

**Technical Event for ICPER2010**

<b>Event</b>	<b>MR 4-06</b>	<b>MR 4-07</b>	<b>MR 4-08</b>	<b>MR 4-09</b>
<b>Day1</b>	<b>June 15, 2010 (Tuesday)</b>			
<b>Opening &lt;9.00 -11.30am&gt;</b>	Opening Ceremony			
<b>Morning Break</b>				
<b>D1: Session I &lt;12.00-1.00&gt;</b>	<b>Chairperson:</b> AP Dr. Faiz Ahmad	<b>Chairperson:</b> Dr. Syed Ihtsham ul-Haq Gilani	<b>Chairperson:</b> Dr Zainal Ambri Abdul Karim	<b>Chairperson:</b> Dr Ir Mohd Shiraz Aris
12.00 - 12.20	MM01	IM01	EF02	PE03
12.20 - 12.40	MM02	IM02	EF03	PE16
12.40 - 1.00	MM03	IM11	EF04	PE01
<b>Lunch</b>				
<b>D1: Session II Plenary Session &lt;2.00-4.00&gt;</b>	<b>Graz Cycle – a Zero Emission Power Plant of Highest Efficiency</b>			
Venue: Banquet Hall	Prof. Dr.-Ing. Franz Heitmer			
	<b>Chairperson:</b> Prof. Dr Abdelwahab Aroussi			
	<b>The use of advanced NDT technology for defect detection- A Malaysian Perspective</b>			
	Dr Khazali Haji Mohd Zin			
	<b>Chairperson:</b> Prof. Dr Abdelwahab Aroussi			
<b>Evening Break</b>				
<b>D1: Session III &lt;4.20-6.00&gt;</b>	<b>Chairperson:</b> AP Dr Puteri Sri Melor Megat Yusoff	<b>Chairperson:</b> Dr Mokhtar Awang	<b>Chairperson:</b> Dr Azuraian Japper @ Jaafar	<b>Chairperson:</b> Prof Dr T. Nagarajan
4.20 - 4.40	MM04	MM07	EF05	PE02
4.40 - 5.00	MM05	MM10	EF06	PE04
5.00 - 5.20	MM06	MM14	EF07	PE09
5.20 - 5.40	MM12	MM11	EF08	PE10
5.40 - 6.00	MM26		EF09	PE18
<b>End of Day 1</b>				

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Event	MR 4-06	MR 4-07	MR 4-08	MR 4-09
<b>Day2</b>	<b>June 16, 2010 (Wednesday)</b>			
<b>D2: Session IV &lt;8.30 - 10.30&gt;</b>	<b>Chairperson:</b> AP Dr Patthi Hussain	<b>Chairperson:</b> AP Dr Fakhruddin Mohd Hashim	<b>Chairperson:</b> Dr Setyamartana Parman	<b>Chairperson:</b> Ir Hj Idris Ibrahim
8.30 - 8.50 8.50 - 9.10 9.10 - 9.30 9.30 - 9.50 9.50 - 10.10	MM08 MM13 MM15 MM44	IM03 IM04 IM09	EF10 EF11 EF12 EF31 EF37	PE06 PE07 PE13 PE 05
<b>Morning Break</b>				
<b>D2: Session V &lt;10.50 - 12.50&gt;</b>	<b>Chairperson:</b> AP Dr Othman Mamat	<b>Chairperson:</b> Hj Kamal Arif Zainal Abidin	<b>Chairperson:</b> AP Dr Mohd Amin	<b>Chairperson:</b> M Faizairi M Nor
10.50 - 11.10 11.10 - 11.30 11.30 - 11.50 11.50 - 12.10 12.10 - 12.30	MM09 MM22 MM24 MM28	MM27 MM34 MM37	EF13 EF14 EF30 EF36 EF42	EF15 EF16 EF32 EF38 EF28
<b>Lunch</b>				
<b>D2: Session VI &lt;2.00-4.00&gt;</b>  Venue: Banquet Hall	Dr Johannessen, Bjørn			
	<b>Chairperson:</b> AP Dr Hussain H. Al-Kayiem			
	<b>Laser Diagnostics Tools for Thermafluids research – Seeing is Believing!</b>			
	Professor Morgan Heikal			
	<b>Chairperson:</b> AP Dr Hussain H. Al-Kayiem			
<b>Evening Break</b>				

