRICTION STIR WELDED DISSIMILAR ALUMINIUM ALLOYS</b> .....	337
<i>Baridula Ravinder Reddy, Faizal Bin Yahya Che Ku Mohammad, Ramaraju Ramgopal Varma, Ibrahim Abdullah Bin</i>	

<b>DESIGNING HALAL SUPPLY CHAIN: MALAYSIA'S HALAL INDUSTRY SCENARIOS</b> .....	348
<i>Rasi Raja Zuraidah, Masrom Nor Ratna, Omar Siti Sarah, Ahmad Md Fauzi, Sham Rohana</i>	
<b>THE IMPACT OF BUSINESS EXCELLENCE ON OPERATIONAL PERFORMANCE AMONG HALAL CERTIFIED FOOD MANUFACTURERS IN MALAYSIA</b> .....	357
<i>Masrom Nor Ratna, Raja Mohd Rasi Raja Zuraidah, Daut Badru At Tamam</i>	
<b>EFFECT OF EXTRACTION PROCESS AND SURFACE TREATMENT ON THE MECHANICAL PROPERTIES IN PINEAPPLE LEAF FIBRE</b> .....	368
<i>Ariffin Azrie, Yusof Yusri</i>	
<b>NATURAL PINEAPPLE LEAF FIBRE EXTRACTION ON JOSAPINE AND MORRIS</b> .....	374
<i>Mazalan Muhammad Firdaus, Yusof Yusri</i>	
<b>THE RELATIONSHIP BETWEEN TQM PRACTICES WITH TQM TOOLS AND TECHNIQUES IN SMALL AND MEDIUM ENTERPRISE (SMES)</b> .....	380
<i>Ahmad Md Fauzi, Chan Siew Yin Jessica, Shiau Wei Chan, Abdul Rahman Nor Aida, Muhd Nor Nik Hisyamudin, Hassan Mohd Fahrul, Hashim Fatan Adibah</i>	
<b>CONTINUOUS IMPROVEMENT AND ITS BARRIERS IN ELECTRICAL AND ELECTRONIC INDUSTRY</b> .....	388
<i>Ahmad Md Fauzi, Yan Toh Li, Wei Chan Shiau, Aizat Ahmad Nur, Raja Mohd Rasi Raja Zuraidah, Abdul Rahman Nor Aida, Muhd Nor Nik Hisyamudin, Hassan Mohd Fahrul, Hashim Fatan Adibah</i>	
<b>MUSCULAR ACTIVITIES MEASUREMENTS OF FORWARD LEAN AND UPRIGHT SITTING MOTORCYCLING POSTURES VIA SURFACE ELECTROMYOGRAPHY (SEMG)</b> .....	394
<i>Ma'arof Muhammad Izzat Nor, Omar Abdul Rahman, Haron Rohani, Husain Hazran, Wahab Muhammad Abdul</i>	
<b>PRINTING AND CURING OF CONDUCTIVE INK TRACK ON FABRIC USING SYRINGE DEPOSITION SYSTEM WITH DLP PROJECTOR AND HOT PLATE</b> .....	408
<i>Khierodin Rd. Khairilhijra, Mohamad Zainuri Mohamad Izwan Saifudin, Ishak Afiqah Izzati, Hassan Nurhafizzah, Kamarudin Khairu, Ibrahim Mohd. Rasidi, Haq Reazul Haq Abdul, Ibrahim Mustafa, Sau'de Nasuha, Faizan Marwah Omar Mohd.</i>	
<b>MICROSTRUCTURE AND WEAR BEHAVIOR OF FRICTION STIR PROCESSED CAST HYPEREUTECTIC ALUMINUM SILICON</b> .....	419
<i>Ahmad Rosli, Sani Abdulmalik Samir, Yusuf Usman Ojonimi, Bashir Danjuma Sufyanu</i>	
<b>UNDERSTANDING FACTORS OF DISTRACTION AMONG INTRASTATE BUS DRIVER</b> .....	427
<i>Yunos Muhammad Nur Annuar Mohd, Azlis-Sani Jalil, Ngali Mohd Zamani Bin, Mohammad Musli, Aazizi Mohd Saiful Izwan, Ismail S.M. Sabri S.M.</i>	
<b>THE HYBRID LEAN SYSTEM TO IMPROVE MANUFACTURING ENVIRONMENT</b> .....	434
