



ICMAAE'13

MESSAGE FROM THE CHAIRMAN OF ICMAAE'13



ASSOC. PROF. DR. MEFTAH HRAIRI
Chairman,

International Conference on Mechanical, Automotive and Aerospace Engineering 2013

Assalamualaikum wa rahmatullahi wa barakatuh

I am particularly delighted to welcome you to Kuala Lumpur and the 4th International Conference on Mechanical, Automotive and Aerospace Engineering (ICMAAE'13). Once every two years, the department of Mechanical Engineering, IIUM holds an international conference on Mechanical, Automotive and Aerospace Engineering. This year, we are proud and delighted to organize the conference as our fourth conference in the series since 2006. The first two under the International Conference on MEMS and Nanotechnology (ICMN'06 and ICMN'08) and the last two organized under IIUM engineering congress (ICMAAE'11 and ICMAAE'13).

The multidisciplinary nature of mechanical engineering is reflected in the wide variety of topics, such as MEMS and Nanotechnology, Energy, Dynamics and Controls, Structures, Combustion just to mention a few. The main objective of the conference is to provide a platform for exchange of ideas through thought-provoking discussions during keynote addresses, invited lectures and technical presentations. Speakers from the industry will present papers from their perspective to the great benefit of academics and researchers. We hope this conference allows interested colleagues to inspect recent scientific advances, and also causes improvements in the various topics covered by the conference.

We are glad at the favorable response received from the scientific community around the world. My grateful thanks go to the working committee for the conference and all committees and persons involved in organizing this International Conference. I am also grateful to all the reviewers, without whose efforts such a good standard for the conference could not have been attained. My thanks go to all the sponsors and all participants in making this conference a success.

It really gives me great pleasure to offer sincere thanks for your attendance and participation in ICMAAE'13. We wish you every success in your research undertakings and look forward to seeing you at ICMAAE 2015.

Wasalaam

ASSOC. PROF. DR. MEFTAH HRAIRI

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CONFERENCE TOPICS

Mechanical Engineering

- Oil and Gas
- Energy
- MEMS and Nanotechnology
- Modeling and Simulation
- Experimental Techniques and Measurements
- Dynamics and Controls
- Structures and Materials
- Thermo-fluids
- Other topics of interest

Aerospace Engineering

- Aerodynamics and Aeroelasticity
- Aerospace Dynamics and Controls
- Aerospace Propulsion
- Aerospace Structures
- Aerospace Design, Testing, and Performance
- Airworthiness and Certifications
- Experimental Methods and Measurements
- UAV and MAV
- Flight Systems
- Other topics of interest

Automotive Engineering

- Engine and its Systems
- Combustion and Emission control
- Vehicle Structures and Crashworthiness
- Power train
- Vehicle Dynamics and Control
- Alternative Power Systems and Management
- Vehicle Aerodynamics
- Noise Vibration & Harshness
- Experimental Methods and Measurements
- Other topics of interest
- Other Related Topics

REVIEWERS

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Syed Mohamed Ali Jaffar
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Yulfian Aminanda

KEYNOTE SPEAKER 5



PROF. PHILIPPE A. OLIVIER
Head
Composite Materials and Structures Research Group,
Institut Clément Ader
University of Toulouse, France

Prof. Philippe OLIVIER studies process-induced stresses in polymeric composites since his PhD thesis in 1994. He is a member of European Society for Composite Materials (<http://www.escm.eu.org/index.php>) Council and French Association for Composite Materials Administration Board (<http://www.amac-composites.org/>). He is the head of Composite Materials and Structures Research Group of Institut Clément Ader in Toulouse, France (<http://www.institut-clement-ader.org/>).

PROCESS-INDUCED STRESSES IN POLYMERIC MATRIX COMPOSITES

Residual or process-induced stresses are a one of the main problem to manage during the manufacturing of polymeric matrix composite laminated parts. These stresses depend on several factor such as mould/part interaction, material own characteristics and manufacturing parameters. Process-induced stresses can result in part geometry distortions and/or in modifications of materials strength and toughness. This is why the management of these stresses remains one of the main manufacturing problems to face.

KEYNOTE SPEAKER 6



DR. KIJUNG KWON
Principal Researcher
Aerodynamics Department
Korea Aerospace Research Institute
Daejeon, Korea

Dr. Kwon has over eighteen years experience in experimental aerodynamics. His research interests are in the areas of: Experimental aerodynamics, Wind tunnel testing, and Optical measurements (PIV, PSP). He is also in-charge of the human powered aircraft (HPA) project as a system integrator.

FUTURE TRANSPORTATION SYSTEM – PERSONAL AIR VEHICLE(PAV)

The keynote speech will include survey results on the previous PAV efforts, investigation of the key PAV relevant technologies, and evaluation of the existing PAV configurations. Through the market analysis of the future transportation system, appropriate PAV concepts, operational scenario, and the preliminary PAV market share forecast will be proposed. Based on the key technologies identified and the market analysis results, a strategic technologies development roadmap will be investigated.

INVITED SPEAKER 1



DR. CYRILLE SCHWOB
Chief Technical Officer
Aerospace Malaysia Innovation Centre,
Malaysia

Dr. Cyrille Schwob is the Chief Technical Officer of Aerospace Malaysia Centre, a collaborative Innovation structure bringing together different industry players (such as CTRM, EADS and Rolls Royce) and public or private high level research institutions. In the past, he has been serving EADS Innovation Works – the corporate network of R&T research centre network of EADS - and Airbus for the past ten years. His main area of research there was simulation of complex structures behavior.

AEROSPACE R&T – CURRENT AND FUTURE PERSPECTIVE

As we may expect due to the advanced technology required by Aerospace products, innovation in is vital for the industries engaged in this business. But scientific excellence and development of cutting edge technologies contribute also to global progress and help address the challenges faced by society. Challenges like ensuring mobility while conserving the environment, increasing security without restricting freedom unnecessarily or exploiting the advantages of the cyber and virtual world without compromising data integrity. The talk will describe how these challenges are tackled within the Aerospace industries.

INVITED SPEAKER 2



Md Ridzuan Md Yusof
Head of Advanced Vehicle Research & Technology
PROTON
Malaysia

Md Ridzuan Md Yusof is leading the Advanced Vehicle Research for PROTON and a key figure on the development of technology demonstrator and vehicle electrification projects such as Electric/Hybrid Vehicle and EMAS (Eco-Mobility Advanced Solution).

He has more than 12 years diversified experience in vehicle development specializing in e-drive system integration, advanced control, alternative & energy recovery system as well as technology evaluation and roadmapping. Being the Industrial Advisory Panel (IAP) for several local universities and published technical papers to numbers of conferences as well as being an invited speaker to international forums in area of vehicle electrification. He is also the current Executive Committee of SAE International, Malaysia as well as members to other professional bodies such as IEEE, etc. Recently, the Chairman of Technical Committee for PROTON Green Mobility Challenge (PGMC).

VEHICLE ELECTRIFICATION INITIATIVE FOR GREENER FUTURE

Around the world, Governments are focusing on how to reduce emissions of Greenhouse Gases (GHGs) and how to reduce dependency and consumption of fossil fuel. Malaysia is not an exception to this movement - the Prime Minister had delivered Malaysia's stand to reduce its carbon dioxide emission to 40 per cent by the year 2020.