<b>D2: Session VII &lt;4.20 - 6.00&gt;</b>	<b>Chairperson:</b> AP Dr Puteri Sri Melor	<b>Chairperson:</b> Dr Brian Cane	<b>Chairperson:</b> Ir Dr Mohd Shiraz Aris	<b>Chairperson:</b> Ir Dr Shaharin Anwar Sulaiman	
	4.20 - 4.40	MM17	IR01	EF17	PE11
	4.40 - 5.00	MM18	IR02	EF18	PE08
	5.00 - 5.20	MM36	IR03	EF27	PE12
	5.20 - 5.40	MM42	IR07	EF39	PE14
	5.40 - 6.00	MM29	PE17	EF01	PE15
<b>End of Day 2</b>					

Event	MR 4-06	MR 4-07	MR 4-08	MR 4-09	
<b>Day3</b>	<b>June 17, 2010 (Thursday)</b>				
<b>D3: Session VIII &lt;8.30 - 10.30&gt;</b>  Venue: Banquet Hall	<b>PLANERY – Industry Sharing Session</b>  En Mat Isa Othman En Mohamed Taib En Ahmad Kamal  <b>Chairperson:</b> AP Dr Fakhruddin Mohd Hashim				
<b>Morning Break</b>					
<b>D3: Session IX &lt;10.50 - 12.50&gt;</b>	<b>Chairperson:</b> Dr Ahmad Majdi Abd Rani	<b>Chairperson:</b> Dr Khairul Fuad	<b>Chairperson:</b> AP Arkan Al Tai	<b>Chairperson:</b> AP Dr Hussain Al-Kayiem	
	10.50 - 11.10	MM19	MM30	EF19	EF21
	11.10 - 11.30	MM20	MM31	EF20	EF24
	11.30 - 11.50	MM40	MM35	EF26	EF29
	11.50 - 12.10	MM43	MM38	EF33	EF34
	12.10 - 12.30	MM45	MM49		EF35
<b>Lunch</b>					
<b>D3: Session X &lt;2.00 - 4.00&gt;</b>	<b>Chairperson:</b> Mohd Ridzuan Abd Latiff	<b>Chairperson:</b> Azman Zainuddin	<b>Chairperson:</b> Hj Kamal Ariff Zainal Abidin	<b>Chairperson:</b> Dr Zainal Ambri Abdul Karim	

2.00 - 2.20	MM21	IR04	IM07	EF22
2.20 - 2.40	MM25	IR05	IM08	EF23
2.40 - 3.00	MM32	IR06	IM10	EF25
3.00 - 3.20	MM41	IR08	MM33	EF40
3.20 - 3.40	MM47		MM50	
<b>Evening Break</b>				
<b>D3: Closing Ceremony</b>				
4.20 - 5.30				
5.30 - 6.00				
<b>End of Congress</b>				

## TECHNICAL SESSIONS Oral Presentation

### TUESDAY, 15 June 2010 SESSION I (2.00 pm – 4.00 pm)

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**Track 1: Materials and Manufacturing** (Venue: Rm 4-06)  
Chairperson: AP Dr Faiz Ahmad

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- 12.00 MM 01  
**Material Selection Process in an Oil Production Unit in One of Iranian Onshore Project**  
*M. Reza Moghaddam*
- 12.20 MM 02  
**Effect of T6 heat treatment on the mechanical properties of gravity die cast A356 aluminium alloy**  
*Lim Ying Pio*
- 12.40 MM 03  
**Predicting Combined Effects of HAc and H<sub>2</sub>S on CO<sub>2</sub> Corrosion**  
*Yuli Asmara*

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**Track 2: IM – Inspection and Maintenance** (Venue: Rm 4-07)  
Chairperson: Dr Syed Ihtsham Ul-Huq Gilani

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- 12.00 IM 01  
**Effect of Age of Pipes on Performance of Natural Gas Transmission Pipeline Network System**  
*Abraham Woldeyohannes; Mohd Amin Abd Majid*
- 12.20 IM 02  
**Stress Intensity Factor for Cracks Emanating from a Shaft**  
*Sze Wei Khoo; Saravanan Karuppanan*
- 12.40 IM 11

**Organizational Structure and Performance of Plant Turnaround Maintenance in Large Process-Based Industries in Malaysia**

*Zulkipli Ghazali*

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<b>Track 3:</b>	<b>EF – Energy and Fuel</b> (Venue: RM 4-08) Chairperson: Dr Zainal Ambri Abd Karim
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12.00	<i>EF 02</i> <b>Numerical Simulation of Front Evolving Fiber Suspension Flow in Three-Dimensional Cavities</b> <i>Ahmed N. Oumer; Ahmed M. S. Ali; Othman Mamat</i>
12.20	<i>EF 03</i> <b>Trade-off between NO<sub>x</sub>, Soot and EGR rates for an IDI diesel engine fuelled with JB5</b> <i>Mohamed Gomaa; Ahmad Alimin; kamarul Azhar Kamarudin</i>
12.40	<i>EF 04</i> <b>Models of Neural Network with Sigmoid and Radial Basis Functions for Velocity-field Reconstruction in Fluid-Structure Interaction Problem</b> <i>Mas Irfan Purbawanto Hidayat</i>