<i>Ahmad Ahmad Nur Aizat, Lee Te Chuan, Ramlan Rohaizan, Ahmad Md. Fauzi, Husin Norafifah, Abdul Rahim Mustaqqim</i>	
<b>INVESTIGATING THE ASSOCIATIONS BETWEEN MUSCULOSKELETAL DISCOMFORTS AND PERCEIVED STRESS AMONG PRODUCTION OPERATORS</b> .....	450
<i>Abdullah Nor Hazana, Abdul Hamid Nor Aziati, Wahab Eta, Shamsuddin Alina</i>	
<b>OPTIMIZING WOVEN CURTAIN FABRIC DEFECT CLASSIFICATION USING IMAGE PROCESSING WITH ARTIFICIAL NEURAL NETWORK METHOD AT PT BUANA INTAN GEMILANG</b> .....	460
<i>Shadika, Mulyana Tatang, Rendra Meldi</i>	
<b>DESIGN OF AUTOMATION SYSTEM FOR CERAMIC SURFACE QUALITY CONTROL USING FUZZY LOGIC METHOD AT BALAI BESAR KERAMIK (BBK)</b> .....	469
<i>Prahas Putri Anggie, Rachmat Haris, Eka Atmaja Denny Sukma</i>	
<b>COST OPTIMIZATION ON ENERGY CONSUMPTION OF PUNCHING MACHINE BASED ON GREEN MANUFACTURING METHOD AT PT BUANA INTAN GEMILANG</b> .....	486
<i>Prillia Ayudia, Rachmat Haris, Mulyana Tatang</i>	
<b>FLEXIBILITY IMPROVEMENT ON ENERGY CONSUMPTION OF PUNCHING MACHINE BASED ON GREEN MANUFACTURING METHOD AT PT BUANA INTAN GEMILANG</b> .....	498
<i>Mawaddah Firda, Rachmat Haris, Mulyana Tatang</i>	
<b>INVENTORY POLICY DETERMINATION FOR RAW MATERIALS IN ILY PHARMACEUTICAL USING PERIODIC REVIEW (R, S, S) AND PERIODIC REVIEW (R, S) METHOD TO MINIMIZE TOTAL INVENTORY COST</b> .....	507
<i>Mely Permatasari Puteri, Yanuar Ridwan Ari, Santosa Budi</i>	
<b>ISSUE IN INFORMATION SHARING OF HALAL FOOD SUPPLY CHAIN</b> .....	514
<i>Masrom Nor Ratna, Rasi Raja Zuraidah, Daut Badru At Tamam</i>	
<b>ARTEFACTS REMOVAL OF EEG SIGNALS WITH WAVELET DENOISING</b> .....	523
<i>Turnip Arjon, Pardede Jasman</i>	
<b>PERFORMANCE OF DUAL DEPTH CAMERA MOTION CAPTURE SYSTEM FOR ATHLETES' BIOMECHANICS ANALYSIS</b> .....	533
<i>An Wee Chang, Ngali Mohd Zamani, Kaharuddin Zulhilmi, Khairu Razak Siti Badriah</i>	

<b>CORRELATION OF LOADED AND UNLOADED FOOT AREA WITH ARCH INDEX IN YOUNGER FLATFOOT</b> .....	547
<i>Wibowo Dwi Basuki, Haryadi Gunawan Dwi, Widodo Achmad, Rahayu Sri Puji</i>	
<b>PNEUMATIC MUSCLES ACTUATED LOWER-LIMB ORTHOSIS MODEL VERIFICATION WITH ACTUAL HUMAN MUSCLE ACTIVATION PATTERNS</b> .....	558
<i>Dzahir M.A.M, Nor N.S.M, Azaman A., Hussein M., Dzahir M.A. Mat</i>	
<b>FABRICATION OF POROUS STAINLESS STEEL 316L FOR BIOMEDICAL APPLICATIONS</b> .....	567
<i>Noor F. Mat, Jamaludin K. R., Ahmad S.</i>	
<b>THE EFFECTS OF SINTERING TEMPERATURE ON DENSIFICATION AND MECHANICAL PROPERTIES OF HYDROXYAPATITE/SODIUM ALGINATE BIOCOSMETICS</b> .....	574
<i>Kanasan Nanthini, Adzila Sharifah, Mustaffa Nor Azimah, Sidi Sabriy Mad, Rahman Mohd Nasrull Abdol, Nasir N. F., Gurubaran P.</i>	