As the world moves towards an eco friendly future, the automotive sector plays a vital role in dealing with the emission. Many countries have supported the Hybrid/EV Program as one of the ways to reduce GHGs.

Automotive industry in Malaysia has embarked into several initiatives to support the greener future, one of which is the development and production of affordable, low maintenance and greener cars.

Vehicle electrification is among the automotive makers' strategy to offer significant fuel economy, emission reduction and e-Mobility for sustainable green mobility solution. Consequently, there are many initiatives to introduce Electric Vehicle such as fleet test vehicle program and green car challenge for public awareness, technology evaluation and analysis of driving behavior as well as customer feedbacks.

13.00 – 14.00 : LUNCH BREAK

Parallel Technical Sessions I, Tuesday 2 July 2013: 15.00 – 16.20

| Chairperson: Assoc. Prof. Qasim Shah | | Venue: Manhattan VA | |
|--|---|--|--|
| I A: Modeling and Simulation (MS) | | | |
| Co-chair: Dr. Asif Hoda | | 15.30 – 15.45 | |
| 15.00 – 15.15 | 15.15 – 15.30 | | |
| <p>30033 LBM SIMULATION OF FLUID-SOLID FLOW WITH COMPLEX BOUNDARIES Nor Azwadi Che Sidik* (UTM)*, Leila Jahanshaloo, Emad Yazdanpanah</p> | <p>30166 BLACK BOX NONLINEAR MODEL PREDICTIVE CONTROL USING RECURRENT NEURAL NETWORK Moumen Idres* (IIUM)*, Mohammad Abdelrahman (IIUM), Muhammad Abdullah (International Islamic University Malaysia)</p> | <p>30140 STABILITY AUGMENTATION SYSTEM BASED LMI'S FOR AIRCRAFT STABILIZATION ATahir EL Hashani* (Tripoli university)*</p> | |
| <p>30147 SATELLITE ORBIT AND ATTITUDE SIMULATOR: DESIGN AND IMPLEMENTATION Mohamed Okasha* (IIUM)*, Mohammad Abdelrahman (IIUM)</p> | <p>30079 NUMERICAL INVESTIGATION OF DISCHARGE COEFFICIENT IN ROTATING RADIAL ORIFICES BASED ON THE INCIDENCE ANGLE Hoa Ha Trong* (Universiti Tenaga Nasional)*, Mohd. Azree Bin Idris</p> | | |
| <p>I B: Dynamics and Control (DC) +</p> | | | |
| Chairperson: Dr. Mohammad Abdelrahman | | Venue: Manhattan VB | |
| Aerospace Dynamics and Control (ADC) + Vehicle Dynamics and Control (VDC) | | | |
| Co-chair: Dr. Fadly Jashi Darsivan | | 15.30 – 15.45 | |
| 15.00 – 15.15 | 15.15 – 15.30 | | |
| <p>30148 OPTIMIZATION AND CONTROL OF SEMI-ACTIVE SUSPENSION USING GENETIC ALGORITHM FOR OFF-ROAD FULL VEHICLE BenLahcene Zohir* (IIUM)*, Sany Izzan Ihsan (International Islamic University Malaysia), Waleed Faris (IIUM), Fadly Jashi Darsivan Ridhuan (IIUM)</p> | <p>30146 LOW EARTH ORBIT DESIGN FOR REMOTE SENSING APPLICATIONS Mohamed Okasha* (IIUM)*, Karim Kamalaldin(IIUM)</p> | <p>30132 NOISE MEASUREMENTS DATA ANALYSIS AND CONTROL OF AIRCRAFT JET ENGINE Gamal Ashawesh* (Tripoli University)*, Adel Kurban (University of Tripoli)</p> | |

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| <p>15.45 - 16.00</p> <p>30145 COMPARATIVE PERFORMANCE ANALYSIS AND EVALUATION OF ORNITHOPTER FLIGHT DYNAMICS USING PID AND MODEL PREDICTIVE CONTROLLER</p> <p>Md Moshir Rahman Farazi* (Islamic University of Technology)*; Abdur Raquib Ridwan (Islamic University of Technology); Kazi Khairul Islam (Islamic University of Technology); Mohammad Wasliuzzaman (Non-government Teachers' Registration and Certification Authority);</p> | <p>16.00 - 16.15</p> <p>30121 THE FUTURE OF AIRCRAFT FEEDBACK INFORMATION: THE CHALLENGES OF IMPLEMENTATION</p> <p>Wan Mohd Sufian Wan Husain* (UniKL MIAAT)* Shahani Aman Shah (UniKL MIAAT)</p> | |
| <p>I C: Noise Vibration and Harshness (NVH) + Vehicle Structures and Crashworthiness (VSC) Co-chair: Prof. Dr. AKM Mohiuddin Co-chair: Assoc. Prof. Dr. Mohammed Ataur Rahman Venue: Manhattan VI</p> | | |
| <p>15.00 - 15.15</p> <p>30085 SEMI-ACTIVE VIBRATION DAMPING OF SMART STRUCTURES USING RESONANT SHUNTED PIEZOELECTRICS</p> <p>Hiroshi Okubo* (Osaka Prefecture University)*</p> | <p>15.15 - 15.30</p> <p>30160 FLUTTER ANALYSIS OF SUPERSONIC WING WITH EXTERNAL STORES</p> <p>Nur Azam Abdullah* (IIUM)*, Erwin Sulaeman (IIUM)</p> | <p>15.30 - 15.45</p> <p>30124 ASSESSMENT OF CRASHWORTHINESS OF THE FRONTAL PART OF A LOCAL CAR MODEL</p> <p>Yassin Nimir* (IIUM)* Kassim Abdullah (IIUM)</p> |
| <p>15.45 - 16.00</p> <p>30069 FLUTTER OF COMPOSITE WING BY FINITE ELEMENT ANALYSIS</p> <p>Boo Koon Yan* (UTM)* Gunasegaran Kanesan (UTM) Shuhaimi Mansor () AinulLotfi Abdul-Latif (UTM)</p> | <p>16.00 - 16.15</p> <p>30174 ESTIMATION OF FLUTTERING FREQUENCY OF FLOW INDUCED VIBRATIONS IN A THIN CANTILEVER</p> <p>Raed Kafafy* (IIUM)* Sany Izzan Ihsan (International Islamic University Malaysia) Moumen Idres (IIUM) Abdul Hakim Javid (IIUM)</p> | |