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<b>Track 4:</b>	<b>PE – Plant Equipment</b> (Venue: Rm 4-09) Chairperson: Ir Dr Mohd Shiraz Aris
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12.00	<i>PE 03</i> <b>Vibration Analysis of Flexible Gantry Crane System Subjected to Swinging Motion of Payload</b> <i>Edwar Yazid; Setyamartana Parman; Khairul Fuad</i>
12.20	<i>PE 16</i> <b>Generating Gas Turbine Component Maps Relying On Partially Known Overall System Characteristics</b> <i>Tamiru Alemu Lemma; Fakhrudin Mohd Hashim; Chalilullah Rangkuti</i>
12.40	<i>PE 01</i> <b>Modeling of thermodynamic processes in the automatic welding of plates</b> <i>Yaroslav Tereshchenko</i>

**SESSION III (4.20 pm – 6.00 pm)**

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<b>Track 1:</b>	<b>MM - Materials and Manufacturing</b> (Venue: Rm 4-06) Chairperson: AP Dr Puteri Sri Melor Megat Yusoff
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4.20	<i>MM 04</i> <b>A Study of Bonding Mechanism of Expandable Graphite Based Intumescent Coating on Steel Substrate</b> <i>Sami Ullah; Faiz Ahmad, Puteri Sri Melor Megat Yusoff</i>
4.40	<i>MM 05</i> <b>Development and Strengthening of 2219 Aluminum Alloy by Mechanical Work and Heat Treatment</b> <i>Muhammad Rafi Raza; Nazma Ikram; Rafiq Ahmad; Faiz Ahmad; Abdul Salam</i>
5.00	<i>MM 06</i> <b>Effect of Machining Parameters on Surface Roughness During Wet and Dry-Wire EDM of Stainless Steel</b> <i>Sulaiman Abdulkareem; Ahsan Khan; Zakaria Zain</i>

5.20 MM 12  
**A Semi-elliptical Crack Modeling and Fracture Constraint on Failure Diagram**  
*Julendra B. Ariatedja; Othman Mamat; Khairul Fuad*

5.40 MM 26  
**Reconfigurable Stewart Platform for Spiral Contours**  
*Satheesh Gopal; Nagarajan T*

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**Track 2: MM – Materials and Manufacturing** (Venue: Rm 4-07)  
Chairperson: Dr Mokhtar Awang

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MM 07  
**Production of MMC EDM Tools Using Powder Metallurgy Technique**  
4.20 *Noor Haslyena Hassan; Norhidayah Mohd Zain; Ibrahim Mustaffa; Md. Saidin Wahab*

4.40 MM 10  
**Stress Analysis on Sialon/Ferritic Stainless Steel Joint**  
*Cik Suhana Hassan; Patthi Hussain; Mokhtar Awang*

5.00 MM 14  
**Machining of Cemented Tungsten Carbide Using EDM**  
*Al Tidjani Mahamat, Ahmad Majdi Abdul Rani, Patthi Hussain*

5.20 MM 11  
**Study on the Fibre Reinforced Epoxy-based Intumescent Coating Formulations and the Char Characteristics**  
*Norlaili Amir; Faiz Ahmad; Puteri Sri Melor Megat Yusoff*

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**Track 3: EF - Energy and Fuel** (Venue: RM 4-08)  
Chairperson: Dr Azuraian Japper @ Jaafar

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4.20 EF 05  
**Ocean wave energy along Terengganu coast of Malaysia** *Abdul Majeed Muzathik; WB Wan Nik; MZ Ibrahim; KB Samo*

4.40 EF 06  
**Flame Development study at Variable Swirl Level Flows in a Stratified CNG DI Combustion Engine Using Image Processing Technique**  
*Yohannes T Anbese; Zainal A Abdul Karim*

5.00 EF 08  
**Smoldering Combustion of Biomass Particles**

*Khalde Madhusudan Chirag; Kadli Vijay; Vasudevan Raghavan; Ali Rangwala*

- 5.20 EF 09  
**Effect of the Moments of Probability Density Function for Non-Uniform Air Flow Distribution on the Hydraulic Performance of a Fin-Tube Heat Exchanger**  
*Wai Meng Chin; Vijay Raj Raghavan*
- 5.40 EF 07  
**Performance Evaluation of Stratified TES using Sigmoid Dose Response Function**  
*Joko Waluyo; Mohd Amin Abd Majid*