<b>POWDER CHARACTERIZATION OF CALCIUM PHOSPHATE/COLLAGEN FOR BONE IMPLANT APPLICATION</b> .....	582
<i>Mustaffa Nor Azimah, Adzila Sharifah, Kanasan Nanthini, Nordin Normayati</i>	
<b>ANTAGONISTIC MONO- AND BI-ARTICULAR LOWER-LIMB MUSCLE ACTIVITIES' MODEL CHARACTERIZATION AT DIFFERENT SPEEDS</b> .....	591
<i>Dzahir M.A.M, Nor N.S.M, Azaman A., Hussein M., Mat Dzahir M.A.</i>	
<b>COMPARATIVE STUDY OF MACHINE LEARNING APPROACH ON MALAY TRANSLATED HADITH TEXT CLASSIFICATION BASED ON SANAD</b> .....	599
<i>Mohammad Najib Syuhairah Rahifah, Abd Rahman Nurazzah, Kamal Ismail Normaly, Alias Nursyahidah, Mohamed Nor Zulhimi, Alias Muhammad Nazir</i>	
<b>A PATTERN FOR CONCEPT IDENTIFICATION FROM ENGLISH TRANSLATED QURAN</b> .....	608
<i>Ismail Rohana, Abd Rahman Nurazzah, Abu Bakar Zainab</i>	
<b>NATURAL LANGUAGE PROCESSING APPROACH FOR SEARCHING THE QURAN: QUICK AND INTUITIVE</b> .....	616
<i>Zainal Abidah, Azah Samsudin Noor, Azman Mohammad Airin, Mustapha Aida</i>	
<b>ANALYSIS OF TRANSLATED QUERY IN QURANIC MALAY AND ENGLISH TRANSLATION DOCUMENTS WITH STEMMER</b> .....	626
<i>Mohd Yunus Mohd Amin, Mustapha Aida, Samsudin Noor Azah</i>	
<b>AN ONTOLOGICAL APPROACH TOWARDS DIALOGUEBASED INFORMATION VISUALIZATION SYSTEM: QURAN CORPUS FOR JUZ' AMMA</b> .....	634
<i>Mohd Yunus Mohd Amin, Mustapha Aida, Iqbal Rizwan, Samsudin Noor Azah</i>	
<b>A COMPARATIVE STUDY OF OPEN-DOMAIN AND SPECIFIC-DOMAIN WORD SENSE DISAMBIGUATION BASED ON QURANIC INFORMATION RETRIEVAL</b> .....	643
<i>Hasan Abood Rehab, Tiun Sabrina</i>	
<b>QUERY TRANSLATION AND QURAN RESULT IN TREEMAP</b> .....	653
<i>Mohd Yunus Mohd Amin, Mustapha Aida, Samsudin Noor Azah</i>	
<b>A SURVEY: FRAMEWORK OF AN INFORMATION RETRIEVAL FOR MALAY TRANSLATED HADITH DOCUMENT</b> .....	660
<i>Zulkefli Nurul Syeilla Syazhween, Abdul Rahman Nurazzah, Puteh Mazidah</i>	
<b>APPLICATION OF A COMPUTER ANIMATION TECHNIQUE TO ASSIST THE TEACHING OF PRE-HANDWRITING SKILLS TO CHILDREN WITH COORDINATION DIFFICULTIES/DYSPRAXIA</b> .....	669
<i>Othman Muhammad Fakri, Bright Wendy Keay, Senan Norhalina, Suparjoh Suriawati</i>	
<b>AXIOMATIC ONTOLOGY LEARNING APPROACHES FOR ENGLISH TRANSLATION OF THE MEANING OF QURANIC TEXTS</b> .....	684
<i>Saad Saidah, Idrus Bahari</i>	
<b>EMBEDDING REPETITION (TAKRIR) TECHNIQUE IN DEVELOPING AL-QURAN MEMORIZING MOBILE APPLICATION FOR AUTISM CHILDREN</b> .....	695
<i>Senan Norhalina, Wan Ab Aziz Wan Azizah, Othman Muhammad Fakri, Suparjoh Suriawati</i>	
<b>THE EFFECT OF WHITE ETCHING LAYER PATCHES ON A LARGER RAIL DEFECT</b> .....	706
<i>Sanusi Shahmir Hayyan, Fletcher David</i>	
<b>Author Index</b>	