

1st International Conference on Mechanical Engineering Research

(ICMER2011)

**IOP Conference Series: Materials Science
and Engineering Volume 36**

**Pahang, Malaysia
5 – 7 December 2011**

**ISBN: 978-1-63439-847-3
ISSN: 1779-8; 83**

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.

Copyright© by the Institute of Physics
All rights reserved.

Printed by Curran Associates, Inc. (2015)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.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: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

INVESTIGATION OF GEOMETRICAL DEFECT IN COLD EMBOSsing OF A PIN HEAD	1
<i>A B Abdullah, S M Sapuan, Z Samad, H M T Khaleed, N A Aziz</i>	
AN EXPERIMENTAL STUDY OF GASEOUS EXHAUST EMISSIONS OF DIESEL ENGINE USING BLEND OF NATURAL FATTY ACID METHYL ESTER	7
<i>A Sudrajad, I Ali, K Samo, D Faturachman</i>	
DESIGN, DEVELOPMENT AND PERFORMANCE OF A DISK PLOW COMBINED WITH ROTARY BLADES	13
<i>A Hashemi, D Ahmad, J Othman, S Sulaiman</i>	
INVESTIGATION OF PROPULSION SYSTEM FOR LARGE LNG SHIPS	21
<i>R P Sinha, W M N Wan Nik</i>	
EDDY CURRENT BRAKING EXPERIMENT USING BRAKE DISC FROM ALUMINIUM SERIES OF A16061 AND A17075	37
<i>M Z Baharom, M Z Nuawi, G Priyandoko, S M Harris</i>	
PRODUCTIVITY IMPROVEMENT USING INDUSTRIAL ENGINEERING TOOLS	44
<i>H A Salaam, S B How, M F Faisae</i>	
DESIGN AND DEVELOPMENT OF AN INTEGRATED SLASHER (PULVERIZER) FOR SWEET POTATO HARVESTER: A REVIEW	50
<i>A N N Kakahy, D Ahmad, M D Akhir, A Ishak, S Sulaiman</i>	
NON-VELOCITY BASED ANALYSIS OF PASSIVE ULTRASONIC SIGNAL FOR SOURCE LOCATION DETECTION IN COMPOSITE PLATES: A PILOT STUDY	57
<i>Z M Hafizi, J Epaarachchi, C K E Nizwan, K T Lau</i>	
COMPARATIVE STUDY OF BIOFUEL AND BIODIESEL BLEND WITH MINERAL DIESEL USING ONE-DIMENSIONAL SIMULATION	65
<i>R Rahim, R Mamat, M Y Taib</i>	
DEVELOPMENT OF A SOLAR ASSISTED DRYING SYSTEM USING DOUBLE-PASS SOLAR COLLECTOR WITH FINNED ABSORBER	75
<i>M S M Azmi, M Y Othman, K Sopian, M H Ruslan, Z A A Majid, A Fudholi, J M Yasin</i>	
EFFECTS OF HEAT INPUT ON MECHANICAL PROPERTIES OF METAL INERT GAS WELDED 1.6 MM THICK GALVANIZED STEEL SHEET	86
<i>M I Rafiqul, M Ishak, M M Rahman</i>	
FATIGUE BEHAVIOR OF AUSTENITIC TYPE 316L STAINLESS STEEL	94
<i>K A Mohammad, Aidy Ali, B B Sahari, S Abdullah</i>	
DETECTION OF DEFECTS OF KENAF/EPOXY BY THERMOGRAPHY ANALYSES	103
<i>M J Suriani, A Ali, A Khalina, S M Sapuan, S Abdullah</i>	
EXPERIMENTAL STUDY ON REVETEC ENGINE CAM PERFORMANCE	110
<i>M M Gasim, L G Chui, K A B Anwar</i>	
COMPUTATIONAL ANALYSIS ON PERFORMANCE OF THERMAL ENERGY STORAGE (TES) DIFFUSER	115
<i>M A H M Adib, F Adnan, A R Ismail, K Kardigama, H A Salaam, Z Ahmad, N H Johari, Z Anuar, N S N Azmi</i>	
RSM MODEL TO EVALUATE MATERIAL REMOVAL RATE IN EDM OF TI-5AL-2.5SN USING GRAPHITE ELECTRODE	121
<i>M A R Khan, M M Rahman, K Kadrigama, A R Ismail</i>	
PERFORMANCE OF PROCESS DAMPING IN MACHINING TITANIUM ALLOYS AT LOW CUTTING SPEED WITH DIFFERENT HELIX TOOLS	130
<i>M A Shaharun, A R Yusoff, M S Reza, K A Jalal</i>	
OPEN LOOP CONTROL BY EQUALIZATION FOR AN ANALOG DUFFING SYSTEM	140
<i>J A V Feijoo, P T M Ortiz, V J R Olivera</i>	
STUDY ON DYNAMIC BEHAVIOUR OF WISHBONE SUSPENSION SYSTEM	152
<i>M Kamal, M M Rahman</i>	
PRELIMINARY RESULTS OF IMPELLER DESIGN MODIFICATIONS	160
<i>Y C Yan, C H Sam, S E Soo, X S Khoo, J K Lau, C H Khek, O Younis</i>	
FOUR DECADES OF UTILIZING SHADOWGRAPH TECHNIQUES TO STUDY NATURAL CONVECTION IN CAVITIES: LITERATURE REVIEW	166
<i>S M A Aftab, O Younis, M Al-Atabi</i>	
RESPONSE SURFACE DESIGN MODEL TO PREDICT SURFACE ROUGHNESS WHEN MACHINING HASTELLOY C-2000 USING UNCOATED CARBIDE INSERT	173
<i>N H Razak, M M Rahman, K Kadrigama</i>	