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**Track 4: PE – Plant and Equipment** (Venue: Rm 4-09)  
Chairperson: Prof Dr T. Nagarajan

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- 4.20 PE 02  
**Applications of Industrial Gas Turbine Simulations and Diagnostics for Equipment Health Monitoring**  
*Mohd Shahrizal Jasmani; Mohd Nizam Abdul Wahab; Zaharudin Ariffin*
- 4.40 PE 04  
**Design of a Vertical Self-balancing Autonomous Underwater Vehicle**  
*Kamarudin Bin Shehabuddeen; Fakhruddin Hashim*
- 5.00 PE 09  
**Analysis of the Temperature Distribution in GT Blade Cooled by Compressed Air**  
*Hussain H. Al-Kayiem; Amir Hossein Ghanizadeh*
- 5.20 PE 10  
**Modeling of the Waxing-Dewaxing Process in Scraped Surface Exchangers**  
*Nassir Mokhlif; Hussain H. Al-Kayiem*
- 5.40 PE 18  
**Two-Phase Flow Behaviour and Pattern in Vertical Pipes**  
*Mohamad Ardan Zubir*

**Wednesday, 16 June 2010**  
**SESSION IV (8.30 am – 10.30 pm)**

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**Track 1: MM – Materials and Manufacturing** (Venue: Rm 4-06)  
Chairperson: AP Dr Patthi Hussain

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- 8.30 MM 08  
**Solid Freeform Fabrication of Prototypes Using Palm Oil Based Fly Ash Via 3D Printer**  
*Norhidayah Mohd Zain; Ibrahim Mustaffa; Md. Saidin Wahab; Noor Haslyena Hassan*
- 8.50 MM 13  
**Feasibility of Electro-Discharge Machining of Aluminium Matrix Composite**

*Alexis Mouangue Nanimina, Ahmad Majdi Abdul Rani, Azman Zainuddin, Faiz Ahmad*

- 9.10 MM 15  
**Binder Removal from Powder Injection Molded 316L Stainless Steel**  
*Muhammad Rafi Raza; Faiz Ahmad; Mohammad Omar*
- 9.50 MM 44  
**The Study of Drilling Polyester Based Composite at Different Thickness on Damage Factor**  
*Mohd Azuwan Maoinsar*

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**Track 2: IM - Inspection and Maintenance** (Venue: Rm 4-07)

Chairperson: AP Dr Fakhruddin Mohd Hashim

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- 8.30 IM 03  
**Fault Detection Relevant Modeling of an Industrial Gas Turbine based on Neuro-Fuzzy Approach**  
*Tamiru Alemu Lemma; Fakhruddin Mohd Hashim; Chalilullah Rangkuti*
- 8.50 IM 04  
**Automated Calculations for Improvement of Tank Inventory at Fuel Terminals**  
*Shaharin Sulaiman; Sherrene Basil*
- 9.30 IM 09  
**Problem Analysis at A Semiconductor Company: A Case Study on IC Packages**  
*Kamal Abidin; Keng Lee; Idris Ibrahim; Azman Zainuddin*

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**Track 3: EF – Energy and Fuel** (Venue: RM 4-08)

Chairperson: Dr Setyamartana Parman

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- 8.30 EF 10  
**Evaluation of heat and mass transfer coefficients for R134a/DMF bubble absorber**  
*Suresh Mariappan*
- 8.50 EF 11  
**Artificial Intelligent System for Steam Boiler Diagnosis based on Superheater Monitoring**  
*Firas Basim Ismail Alnaimi; Hussain H. Al-Kayiem*
- 9.10 EF 12  
**Transient Cooling Load Simulation of a Mechanical Workshop at UTP Using TRNSYS**  
*Petrus Tri Bhaskoro; Syed Ihtsham-ul-Haq Gilani*
- 9.30 EF 31  
**Review on the Enhancement Techniques and a Novel Alternate of Solar Chimney Power Plant**  
*Ogboo Chikere Aja; Hussain H. Al-Kayiem; Zainal A Abdul Karim*

9.50 EF 37  
**Droplet Size Measurement of Liquid Spray using Digital Image Analysis**  
*Abdelwahab Aroussi; Neetin Lad*

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**Track 4: PE – Plant and Equipment** (Venue: Rm 4-09)  
Chairperson: Ir Hj Idris Ibrahim