16.20 - 16.35 : TEA BREAK

| Parallel Technical Sessions II, Tuesday 2 July 2013: 16.35 – 18.20 | | | |
|---|--|---|--|
| II A: Modeling and Simulation (MS) | | II B: Dynamics and Control (DC) + Aerospace Structures (AS) + Thermo Fluids (TF) | |
| Chairperson: Dr. Asif Hoda | Co-chair: Assoc. Prof. Dr. Qasim Shah | Chairperson: Dr. Fadly J Darsivan | Co-chair: Dr. Mohammad Abdelrahman |
| 16.35 – 16.50 | 16.50 – 17.05 | 16.35 – 16.50 | 17.05 – 17.20 |
| Venue: Manhattan VA | | | |
| <p>30057 NUMERICAL SIMULATION OF SUPERSONIC TURBULENCE FLOW OVER ROTATING BODY Mohammad Alamlee* (Shiraz university)*</p> | <p>30188 SIMULATION OF PRESSURE DROP IN MICRO-CHANNELS WITH DIFFERENT GEOMETRIES Hazi Ab. Manaf (IIUM), Shugata Ahmed (IIUM), Mirghani I. Ahmed, M N A Hawlader (IIUM)</p> | <p>30182 ACTIVE SUSPENSION CONTROL OF TWO DEGREE OF FREEDOM VEHICLE MODEL USING ROBUST CONTROLLERS Harjono Djojodhardjo* (Universiti Putra Malaysia)*</p> | <p>30024 LBM SIMULATION OF THERMAL FLUID-SOLID FLOW IN A PIPE Nor Azwadi Che Sidik* (UTM)* Leila Jahanshaloo ()</p> |
| <p>30063 NUMERICAL ANALYSIS ON FLOW AND PERFORMANCE OF AN OPEN CROSS-FLOW TYPE HYDRAULIC TURBINE Shou Uehara (Nagoya University), Tomomi Uchiyama* (Nagoya University)*, Haruki Fukuhara (Nagoya University), Shouichiro Ito (Shinshu University), Toshihiko Ikeda (Shinshu University)</p> | <p>30161 NUMERICAL SIMULATION OF A LOW ASPECT RATIO WING AT LOW REYNOLDS NUMBER Syed Mohamed Ali Jaffar* (IIUM)* Suleiman Ali () Ashraf Omar (IIUM) M. Syuhairi M. Husain (Universiti Teknologi Mara Malaysia)</p> | <p>30115 BASELINE STUDIES ON THE INFLUENCE OF J2 ON MICRO-SATELLITES FORMATION FLYING IN LOW ORBITS</p> | <p>30027 OPTIMIZATION OF CDA CASCADE USING PARAMETERIZATION AND GENETIC ALGORITHM COUPLED WITH CFD Syam Sasidharan* (SVNIT)* Nilesh Salunke (R C Patel Institute of Technology, Shirpur) Vilash Shingares (Pimpri Chinchwad College of Engineering, Pune) Salim Channiwala (SVNIT, Surat, India)</p> |
| <p>30042 MODELING AND SIMULATION FOR HYBRID BUS DEVELOPMENT Mohamed El-Sayed* (Kettering University)</p> | <p>30149 LIFT AND DRAG AUGMENTATION THROUGH IMPLEMENTATION OF A ROUGH SURFACE ON AN AIRFOIL</p> | | |
| <p>18.05 - 18.20</p> | <p>17.35 - 17.50</p> | <p>16.50 – 17.05</p> | <p>17.50 - 18.05</p> |
| <p>Chairperson: Dr. Fadly J Darsivan</p> | <p>Co-chair: Dr. Qasim Shah</p> | <p>Chairperson: Dr. Mohammad Abdelrahman</p> | <p>Co-chair: Dr. Qasim Shah</p> |
| <p>16.35 – 16.50</p> | <p>16.50 – 17.05</p> | <p>16.50 – 17.05</p> | <p>17.05 – 17.20</p> |
| II B: Dynamics and Control (DC) + Aerospace Structures (AS) + Thermo Fluids (TF) | | Venue: Manhattan VB | |

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|--|--|--|--|
| | | Mohammed Kaleemullah (IIUM); Waleed Farris (IIUM); Yasir Musthafa (IIUM); | Fairuz Romli (Universiti Putra Malaysia) Abdullah Saad Mahmud* (UPM)* Azmin Shakrine Mohd Rafie (UPM) Ermira Junita Abdullah (UPM) |
| 17.20 - 17.35 | 17.35 - 17.50 | 17.50 - 18.05 | |
| 30080 MODELLING OF EQUIVALENT STIFFNESS OF THIN WALLED STRUCTURAL JOINTS Mohd Shukri Yob* (UNISEL)* Shuhaimi Mansor (Universiti Teknologi Malaysia) Razali Sulaiman | 30112 DESIGN A HEAT PIPE FOR SPACE CRAFT COOLING Ali Elmabruk* (Tripoli University)* Moharrem Shafi (Tripoli University) Munsef Badi (Tripoli University) | 30059 EFFECTS OF LARGE-SCALE HEATING IN TWO-DIMENSIONAL MIXED CONVECTIVE FLOW OF AIR PAST A SQUARE CYLINDER Nadeem Hasan* (Aligarh Muslim University)* Rashid Ali (Aligarh Muslim University) | |
| 18.05 - 18.20 | | | |
| 30035 A NOVEL NON-INTRUSIVE TECHNIQUE FOR THE ANALYSIS OF TWO-PHASE SLUG FLOW IN PIPELINES Muhammad Israr (UTP); Morgan Heikal (UTP); Abdul Rashid Abdul Aziz (UTP); | | | |
| II C: Structure (STRU) | | | |
| Chairperson: Assoc. Prof. Dr. Mohammed Ataur Rahman | Co-chair: Prof. Dr. AKM Mohiuddin | Venue: Manhattan VI | |
| 16.35 - 16.50 | 16.50 - 17.05 | 17.05 - 17.20 | |
| 30025 INCIPIENT DAMAGE OBSERVATION OF SA 516 CARBON STEEL DURING TENSILE TEST USING THE ACOUSTIC EMISSION TECHNIQUE Afree Afiq Abd Rahim* (UKM)* Shahrum Abdullah (UKM) Mohd Zaki Nuawi (UKM) Nordin Jamaluddin (UKM) Mazlan Mohammad (UKM) | 30127 BIO DIESEL LUBRICATED WEAR BEHAVIOR OF SURFACE MODIFIED AISI 4340 STEEL Belal Ghazal* (IIUM)* Mohe A.maleque (IIUM) | 30144 INFLUENCE OF LIGHT WEIGHT COMPOSITE MATERIAL ON PERFORMANCE EVALUATION OF AUTOMOTIVE BRAKE ROTOR Adebisi Abdulmumin* (IIUM)* | |

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|---|---|---|
| 17.20 - 17.35 | 17.35 - 17.50 | 17.50 - 18.05 |
| <p>30171 EFFECT OF SINTERING TEMPERATURE ON HARDNESS AND WEAR OF AL-SICP AND AL-TICP COMPOSITES Yassin Nimir* (IIUM)*</p> | <p>30084 EXPERIMENTAL INVESTIGATION ON MACHINING BEHAVIOUR OF DIAMOND INSERT ON TURNING AL6061 ALLOY WITH 10% B4C PARTICLES Edwin David* (Syce)* ANAND RAJEEV (SRI VSENKATESWARA COLLEGE OF ENGINEERING) Mohit Arora (sri venkateswara college of engineering)</p> | <p>30086 CONTROL OF SHORT CARBON FIBER ALIGNMENT IN POWDER INJECTION MOLDED COPPER MATRIX COMPOSITES Irfan Shirazi* (Universiti Teknologi Petronas)* Faiz Ahmad (Universiti Teknologi Petronas) Ali Muhsan (Universiti Teknologi Petronas) Rafi Raza (COMSATS Institute of Information Technology)</p> |
| 18.05 - 18.20 | | |
| <p>30187 EXPERIMENTAL INVESTIGATION OF A VERTICAL ROUND FREE TURBULENT JET Jalal Mohammed Zayan* (IIUM)*, Waqar Asrar (IIUM), Asif Hoda (IIUM)</p> | | |