EFFECT OF PROPELLANT COMPOSITION TO THE TEMPERATURE SENSITIVITY OF COMPOSITE PROPELLANT	182
<i>A Aziz, R Mamat, M Amin, W K W Ali</i>	
PARAMETRIC STUDY OF A TWO-SHAFT GAS TURBINE CYCLE MODEL OF POWER PLANT	189
<i>T K Ibrahim, M M Rahman</i>	
DETERMINATION OF BURST PRESSURE OF API STEEL PIPES USING STRESS MODIFIED CRITICAL STRAIN MODEL	202
<i>N A Alang, N A Razak, A S Sulaiman</i>	
MICROCONTROLLER BASED PROPORTIONAL DERIVATIVE PLUS CONDITIONAL INTEGRAL CONTROLLER FOR ELECTRO-MECHANICAL DUAL ACTING PULLEY CONTINUOUSLY VARIABLE TRANSMISSION RATIO CONTROL	210
<i>A Budianto, K B Tawi, M Hussein, B Supriyo, S Ariyono, M S C Kob, M E Zulkifli, Khairuldean A K, A Daraoh</i>	
INTERACTION EFFECT OF PRESSURIZED LAMINATION PIPE BY USING 2D FINITE ELEMENT ANALYSIS	224
<i>N Razak, A Sulaiman, N Alang</i>	
THE INFLUENCE OF IMPACT ON COMPOSITE ARMOUR SYSTEM KEVLAR-29/POLYESTER-AL₂O₃	232
<i>A A Ramadhan, A R A Talib, A S M Rafie, R Zahari</i>	
CORRELATIONS FOR THERMAL CONDUCTIVITY AND VISCOSITY OF WATER BASED NANOFLUIDS	246
<i>W H Azmi, K V Sharma, R Mamat, A B S Alias, I I Misnon</i>	
THE FAILURE MODE OF NATURAL SILK EPOXY TRIGGERED COMPOSITE TUBES	252
<i>R A Eshkour, A K Ariffin, R Zulkifli, A B Sulong, C H Azhari</i>	
FATIGUE FEATURE CLASSIFICATION FOR AUTOMOTIVE STRAIN DATA	258
<i>M F M Yunoh, S Abdullah, Z M Nopiah, M Z Nuawi, N Ismail</i>	
REVIEW ON CNC-RAPID PROTOTYPING	266
<i>M Nafis O Z, Nafrizuan M Y, Munira M A, Kartina J</i>	
CO₂ LASER CUTTING OF GLASS FIBER REINFORCE POLYMER COMPOSITE	274
<i>S Fatimah, M Ishak, S N Aqida</i>	
HULL SURFACE INFORMATION RETRIEVAL AND OPTIMIZATION OF HIGH SPEED PLANING CRAFT	281
<i>A F Ayob, W B Wan Nik, T Ray, W F Smith</i>	
DOE APPLIED TO STUDY THE EFFECT OF PROCESS PARAMETERS ON SILICON SPACING IN LOST FOAM AL-SI-CU ALLOY CASTING	291
<i>A Shayganpour, M H Idris, S Izman, H Jafari</i>	
MODELLING OF NON-PREMIXED TURBULENT COMBUSTION OF HYDROGEN USING CONDITIONAL MOMENT CLOSURE METHOD	297
<i>M M Noor, A A Hairuddin, A P Wandel, T F Yusaf</i>	
IMPROVING THE PERFORMANCE OF ULTRASONIC HORN REACTOR FOR DEACTIVATING MICROORGANISMS IN WATER	314
<i>R A Al-Juboori, T F Yusaf</i>	
COEFFICIENT OF RESTITUTION OF SPORTS BALLS: A NORMAL DROP TEST	327
<i>A Haron, K A Ismail</i>	
EFFICIENT FINITE ELEMENT AND DIFFERENTIAL QUADRATURE METHODS FOR HEAT DISTRIBUTION IN ONE-DIMENSIONAL INSULATED-TIP RECTANGULAR FIN	335
<i>M M Fakir, S Basri, M M Rahman, R A Bakar</i>	
DESIGN AND PERFORMANCE OF 20 WATTS PORTABLE SOLAR GENERATOR	345
<i>Z A A Majid, N Hazali, M A K M Hanafiah, A A Abdullah, A F Ismail, M H Ruslan, K Sopian, M S M Azmi</i>	
CYCLE ENGINE MODELLING OF SPARK IGNITION ENGINE PROCESSES DURING WIDE-OPEN THROTTLE (WOT) ENGINE OPERATION RUNNING BY GASOLINE FUEL	351
<i>M F A Rahim, M M Rahman, R A Bakar</i>	
EVALUATING TRACTOR PERFORMANCE AND EXHAUST GAS EMISSIONS USING BIODIESEL FROM COTTON SEED OIL	360
<i>S H Al-Lwayzy, T Yusaf, T Jensen</i>	
STUDY OF HENNA (LAWSONIA INERMIS) AS NATURAL CORROSION INHIBITOR FOR ALUMINUM ALLOY IN SEAWATER	369
<i>W B W Nik, F Zulkifli, O Sulaiman, K B Samo, R Rosliza</i>	
OPTIMIZATION OF CONTROL PARAMETERS FOR SR IN EDM INJECTION FLUSHING TYPE ON STAINLESS STEEL 304 WORKPIECE	376
<i>M S Reza, A R Yusoff, M A Shaharun</i>	

Author Index