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8.30 PE 06  
**The Development of Trash Diverter System For Tenom Pangi Hydro Power Station Intake, Sabah**  
*Hazha Abdul Hamid*

8.50 PE 07  
**Open-Loop Responses of Flexible Gantry Crane System**  
*Edwar Yazid; Setyamartana Parman; Khairul Fuad*

9.10 PE 13  
**Measurement Of Gas/Liquid Flow Velocities In A Rapidly Rotating Annulus**  
*Abdelwahab Aroussi*

9.30 PE 05  
**A Study on the Use of Orifice Plates as Steam Traps**  
*Shaharin Anwar Sulaiman*

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**SESSION V (10.50 am -12.50 pm)**

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**Track 1: MM - Materials and Manufacturing** (Venue: Rm 4-06)  
Chairperson: AP Dr Othman Mamat

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10.50 MM 09  
**Dynamic Mechanical and Thermal Analysis of Sugarcane Bagasse Filled Poly (Vinyl Chloride) Composites**  
*Riza Wirawan; Mohd Salit Sapuan*

11.10 MM 22  
**Distributed Formation Planning and Navigation Framework for Wheeled Mobile Robots**  
*Kuppan Chetty Ramanathan; Singaperumal Makaram; Nagarajan T*

11.30 MM 24  
**Cast Iron - An Old Name for a New Benchmark Material**  
*Adel Nofal*

12.40 MM 28  
**Multiple Performance Optimization for the Best Metal Injection Molding (MIM) Green Compact**  
*Khairur Rijal Jamaludin; Mohd Yusof Md Daud*

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**Track 2: MM – Materials and Manufacturing** (Venue: Rm 4-07)

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Chairperson: Hj Kamal Arif Zainal Abidin

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- 10.50 MM 27  
**Analysis of a Valveless Micropump Using Preliminary Characteristics from Fluid Flow**  
*Devarajan Ramasamy Devarajan; Zainal A Abdul Karim; S.Mahendran; Nagarajan T*
- 11.10 MM 34  
**Fabrication of Graphite/Carbon Nanotubes/Epoxy Nanocomposites: Electrical Conductivity and Flexural Strength**  
*Hendra Suherman; Jaafar Sahari*
- 11.30 MM 37  
**The Influence of Aramid Fibre Content on the Tribological Behaviour of Non-asbestos Brake Liners**  
*Vinitha Ranganathan; Gopinath Konchady; Shankar Krishnapillai*

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**Track 3:** EF - Energy and Fuel (Venue: RM 4-08)  
Chairperson: AP Dr Mohd Amin Abd Majid

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- 10.50 EF13  
**A Short Review on the Analytical Methods in Fluid Dynamics Research: The Importance of Exact Solutions**  
*Gunawan Nugroho; Ahmed M. S. Ali; Zainal A Abdul Karim*
- 11.10 EF 14  
**A Simulation Study of Downdraft Gasification of Oil-Palm Fronds, Using ASPEN PLUS**  
*Samson Mekbib Atnaw; Shaharin Anwar Sulaiman; Suzana Yusup*
- 11.30 EF 30  
**Effect of Exhaust Gas Recirculation on the Combustion of Gasoline and CNG by Compression Ignition**  
*Naveenchandran Panchatcharam*
- 11.50 EF 36  
**Exergy based Performance Analysis of a Gas Turbine at Part Load Conditions**  
*Aklilu Baheta; Syed Ihtsham-ul-Haq Gilani*
- 12.10 EF 42  
**Performance and Emission Characteristics of Supercharged Producer Gas-Diesel Dual Fuel Engine from Biomass Gasification**  
*Suhaimi Hassan; Zainal Alimuddin Zainal Alauddin; Miskam M.A; Mohd Faizairi Mohd\_Nor*

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<b>Track 4:</b>	<b>EF – Energy and Fuel</b> (Venue: Rm 4-09) Chairperson: M Faizairi M Nor
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10.50	EF 15 <b>Spray Characteristic Comparisons of Compressed Natural Gas and Hydrogen fuel Using Digital Imaging</b> <i>Salah Eldin Elfakki</i>
11.10	EF 16 <b>An experimental study of different effects of varying EGR rates on the nitric oxide (NO) emissions of the direct injection compressed natural gas engine at various excess air ratios</b> <i>Saheed Wasiu</i>
11.30	EF 32 <b>A Preliminary Study on Synthesis Gas Produced by Gasification of Oil Palm Fronds</b> <i>Mohamad Nazmi Zaidi Moni; Shaharin Anwar Sulaiman</i>
11.50	EF 38 <b>Measurement of Near Wall Fluid Interaction With an Atomised Spray</b> <i>Abdelwahab Aroussi; Neetin Lad; David Adebayo</i>
12.10	EF 28 <b>Studying the Operation of Free Piston Linear Generator Engine Using MOSFET and IGBT Drivers</b> <i>Abdulwehab Adem Ibrahim; Ezran Zharif B. Zainal Abidin; A. Rashid A. Aziz; Saiful Azrin bin Mohd Zulkifli</i>