ICMAAE Keynote Speakers 5 & 6, Wednesday 3 July 2013: 09.00 - 10.30

Venue: Manhattan V

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|---|---|
| 09.00 - 09.45 | 09.45 - 10.30 |
| <p>Chairperson: Assoc. Prof. Yulfian Aminanda Keynote Speaker #5: Prof Phillippe A. Olivier Head, Composite Materials and Structures Research Group Institut Clément Ader University of Toulouse, France Title: Process-induced Stresses in Polymeric Matrix Composites</p> | <p>Chairperson: Prof. Waqar Asrar Keynote Speaker #6: Prof. Kijung Kwon Principal Researcher Aerodynamics Department, Korea Aerospace Research Institute, Daejeon, Korea Title: Future Transportation System – Personal air vehicle (PAV)</p> |

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| 10.30 – 11.00 : TEA BREAK | |
| ICMAAE Invited Speakers Sessions, Wednesday 3 July 2013: 11.00 – 12.00 Venue: Manhattan V | |
| 11.00 – 11.30 | 11.30 – 12.00 |
| <p>Chairperson: Assoc. Prof. Yulfian Aminanda</p> <p>Invited Speaker #1 : Dr. Cyrille Schwob Chief Technical Officer Aerospace Malaysia Innovation Centre, Malaysia</p> <p>Title: Aerospace R&T – current and future perspective</p> | <p>Chairperson: Assoc. Prof. Meftah Hrairi</p> <p>Invited Speaker #2 : Md Ridzuan Md Yusof _Head of Advanced Vehicle Research & Technology PROTON Malaysia</p> <p>Title: Vehicle Electrification Initiative for Greener Future</p> |
| Parallel Technical Sessions III, Wednesday 3 July 2013: 12.00 – 13.00 | |
| III A: Thermo-Fluids (TF) + Aerospace Propulsion (AP) | |
| Chairperson: Assoc. Prof. Raed Kafafy | Co-chair: Dr. Sany Izan Ihsan |
| 12.00 - 12.15 | 12.15 - 12.30 |
| <p>3</p> <p>NATURAL CONVECTION OF AIRFLOW AND RADIATION EXCHANGE BETWEEN THE WALL SURFACES WITHIN A SQUARE ENCLOSURE</p> <p>Uthai Prasopchingchana* (Burapha University)*</p> | <p>8</p> <p>FILM COOLING EFFECTIVENESS FOR CYLINDRICAL AND ROW TRENCHED COOLING HOLES AT DIFFERENT BLOWING RATIOS</p> <p>Ehsan Kianpour* (UTM)* Nor Azwadi Che Sidik (UTM) Mazlan bin Abdul Wahid (UTM) Iman Golshekouh (Islamic Azad University of Izeh Branch)</p> |
| 12.45 – 13.00 | 12.30 – 12.45 |
| <p>30047</p> <p>ACTIVATION OF MIXING FOR DENSITY STRATIFIED FLUID WITH JET FLOW</p> <p>Shogo Shakouchi* (Nagoya University)* tomomi Uchiyama (Nagoya University)</p> | <p>30014</p> <p>HEAT TRANSFER ENHANCEMENT OF LAMINAR FLUID FLOW IN SEPARATED REGION USING NANOFUID: A REVIEW</p> <p>Hussein Togun* (UM)* Tuka Abdulrazzaq (University of Putra) s.N. Kazi (UM) Ahmad Badarudin (UM) M.K.A Ariffin (University of Putra)</p> |

| III B: Structures (STRU) | | |
|---|---|---|
| Chairperson: Assoc. Prof. Erwin Suleiman | Co-chair: Dr. Sayed Muhammad Kashif | Venue: Manhattan VB |
| 12.00 - 12.15 | 12.15 - 12.30 | 12.30 - 12.45 |
| <p>30052 LIQUID SURFACE MODIFICATION OF LOW ALLOY STEEL WITH TITANIUM CARBIDE AND CARBON-NANOTUBES HYBRID COMPOSITE POWDERS 646Kamilu Bello* (IIUM)*</p> | <p>30082 SURFACE ROUGHNESS EVALUATION OF HOLES DRILLED IN HIGH SPEED DRILLING OF AUTOMOTIVE ALUMINUM ALLOYS USING UNCOATED, TIALN AND ALTiN COATED CARBIDE TOOLS Ali Akhavan Farid* (Universiti Teknologi Malaysia)* Safian Sharif (Universiti Teknologi Malaysia)</p> | <p>30074 STRESS CORROSION CRACKING OF 300 SERIES AUSTENITIC STAINLESS STEELS IN NATRIUM CHLORIDE SOLUTIONS Meftah Elsaraiti* (Higher Vocational Institute MI)*</p> |
| <p>12.45 - 13.00</p> | | |
| <p>30094 REDUCTION OF THE STRESS CONCENTRATION FACTOR FOR A PLATE WITH CIRCULAR HOLE UNDER AXIAL LOADING Miloud Soulyah* (HBCC/KFUPM)*</p> | | |
| III C: Energy (ENE) | | |
| Chairperson: Dr. Moumen Idres | Co-chair: Dr. Sanisah Saharin | Venue: Manhattan VI |
| 12.00 - 12.15 | 12.15 - 12.30 | 12.30 - 12.45 |
| <p>30066 STUDY PERFORMANCE OF PHOTOVOLTAIC THERMAL SOLAR AIR HEATERS Ebrahim Alfeqi* (Azzawia University)*, Alhadi Abosbal (Azzawia University), Abigasem Elarrami (Higher Institute for the preparation of trainers , Regdalen)</p> | <p>30015 STUDYING THE EXISTENCE OF GRAVITOMAGNETIC FORCE Meftah Elsaraiti* (Higher Vocational Institute MI)*</p> | <p>30088 DUAL-ROTOR WIND TURBINE Khaled Asfar* (JUST University)*</p> |
| <p>12.45 - 13.00</p> | | |
| <p>30101 A COMPARATIVE STUDY OF ENERGY SITUATION IN BANGLADESH, INDIA, MALAYSIA AND PAKISTAN Solangi Khalid Hussain* (UM)* Muhammad Mohsin Aman (UM) s.N. Kazi (UM) Ahmad Badarudin (UM)</p> | | |