**SESSION VII (4.20 pm – 5.00 pm)**

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<b>Track 1:</b>	<b>MM - Materials and Manufacturing</b> (Venue: Rm 4-06) Chairperson: AP Dr Puteri Sri Melor Megat Yusoff
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4.20	MM 17 <b>The Influence of Applied Load on Wear Characterizations of Rail Material</b> <i>Windarta; Mustafar Sudin; Khairul Fuad</i>
4.40	MM 18 <b>Experience on Friction Stir Welding (FSW) and Friction Stir Spot Welding (FSSW) at Universiti Teknologi Petronas</b> <i>Iffatun Ahmat; Mokhtar Awang, Patthi Hussain</i>
5.00	MM 36 <b>Investigation of Worn Surface Characteristics of Steel Influenced by Jatropha Oil as Lubricant and Eco-friendly Lubricant Substituent</b> <i>Abdul Munir Hidayat Syah Lubis; Mustafar Sudin; Bambang Ariwahjoedi</i>

- 5.20 MM 42  
**Experimental Analysis Of Energy Absorption On Pultruded Composite Tube Under Oblique Loading**  
*Sulong Abu Bakar*
- 5.40 MM 29  
**Interface layer of the Diffusion Bonded Sialon and High-Chromium Steel**  
*Hudiyo Firmanto; Patthi Hussain; Othman Mamat*

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**Track 2: IR – Integrity & Reliability (Venue)**  
Chairperson: Dr Brian Cane

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- 4.20 IR 01  
**PICA: Pipeline Integrated Corrosion Assessment Tool for Structure Integrity**  
*Norhazilan Md Noor; Nor Apaziah Nor Ozman*
- 4.40 IR 02  
**Methodology for Soil-Corrosion Study of Underground Pipeline**  
*Norhazilan Md Noor; Siti Rabe'ah Othman; Lim Kar Sing; Nordin Yahaya*
- 5.00 IR 03  
**Study on the Effect of Surface Finish on Corrosion of Carbon Steel in CO<sub>2</sub> Environment**  
*Yuli Asmara*
- 5.20 IR 07  
**Advancement in Cathodic Protection Monitoring**  
*Thai Seng Choong*
- 5.40 PE 17  
**Performance Improvement through an Asset Maintenance Optimisation System**  
*Brian Cane*

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**Track 3: Energy and Fuel (Venue: RM 4-08)**  
Chairperson: Ir Dr Mohd Shiraz Aris

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- 4.20 EF 17  
**Analytical Analysis of Roof Top Solar Chimney for Power Generation**  
*Sreejaya. k. v K.v; Hussain H. Al-Kayiem; Syed Ihtsham-ul-Haq Gilani*
- 4.40 EF 18  
**Experimental Studies on a Swirling Fluidized Bed with Annular Distributor**  
*Mohd Faizal; Vijay Raj Raghavan*

- 5.00 EF 27  
**Analytical Models for Energy Audit of Cogeneration Plant**  
*Zainal A Abdul Karim; Philip Yongo*
- 5.20 EF 39  
**Study The Dynamic Behaviour of Micro Bubbles in Distilled and Polluted Water**  
*Syed Ihtsham-ul-Haq Gilani; Felixtianus Eko Wismo Winarto*
- 5.40 EF 01  
**Three Dimensional Aerodynamic Design System for Turbomachines**  
*Arkan Al Yasari Al Taie; Haitham Al Wakeel*

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**Track 4: IR – Integrity & Reliability** (Venue: Rm 4-09)  
 Chairperson: Ir Dr Shaharin Anwar Sulaiman

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- 4.20 PE 11  
**Numerical Analysis of Thermal and Elastic Stresses in Thick Pressure Vessels for Cryogenic Hydrogen Storage Apparatus**  
*Thar Badri; Hussain H. Al-Kayiem*
- 4.30 PE 08  
**Investigation on the Particle Settling Velocity in Non-Newtonian Fluids**  
*Rawia Eltilib; Hussain H. Al-Kayiem*
- 4.40 PE 12  
**Frequency shift in Tracking the Damage of Fixed Offshore Platforms**  
*Sharafiz Abdul Rahim*
- 5.10 PE 14  
**Improvements To The ‘Aroussi-Ishaq’ Film Measurement Technique’**  
*Abdelwahab Aroussi*
- 5.20 PE 15  
**Fouling Characteristic and Tendencies of Malaysian Crude Oils Processing**  
*M Zamidi Ahmad*