13.00 – 14.00 : LUNCH BREAK

| Parallel Technical Sessions IV, Wednesday 3 July 2013: 14.00 – 15.00 | | |
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| IV A: Experimental Techniques and Measurement (ETM) | | |
| Chairperson: : Prof. Mirghani I. Ahmed | Co-chair: Prof. Dr. MNA Hawlader | Venue: Manhattan VA |
| 14.00 – 14.15 | 14.15 – 14.30 | 14.30 – 14.45 |
| <p>30013 COMPUTATIONAL COMPARISON OF CORRUGATED FOIL VS. FLAT PLATE BASED ON ADAPTIVE GRID TECHNIQUE Ezzeddin Elarbi* (Tripoli University)*</p> | <p>30119 AN INVESTIGATION ON FACTORS THAT CAUSE ERROR IN REVERBERATION TIME MEASUREMENT (ISO 3382) IN UTM LECTURER ROOM Azril Azalan* (Universiti Tun Hussain Onn Mai)*</p> | <p>30137 IMPROVEMENT OF SURFACE ACCURACY IN MILLING OF THIN-WALLED STRAIGHT GEOMETRIES Tufan Bera* (Bits Pilani)*</p> |
| <p>14.45 - 15.00</p> <p>30108 SKIN FRICTION MEASUREMENTS USING CLAUSER CHART METHOD AND OIL FILM INTERFEROMETRY Usman Butt* (BTU Cottbus)*</p> | | |
| IV B: Aero + Aerospace Design, Testing and Performance (ADTP) | | |
| Chairperson: Prof. Ashraf Ali Omar | Co-chair: Prof. Dr. Waqar Asrar | Venue: Manhattan VB |
| 14.00 – 14.15 | 14.15 – 14.30 | 14.30 – 14.45 |
| <p>30170 DESIGN AND DEVELOPMENT OF IJUM HOVERCRAFT J. S. Mohamed Ali* (IJUM)*, M.Y.Muhammad Muhalimn(IJUM) , C.N. Muhammad Faizal (IJUM)</p> | <p>30109 COANDA JET APPLICATIONS PROGRESS AND DEVELOPMENT Harjono Djojodihardjo* (Universiti Putra Malaysia)* Mohd Faisal Abdul Hamid (Universiti Putra Malaysia) Mohammad Jafari (Universiti Putra Malaysia)</p> | <p>30029 ANALYTICAL AND NUMERICAL INVESTIGATIONS ON THICK AIRFOILS Kutty Mani* (SVNIT)* Rajan Bhatt (SVNIT,surat) Beena Baloni (SVNIT, Surat, India) Salim Channiwala (SVNIT, Surat, India)</p> |

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| 14.45 - 15.00 | | | |
| 30040 | MATHEMATICAL MODEL FOR GYROSCOPE EFFECTS Ryspek Usubatov* (UNIMAP)* | | |
| 14.00 – 14.15 | | IV C: Modelling and Simulation (MS) | |
| Chairperson: Assoc. Prof. Yassin Nimir | | Co-chair: Dr. Mohammed Okasha | |
| 14.00 – 14.15 | | 14.15 – 14.30 | 14.30 – 14.45 |
| 30128 | NUMERICAL INVESTIGATE ON THE CENTRE-BODIES OF PLENUM CHAMBER IN A SWIRLING FLUIDIZED BED Mohd Al-Hafiz Mohd Nawi* (UTHM, Malaysia)* | 30100 | NUMERICAL STUDY OF NANOFUID HEAT TRANSFER PERFORMANCE IN CLOSED CONDUIT TURBULENT FLOW M. N. M. M. N. M. Zubir (UM) s.N. Kazi* (UM)* Ahmad Badarudin (UM) Emad Sadeghinezhad (UM) Hussein Togun (UM) Mohammad Reza Safaei (UM) Rod Sadri (UM) Oon Seen (UM) samira Gharahkhani (UM) |
| 14.45 - 15.00 | | 15.00 - 15.15 | |
| 30019 | NUMERICAL STUDY OF THE EFFECT OF COAL DIAMETER ON PULVERIZED COAL COMBUSTION TO REDUCE POLLUTANTS Behnam Rahmadian (, Payam Noor university, Jahr) Mohammad Reza Safaei (UM) s.N. Kazi* (UM)* Emad Sadeghinezhad (UM) Rod Sadri (UM) M. N. M. M. N. M. Zubir (UM) Arash Karimipour (Najafabad Branch, Islamic Azad University) Ahmad Badarudin (UM) | 30190 | NUMERICAL INVESTIGATION OF AN IMPINGEMENT FLOW OVER RATCHET SURFACE DUE TO A CIRCULAR WATER JET Khaled Ahmad*(Qatar University), ElSadig Mahdi*(Qatar University), Saud Ghany*(Qatar University), Mohamed Gadala (University of British Columbia) |

15.00 – 15.30 : TEA BREAK

| Parallel Technical Sessions V, Wednesday 3 July 2013: 15.30 – 18.00 | | | |
|--|---|--|---------------|
| Chairperson: Dr. Jaffar Syed Mohammad Ali | | V A: Other Topics of Interest (OT) | |
| 15.30 – 15.45 | | Venue: Manhattan VA | |
| 15.45 – 16.00 | | 16.00 – 16.15 | |
| Co-chair: Dr. Kassim Abdullah | | | |
| 30060 TRAJECTORY OF TWO-LINKS PLANAR FOR SIMPLE MECHANISM APPLICATION Siti Nur Hanisah Umar* (USM)* Elmi Abu Bakar () | 30061 AN NH3-H2O SOLAR ABSORPTION COOLED AGRO-FOOD STORAGE ROOM Hatem BENTAHER* (LASEM-ISSIGabès)* Jochen Doll (ISE Fraunhofer Institute) Peter Schossig (ISE Fraunhofer Institute) Aref Maalej (LASEM-ENIS) | 30083 STUDY OF RFID APPLICATION WITH ZIGBEE NETWORK IN SUPPLY CHAIN MANAGEMENT Khalid Hasnan (UTHM) Aftab Ahmed* (UTHM Malaysia)* Qadir Bakhsh (uthm) | 16.15 – 16.30 |
| 30135 A STUDY OF PLATE HEAT EXCHANGER USING CIRCULAR FINS Ratnesh Raj* (Vellore Institute of Technology)* Sai Krishna Ramani () Satheesh A () | 30184 STUDY OF AIR POLLUTION DUE TO VEHICLES EMISSION IN HIGH VOLUME TRAFFIC: SELANGOR AS CASE STUDY Ihsan , Sany IZAN *, Ahmad Fadzil Ahmad Shuhaili (IIUM) Waleed Farris (IIUM) | 30021 A HYBRID FINITE DIFFERENCE-ELEMENT METHOD FOR SOLVING THE 3-D ENERGY EQUATION IN NON-ISOTHERMAL FLUID FLOW PAST A STAGGERED TUBE BANK Mahmood Alavi* (Islamic Azad University)* | 16.30 – 16.45 |
| 30129 FLUID STRUCTURE INTERACTION MULTIPHYSICS APPROACH FOR CENTRIFUGAL PUMP'S OPTIMISATION Margarita duffresne * (SOMEFLU)* | 30105 CONCEPTS OF TURBOMACHINERY SELECTION FOR OIL AND GAS UPSTREAM FACILITIES PROJECT Harris Abd Rahman Sabri* (Petronas Carigali Sdn Bhd)* Abdul Rahman Abdul Rahim (Universiti Teknologi Malaysia) Harris A Majid (Petronas Carigali Sdn Bhd) | 30111 ASSESSMENT OF LIQUEFACTION SYSTEMS' PROCESS PERFORMANCE ON LNG FLOATING EXPORT TERMINALS Samer Gowid* (Qatar University)* Roger Dixon (Loughborough University) Saud Ghani (Qatar University) | 17.00 - 17.15 |
| 30113 DESIGN OF EXPERIMENT FOR IMPROVING UNBALANCED BOTTLE THICKNESS PROBLEM; A CASE STUDY AT PERMANIS SDN. BHD. Nolla Harudin* (UNITEN)* | | | 17.15 – 17.30 |
| | | | 17.30 – 17.45 |
| | | | 17.45 – 18.00 |

| V B: Combustion and Emission Control (CEC) + Vehicle Aerodynamics (VA) + MEMS and Nanotechnology (MNT) | | |
|---|---|--|
| Chairperson: Prof. Waleed Fekry Faris 15.30 – 15.45 | Co-chair: Dr. Mohd Sultan Ibrahim 15.45 – 16.00 | Venue: Manhattan VB 16.00 – 16.15 |
| <p>30076 A CFD STUDY OF NACA 63415 WITH DEPLOYMENT OF LEADING EDGE AND TRAILING EDGE SURFACE Wan Zaidi Wan Omar* (Universiti Teknologi Malaysia)* Muhammad Multazaam Abd Rahim (Universiti Teknologi Malaysia) Tholuddin Mat Lazim (UTM)</p> | <p>30180 STUDY ON THE EFFECT OF WINDOW OPENING ON THE DRAG CHARACTERISTICS AND STABILITY OF A CAR S. M. Kashif* (IIUM)*; Syed Mohamed Ali Jaffar (IIUM); Mohd Sultan Ibrahim* (IIUM); Ashraf Omar (IIUM)</p> | <p>30092 DEVELOPMENT OF A TECHNIQUE BASED ON ELECTROSTATIC STABILIZATION FOR IMPROVING NANOFUID SUSPENSION STABILITY AT LOW CHARGE POTENTIAL M. N. M. M. N. M. Zubir (UM) s.N. Kazl* (UM)* Ahmad Badarudin (UM) Enad Sadeghinezhad (UM) Hussein Togun (UM) Mohammad Reza Safaei (UM) Rod Sadri (UM) Oon Seen (UM) samira Gharahkhani (UM)</p> |
| <p>30158 FLOW VISUALIZATION OVER A CIRCULAR PLANFORM WING Ashraf Omar* (IIUM)* sulleman Ali () Syed Mohamed Ali Jaffar (IIUM)</p> | <p>30011 DEVELOPMENT OF A CARBON CAPTURE DEVICE FOR MOBILE EMISSIONS SOURCES Samer Ahmed* (Qatar University)* Said Ali (Qatar University) Ihab Naser (Qatar University)</p> | <p>30159 HOT ISOSTATIC PRESS SINTERED MULTIWALLED CARBON NANOTUBE REINFORCED ALUMINIUM NANO-COMPOSITE Umma Abdulla* (IIUM)* Mohe A.maleque (ium)</p> |
| <p>30070 EVALUATION OF AERODYNAMIC DERIVATIVES OF MR82 BOMB FROM WIND TUNNEL TESTING AND SEMI-EMPIRICAL METHOD Shuhaimi Mansor* (UTM)* Wan Zaidi Wan Omar (UTM) Tholudin Mat Lazim (UTM) Iskandar Shah Ishak (UTM) Abdul Basid Abdul Rahman (UTM) Mohammad Amirullah Shamsudin (UTM)</p> | <p>30051 SKIN FRICTION IMPACTS ON FUEL CONSUMPTION Zambrl Harun* (The National Uni. of Malaysia)* Mohd Faruq Abdul Latif (UTEM) Mohammad Rasidi Rasani (UKM) Wan Mohd Faizal Wan Mahmood (UKM)</p> | <p>30044 DETERMINING SMALL DIAMETER PROPELLER EFFICIENCY THROUGH WIND TUNNEL TEST Sallehuddin Muhamad* (UTM)* Muhammad Iyas Mahtan (Universiti Teknologi Malaysia)</p> |
| <p>30189 MECHANICAL SYSTEM DESIGN OF BEETLE MIMICKING ORNITHOPTER</p> | | |
| <p>17.00 - 17.15</p> | <p>16.15 – 16.30</p> | <p>16.45 - 17.00</p> |
| <p>17.15 - 17.30</p> | <p>16.30 – 16.45</p> | <p>17.30 – 17.45</p> |
| <p>17.45 – 18.00</p> | | |

| Ari Legowo* (IIUM), Zahratu Hlaili Mohamad (IIUM) | | V C: Structures (STRU) | |
|--|--|--|--|
| Chairperson: Dr. Kassim Abdullah | Co-chair: Dr. Jaffar Syed Mohamed Ali | Venue: Manhattan VI | |
| 15.30 – 15.45 | 15.45 – 16.00 | 16.00 – 16.15 | |
| <p>30012 THE EFFECT OF EDM WITH EXTERNAL MAGNETIC FIELD ON SURFACE ROUGHNESS OF STAINLESS STEEL</p> <p>Mohammed Ndaliman* (IIUM)* Ahsan Khan (IIUM, Malaysia) Mohammad Ali (IIUM, Malaysia) Muath Al-Falahi (IIUM) Haazin Ibrahim (IIUM, Malaysia) Mohad Mustapa (IIUM, Malaysia)</p> | <p>30018 FATIGUE TIME HISTORY ANALYSIS FOR DETERMINING THE STRAIN SIGNAL BEHAVIOUR</p> <p>Mohd Faridz Mod Yunoh & Mohd Yunus* (Universiti Kebangsaan Malaysia)* Shahrur Abdullah (Universiti Kebangsaan Malaysia) Zulkifli Mohd Nopiah (Universiti Kebangsaan Malaysia) Mohd Zaki Nuawi (Universiti Kebangsaan Malaysia)</p> | <p>30169 STUDY OF THE EFFECT OF DIFFERENT CURING SETUPS ON MECHANICAL PROPERTIES OF LOW COST COMPOSITE STRUCTURES</p> <p>S. M. Kashif* (IIUM)* Mohd Sultan Ibrahim (IIUM) M. Abdur Razzak (International Islamic University Malaysia) M. Azram (International Islamic University Malaysia)</p> | |
| 16.15 – 16.30 | 16.30 – 16.45 | 16.45 – 17.00 | |
| <p>30154 UNCONFINED ROCK EDGE IMPACT: A COMPARATIVE CASE STUDY USING LAGRANGE MESH-BASED ELEMENTS AND SMOOTH PARTICLE HYDRODYNAMICS</p> <p>Adib Hamdani* (IIUM)* Qasim Shah (IIUM) S. M. Kashif (IIUM)</p> | <p>30031 DETERMINATION OF CUTTER LOCATION FROM FREE-FORM AND REGULAR-FORM FEATURES FOR MULTI-AXIS CNC MILLING</p> <p>Mohd Hazri Abdul Halim (Universiti Sains Malaysia) Mohd Salman Abu Mansor* (Universiti Sains Malaysia)*</p> | <p>30153 SURFACE MODIFICATION OF COMMERCIAL PURITY-TI ALLOY USING PREPLACED FE-C-SI POWDER MELTED BY TUNGSTEN INERT GAS TORCH TECHNIQUE</p> <p>Sakiru Adeleke* (IIUM)* Mohe A.maleque (iium) Ahmed Md Idriss (IIUM)</p> | |
| 17.00 - 17.15 | 17.15 - 17.30 | 17.30 - 17.45 | |
| <p>30186 PERFORMANCE EVALUATION OF DIAMOND GRITS DURING PRECISION SURFACE GRINDING OF SILICON CARBIDE</p> <p>Konneh , Mohamed*</p> | <p>30185 MECHANICAL PROPERTIES OF HYBRID KENAF-GLASS REINFORCED UPE COMPOSITE UNDER RADIATION CONDITION</p> <p>Atiqah Afrdzaluddin* (UJAM)* Mohe A.maleque (IIUM)</p> | <p>30155 INVESTIGATION OF DAMAGE MECHANISM AND FORCE EVALUATION ON CARBON-EPOXY FABRICS LAMINATES DURING DRILLING</p> <p>Nor Farah Huda Abd Halim* (IIUM)* Yulfian Aminanda (IIUM)</p> | |
| 17.45 – 18.00 | | | |
| <p>30138 STUDY OF HARDNESS AND MICROSTRUCTURE OF FE-C-SI-MN-B HARDFACING ALLOY</p> <p>Aaqib Rashad Peer Mohammed* (STUDENT)*</p> | | | |