**Thursday, 17 June 2010**  
**SESSION IX (10.50 am – 12.50 pm)**

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**Track 1: MM – Materials and Manufacturing** (Venue: Rm 4-06)  
 Chairperson: Dr Ahmad Majidi Abd Rani

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- 10.50 MM 19  
**Predicting the Young’s Modulus of Single-Walled Carbon Nanotubes (SWCNTs) using Finite Element Modeling**  
*Ehsan Mohammadpour; Mokhtar Awang; Mohamad Zaki Abdullah*

- 11.10 MM 20  
**Characterization and Properties of Copper-Silica Sand Nanoparticles Composites**  
*Taher Ahmed; Othman Mamat*
- 11.30 MM 40  
**High Temperature Tribological Characteristics of Cast Iron**  
*Sugrib Shaha*
- 11.50 MM 43  
**Injection Molding Parameter Optimization of Titanium Alloy Powder Mix with Palm Stearin and Polyethylene for Multiple Performance Using Grey Relational Analysis**  
*Nor Hafiez Mohamad Nor; Norhamidi Muhamad; Ahmad Kamal Ariffin; Mohd Ruzi; Khairur Rijal Jamaludin*
- 12.10 MM 45  
**Weld Corrosion in CO<sub>2</sub> Environment**  
*Anis Amilah*

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**Track 2: MM – Materials and Manufacturing (Venue: Rm 4-07)**  
Chairperson: Dr Khairul Fuad

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- 10.50 MM 30  
**Finite Element Modelling of Static and Radial Ultrasonic Interface Friction in Compression Test**  
*Mohd Yusof Md Daud; Khairur Rijal Jamaludin*
- 11.10 MM 31  
**Wear Properties of Alumina Particles Reinforced Aluminium Alloy Matrix Composite**  
*Muhammad Rafi Raza; Faiz Ahmad; Ahmad Majdi Abdul Rani; S. H. Lo*
- 11.30 MM 35  
**Optimizing Injection Molding Processing Parameters for Enhanced Mechanical Performance of Oil Palm Empty Fruit Bunch High Density Polyethylene Composites**  
*Puteri Sri Melor; M. R. Abdul Latif; Muhammad Shazwan Ramli*
- 11.50 MM 38  
**SMA Actuator Technology Application in Stewart Platform Construction**  
*Victor Amirtham; Nagarajan T; Abdul Malik Bin Surdi Roslan; Fakhruddin Mohd Hashim*

12.10 MM 49  
**Review of Current Development of Pneumatic Artificial Muscle**  
*Krishnan; Nagarajan T; Ahmad Majdi Abdul Rani*

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**Track 3: EF – Energy and Fuel** (Venue: RM 4-08)  
Chairperson: AP Arkan Al Tai

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10.50 EF 19  
**Analysis of Annual Cooling Energy Requirements for Glazed Academic Buildings**  
*Shaharin Sulaiman, Ahmad Hadi Hassan*

11.10 EF 20  
**A Preliminary Investigation into the Use of Solar PV Systems for Residential Application in Bandar Sri Iskandar, Malaysia**  
*Dimas F Al Riza; Syed Ihtsham-ul-Haq Gilani; Mohd Aris*

11.30 EF 26  
**Development of a Three Dimensional Large Eddy Simulation (LES) Code for Turbulent Flows**  
*Timothy Ganesan*

11.50 EF 33  
**Drag Reduction of Biopolymer Flows**  
*Azuraien Jaafar; Robert Poole*

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**Track 4: EF – Energy and Fuel** (Venue: Rm 4-09)  
Chairperson: AP Dr Hussain H. Al-Kayiem

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10.50 EF 21  
**Comparison of HCCI and SI Characteristics on Low Load CNG-DI Combustion**  
*Noraz*

11.10 EF 24  
**Gas Flame Temperature Measurement Using Background Oriented Schlieren**  
*Emishaw Iffqa; A. Rashid A. Aziz*

11.30 EF 29  
**Steady state Simulation of a Double-effect Steam Absorption Chiller**  
*Mojahid Ahmed; Syed Ihtsham-ul-Haq Gilani*