| Parallel Technical Sessions VI, Thursday 4 July 2013: 09.00 – 10.30 | | | |
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| VI A: Modeling and Simulation (MS) | | | |
| Chairperson: Dr. Mohammad Abdelrahman | | Co-chair: Dr. Mohamed Okasha | |
| 09.00 – 09.15 | | 09.15 – 09.30 | |
| Venue: Manhattan VA | | 09.30 – 9.45 | |
| 30163 | 3-D CFD TRANSIENT SIMULATION OF TRANSESTERIFICATION IN STIRRED TANK REACTOR AKM Mohiuddin* (IIUM)* Nabeel Adeyemi (IIUM) Suleyman Muyibi (International Islamic University Malaysia) | 30167 | THREE-DIMENSIONAL VIBRATION ANALYSIS OF FLUID-FILLED PIPES Moumen Idres* (IIUM)* Isa Kolo (International Islamic University Malaysia) RAED KAFAFY (IIUM) Mohd Sultan Ibrahim (IIUM) |
| 30030 | NONLINEAR FLIGHT SIMULATION OF LIGHT AIRCRAFT SUBJECTED TO GUST WIND Mohammed Abdulla* (Aeronautical Research Center -)* Tariq Hassan () | 30168 | ANALYSIS OF COMPOSITE BOX BEAM WITH PIEZOELECTRIC ACTUATORS USING ANSYS Mohd Sultan Ibrahim (IIUM); Syed Mohamed Ali Jaffar (IIUM); S. M. Kashif (IIUM) |
| Chairperson: Prof. Dr. Waleed Faris | | Chairperson: Prof. Dr. Erwin Sulaeman | |
| 09.00 – 09.15 | | 09.15 – 09.30 | |
| Venue: Manhattan VB | | 09.30 – 9.45 | |
| 30131 | EVAPORATIVE COOLING SYSTEM FOR ELECTRIC VEHICLES BATTERY PACK Ahmad Hilmi Khalid* (IIUM)* Mohammed Ataur Rahman (IIUM) Mohammad Hawlader (IIUM) | 30162 | DESIGN AND DEVELOPMENT OF A FUEL CELL CAR PROTOTYPE AKM Mohiuddin* (IIUM)*; Mohamed Fadhil Chemani (International Islamic University Malaysia); Mohd Baihaqi Zakaria (International Islamic University Malaysia); |
| 9.45 - 10.00 | 10.00 - 10.15 | 10.15 - 10.30 | 10.15 - 10.30 |

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| <p>30072 SPRAY CHARACTERISTICS OF A DIESEL-CNG DUAL FUEL JET USING THE SCHLIEREN IMAGING TECHNIQUE Mhadji Ismael* (UTP)*</p> | <p>30041 A CONCEPT OF LARGE OFFSHORE REMOTE TERMINAL FISHING FOR DEEP SEA Nuraihan Ismail (UTM);</p> | <p>30037 SURFACE PIERCING PROPELLERS FOR FUEL-SAVING INSHORE FISHING BOATS Ismail Zainol* (UNIKL MIMET)* Omar Yaakob (UTM)</p> |
| <p>VI C: Other Topics of Interest (OT)</p> | | |
| <p>Chairperson: Dr. Sanisah Saharin</p> | <p>Co-chair: Dr. Moumen Idres</p> | <p>Venue: Manhattan VI</p> |
| <p>09.00 – 09.15</p> | <p>09.15 – 09.30</p> | <p>09.30 – 9.45</p> |
| <p>30165 EFFECT OF PIEZOELECTRIC ACTUATION ON DELAMINATION IN FIBER-REINFORCED COMPOSITE BEAMS Mohd Sultan Ibrahim* (IIUM)* S. M. Kashif (IIUM)</p> | <p>30172 MULTI EFFECT DESALINATION FOR LOW TEMPERATURE APPLICATIONS Muhammad Shahzad* (National University of Singapore)*</p> | <p>30176 ALTERNATE APPROXIMATE FUNCTION FOR KERNEL FUNCTION OF OSCILLATING LIFTING SURFACES Layeeq Ahmed* (IIUM)*, Erwin Sulaeman (IIUM)</p> |
| <p>9.45 - 10.00</p> | <p>10.00 - 10.15</p> | <p>10.15 - 10.30</p> |
| <p>30177 DESIGN AND OPTIMIZATION OF A MICRO CAPACITIVE PRESSURE SENSOR Kamyar Tahmasebpour (IIUM) Mohammed Shobaki (IIUM) Meftah Hrairi* (IIUM)*</p> | <p>30123 EFFECT OF ELECTRICAL PARAMETERS ON PERFORMANCE OF CU-TIC MIXED CERAMIC COMPACT ELECTRODE IN EDM PROCESS Mohammed Ndaliman* (IIUM)* Ahsan Khan (IIUM) Mohammad Ali (IIUM) Sunday Lawal (Federal University of Technology, Minna, Nigeria) Nurul Farhana Bt. Sulong (IIUM) Ummu Atiqah Khairiya Mohamad (IIUM)</p> | <p>30175 VALIDATION OF PEDESTRIAN HEAD FORM AND LEGFORM IMPACT TESTING UPON HYBRID VEHICLE FRONT END PROFILE Kassim Abdullah* (IIUM)* Kausalyah Venkateson (IIUM) Shasthri Sivaguru (IIUM) Qasim Shah (IIUM) Moumen Idres (IIUM) Shaw Voon Wong (MIROS)</p> |
| <p>10.30 – 11.00 : TEA BREAK</p> | | |

| Parallel Technical Sessions VII, Thursday 4 July 2013: 11.00 – 13.00 | | | |
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| Chairperson: Dr. Sany Izzan Ihsan 11.00 – 11.15 | | VII A: Aerospace Structures (AS) + UAV Co-chair: Assoc. Prof. Dr. Raed Kafafy Venue: Manhattan VA 11.30 – 11.45 | |
| 30114 MOTION PLANNING IN UNMANNED AIRCRAFT SYSTEMS (UAS): A REVIEW OF NAVIGATIONAL STRATEGIES Yew-Chung Chak* (Universiti Putra Malaysia)* Renuganth Varatharajoo (Universiti Putra Malaysia) | 11.45 - 12.00 | 30048 COMPOSITE STRUCTURE FABRICATION FOR MICRO UAV USING WET LAY UP TECHNIQUE WITHOUT GEL COAT AND VACUUM BAGGING Sallehuddin Muhammad* (UTM)* Muhammad Iyas Mahzan (Universiti Teknologi Malaysia) Mohamed Azlan Suhot (Universiti Teknologi Malaysia) Mohamed Sukri Mat Ali (Malaysia-Japan International Institute of Technology) | 30120 KINEMATIC AND AERODYNAMIC MODELLING OF QUAD-WING FLAPPING WING MICRO-AIR-VEHICLE Harjono Djojodihardjo* (Universiti Putra Malaysia)* Alif Syamim Syazwan Ramli (Universiti Putra Malaysia) |
| 30164 BIFURCATION ANALYSIS OF RIGID ROTOR SUPPORTED BY NONLINEAR JOURNAL BEARING Azrul Zakaria* (Universiti Tenaga Nasional)* Inayat Hussain Jawaid Iqbal (Universiti Tenaga Nasional) | 12.00 - 12.15 | 30065 NOVEL BIORESINS AND SUSTAINABLE BIOCOMPOSITE STRUCTURES FOR AUTOMOTIVE AND AEROSPACE APPLICATIONS Francisco Cardona* (USQ University)* Nathan Manthey (USQ University) | 30157 NUMERICAL SIMULATION OF THE FLOW AROUND IUM MICRO AERIAL VEHICLE (IUM-MAV) Ashraf Omar* (IUM)* Adel Kurban (University of Tripoli) Siti Farhana Binti Jen () Intantifizleana Binti Mohd Ariff () |
| 30122 IMPROVING SIDE IMPACT PROTECTION BY SPACE FRAME DOORS Mohamed El-Sayed* (Kettering University)* | 12.30 – 12.45 | 30183 AUTONOMOUS MOBILE ROBOT NAVIGATION USING HALL SENSOR AND FUZZY LOGIC CONTROL Mohammed Kaleemullah (IIUM); Waleed Faris (IIUM); Yasir Musthafa (IIUM); | |

| VII B: Other Topics of Interest (OT) | | Venue: Manhattan VB | |
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| Chairperson: Dr. Mohamed Okasha | Co-chair: Assoc. Prof. Yasin Nimir | | |
| 11.00 – 11.15 | 11.15 – 11.30 | 11.30 – 11.45 | |
| <p>30134 STRATEGY FOR RESOLVING CONFLICTING PRODUCT TARGETS Mohamed El-Sayed* (Kettering University)*, Jacqueline El-Sayed (Kettering University)</p> | <p>30151 HIGHER-ORDER MODE CONVERSION OF SYMMETRIC AND ANTISYMMETRIC LAMB WAVES IN PERIODIC PLATES Omar Asfar* (Jordan Univ. of Science & Tech)*, Bruno Morvan (University of Le Havre), Jean-Louis Izbicki (University of Le Havre)</p> | <p>30139 COMPARISON BETWEEN SOME SANDWICH PANEL THEORIES FOR PREDICTION OF DYNAMIC PROPERTIES Roxana Davampanah* (Amirkabir University)*, Mojtaba Sadighi (MohammadHossein Benvidi (Mahmoud Shakeri (</p> | |
| <p>30136 MALAYSIAN PERCEPTION AND ATTITUDE TOWARDS GREEN CAR AND GOING GREEN. Rafia Afroz* (IIUM, Malaysia)*</p> | <p>30141 DEVELOPMENT OF GREEN TRANSPORTATION SYSTEM Mohammed Ataur Rahman* (IIUM)*, Rafia Afroz (IIUM, Malaysia), Mohammad Hawlader (IIUM)</p> | <p>30156 DESALINATION: CONVERSION OF SEAWATER TO FRESHWATER Mohammad Hawlader* (IIUM)*</p> | |
| <p>30091 A COMPREHENSIVE REVIEW OF FOULING MITIGATION WITH CHEMICAL AND NATURAL FIBER ADDITIVES Emad Sadeghinezhad (UM) s.N. Kazi* (UM)*, Mohammad Reza Safaei (UM), Rod Sadri (UM), Ahmad Badarudin (UM), M. N. M. N. M., Zubir (UM), Cheen Sean Oon (UM)</p> | <p>30117 EXPERIMENTAL INVESTIGATION OF 2-D TURNING DIFFUSER PERFORMANCE BY VARYING INFLOW REYNOLDS NUMBER Normayati Nordin* (Univ. Tun Hussein Onn)*, Zainal Ambri Abdul Karim (UTP), Safiah Othman (Universiti Tun Hussein Onn), Vijay Raghavan (SOYL Research & Development Centre)</p> | | |
| VII C: Other Topics of Interest (OT) | | Venue: Manhattan VI | |
| Chairperson: Dr. Mohd. Sultan | Co-chair: Prof. Dr. Waleed Faris | | |
| 11.00 – 11.15 | 11.15 – 11.30 | 11.30 – 11.45 | |
| <p>30178 AN INVESTIGATION OF TEMPERATURE EFFECT ON INCREMENTAL FORMING Salah Echrif (IIUM), Meftah Hraïr* (IIUM);</p> | <p>30022 THE INFLUENCE OF LOADING CONDITIONS ON THE CARRYING CAPACITY OF THIN-WALLED PLAIN CHANNEL COLUMNS Noorfaizal Yidris* (UPM)*, Faizal Mustapha (UPM), Rizal Zahari</p> | <p>30032 AN INTELLIGENT MANUFACTURE FOR MILLING OPERATION FOR STEP-NC APPLICATION Noordiana Kassim* (UTHM)*, Rafizah Mohd Hanifa (UTHM), Yusri Yusof (UTHM)</p> | |

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| | (UPM) Mohamed Thariq Hameed Sultan (UPM) | |
| 11.45 - 12.00 | 12.00 - 12.15 | 12.15 - 12.30 |
| 30043 MONITORING FERROMAGNETIC FAILURE CHARACTERISTICS USING THE SURFACE MAGNETIC FLUX DETECTION APPROACH. Wan zuhelmi Wan jusoh* (Universiti kebangsaan malaysia)* | 30143 THE PERIDYNAMIC FORMULATION OF VISCOELASTIC MATERIALS BEHAVIOUR. Muhammad Azim Azizi* (UKM)* | 30039 DECOMPOSITION ANALYSIS OF PIV FLOW FIELDS. Shahzad Munir* (Universiti Teknologi Petronas)* Morgan Heikal (UTP) Abdul Rashid Abdul Aziz (UTP) Azurafen Jaafar (UTP) Mohana Sundaram (UTP) |
| 12.30 - 12.45 | 12.45 - 13.00 | |
| 30179 PENANG BRIDGE LOADING ANALYSIS USING BRITISH STANDARD CODES AND FINITE ELEMENT METHOD Mohammed Idris (UPM) Faizal Mustapha (UPM) Meftah Hrairi (IIUM) Erwin Sulaeman (IIUM) | 30142 PERFORMANCE ANALYSIS OF COGENERATION COMBINED GAS TURBINE AND ORC SYSTEM Jamel Orfi* (King Saud University)* | |