11.50 EF 34  
**Design of a Biomass Burner/Gas-to-Gas Heat Exchanger for Thermal Backup of a Solar Dryer**  
*Yusheila Md Yunus; Hussain H. Al-Kayiem; Khairul Anuar Kamarul Baharin*

- 12.10 EF 35  
**Experimental Study on Exhaust Middle Pipe Configuration on Diesel Engine Performance**  
*Idris Ibrahim; Kamal Abidin; Azman Zainuddin; T. N. Aiman Tuan Kamaruddin*

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**SESSION X (2.00 PM – 4.00PM)**

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- Track 1: **MM – Materials and Manufacturing (Venue: Rm 4-06)**  
Chairperson: Mohd Ridzuan Abd Latiff
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- 2.00 MM 21  
**Effect of Vermiculite Addition on Thermal Characteristic of Water-based Acrylic Fire Retardant Coating Formulation**  
*Wan Amalina Wan Zaharuddin; Bambang Ariwahjoedi, Patthi Hussain*
- 2.20 MM 25  
**The Foundry Technology Department at CMRDI – An Overview of the Past and Outlook for the Future**  
*Adel Nofal; Mohamed Waly*
- 2.40 MM 32  
**A Compararative Investigation into the Two-way Training of Shape Memory Alloy Vortex Generators Manufactured in a Selective Laser Melting Process**  
*Mohd Aris*
- 3.00 MM 41  
**Investigation on Solidification behaviour of Cast Iron Using FEM Software**  
*Sugrib Shaha*
- 3.20 MM 47  
**In-line Inspection Robot System using Image Processing Technique**  
*Ramachandran Ramakrishnan*
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- Track 2: **IR – Integrity and Reliability (Venue: Rm 4-07)**  
Chairperson: Hj Azman Zainuddin
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- 2.00 IR 04  
**Modeling of Maintenance Downtime Distribution using Expert Opinion**  
*Hilmi Hussin, Fakhruddin Mohd Hashim*

- 2.20 IR 05  
**A Multi-State Reliability Model for a Gas Fueled Cogenerated Power Plant**  
*Meseret Reshid, Mohd Amin Abd Majid*
- 2.40 IR 06  
**Burst Strength Analysis of Corroded Pipelines by Finite Element Method**  
*Chanyalew Belachew; Mokhtar Che Ismail; Saravanan Karuppanan*
- 3.00 IR 08  
**Reliability and availability evaluation for a multi-state system subject to minimal repair**  
*Masdi Muhammad; Mohd Amin Abd Majid*

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**Track 3: IM – Inspection and Maintenance** (Venue: RM 4-08)  
Chairperson: Hj Kamal Ariff Zainal Abidin

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- 2.00 IM 07  
**RCM Analysis of Process Equipment: A Case Study on Heat Exchangers**  
*Mohd Amin Abd Majid; Masdi Muhammad*
- 2.20 IM 08  
**Switching System for Control of Stochastic Hybrid Multiple Models**  
*Vu Minh; Fakhruddin*
- 2.40 IM 10  
**Probabilistic Reliability Assessment of an Insulated Piping in the Presence of Corrosion Defects**  
*Ainul Mokhtar*
- 3.00 MM 33  
**Structural and Properties Development of Expanded Austenite Layers on AISI 316L after Low Temperature Thermochemical Treatments**  
*Askar Triwiyanto, Mustafar Sudin, Esa Haruman, Shahjahan Mridha, Patthi Hussain*
- 3.20 MM 50  
**Design & Comparative Thermal Analysis of Circular & Profiled Cooling Channels for Injection Mold Tools**  
*Khurram Altaf; Ahmad Majdi Abdul Rani; Vijay Raj Raghavan*

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**Track 4: EF – Energy and Fuel** (Venue: Rm 4-09)  
Chairperson: Dr Zainal Ambri Abd Karim

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- 2.00 EF 22  
**The Tube Side Heat Transfer Coefficient for Enhanced Double Tube by Wilson Plot Analysis**  
*Ramahlingam Tiruselvam; Vijay Raj Raghavan*

- 2.20 EF 23  
**The Combustion Behavior Analysis of Dual Fuel HCCI Using the SHELL Model**  
*Firmansyah Firmansyah*
- 2.40 EF 25  
**A Computational Fluid Dynamics (CFD) Simulation of the Viscous Flow Encountered in the Mold-Filling Process**  
*Suren Sinnadurai; Ahmed M. S. Ali*
- 3.00 EF 40  
**Effect of Spray Cone Angle on Combustion of Compressed Natural Gas Direct Injection (CNG-DI) Engine Under lean Stratified Conditions**  
*Raja Shahzad Hassan Raja*