**2015 IPN – IWNEST KUCHING**

**KUCHING, MALAYSIA**

**FEBRUARY 27-28, 2015**

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**Welcome to IPN-IWNEST 2015 Conferences Kuching**

**Dear Professor, Dr and distinguished delegates,**

Welcome to the IPN - IWNEST 2015 Conferences in Kuching, Malaysia. On behalf of ***International Postgraduate Network (IPN.org) and IWNEST***, I would like to thank all the Conference Chair, Program Chairs and the Technical Committees. Their high competence and professional advice enable us to prepare the high-quality program. For the participants, we hope all of you have a wonderful time at the conference and also in Jakarta, Indonesia.

We believe that by this excellent conference, you can get more opportunity for further communication with researchers and practitioners.

For the conferences of **ICLSS, ICIAS, ICSTH, ICMA, ICPRA, ICSEEM, ICFEFS and ICCIS** more than 70 submitted papers have been received and 50 papers have been accepted and published finally.

In order to hold more professional and significant international conferences, your suggestions are warmly welcomed. And we are looking forward to meet you again next time.

**Best Regards,**

**Thank you.**

Yours Sincerely,



Datin MZ Zainab

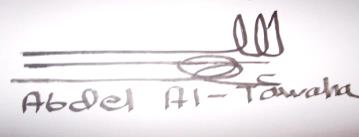
Director – Conference Management IPN.org

Chairman, IPN – IWNEST 2015 Conferences, Kuching

**Message from IWNEST President**

On behalf on the IWNEST publications team, it is my privilege to welcome you to the IPN - IWNEST 2015 Conferences Kuching. IWNEST is an independent, non-political, non-governmental organization of distinguished scientists dedicated to advancing science around the world. We aim to help scientists and researchers to publish their findings in our scientific journals and to promote and help to organize worldwide conferences. We believe that has no boundaries, regardless of the great distances between countries and continents. Thus IWNEST welcomes contributions from researchers from all concern irrespective to the race, colour, religion and nationality.

Best Regards



**Prof. Dr. Abdel Rahman Mohammad Said Al Tawaha**

**Founder President**

**Honorary Advisor**

***IPN – IWNEST 2015 Conferences, Kuching***



**About International Postgraduate Network (IPN.org)**

The International Postgraduate Network (IPN.org) is a non-profit international association dedicated to the promotion of international education and university cooperation in the field of Business, Art, Social Science, Management, Education, Science, Technology, Engineering and any other related field.

Through the organization of different international events, it brings together institutions, bodies and organizations from different countries of the world for discussion and cooperation IPN.org Mission is to promote and enhance the dialogue in education among the institutions devoted to field mentioned above through:

* Promotion of best practice standards in the service of international education.
* The facilitation of relevant forums, training and information exchange.
* Creation and dissemination of knowledge; exert an influence in public policy.
* Production of publications used as a database document for research works, projects and innovation activities held on the international education field.

IPN.org believes that this is best achieved through international cooperation and promotes the development of closer links among relevant institutions and individuals around the world.IPN.org supports that such international cooperation can help countries learn from each other and promotes the dissemination of scientific and engineering activities. IPN.org intends to achieve the mentioned objectives and get an international visibility by the organization of international conferences and by interacting with public and private organisms from all parts of the world.



[www.internationalpostgraduatenetwork.org](http://www.internationalpostgraduatenetwork.org)

[www.ipnconference.org](http://www.ipnconference.org)

[www.ipnmalaysia.org](http://www.ipnmalaysia.org)

www.mpcn.org

**Announcement**

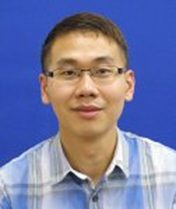
* All accepted papers will be published in the Australian Journal of Basic and applied Sciences (ISI /Thomson Reuters Journal) (ISSN 1991-8176) (abstract and indexing by ISI/Thomson Reuters, Ulrich periodicals, Ebscohost, Cabi International and DOAJ) or
* Journal of Applied Science and Agriculture (ISI/THOMSON REUTERS) (online issue ISSN 1991-8178) (abstract and indexing by ISI/Thomson Reuters, ,Ulrich periodicals, Ebscohost, Cabi International and DOAJ) or
* Advances in Environmental Biology (ISI/THOMSON REUTERS/Scopus) (online issue ISSN 1995-0756) (abstract and indexing by ISI/Thomson Reuters, , Ulrich periodicals, Ebscohost, Cabi International and DOAJ) or
* Journal of Applied Science Research (online issue ISSN 1819-544X) Google Scholar, Ulrich Periodicals, EBSCO HOST, CSA, CAB Abstract, U.K., DOAJ, ISC

One excellent presentation / best paper will be selected from each session and the author of excellent presentation /best paper will be awarded the certificate during the Dinner Banquet. Beside that 3 excellent paper (the selected paper is chosen by the IWNEST editorial board) will received USD 50





**Keynote Speakers**



**Dr Chong Khim Phin**

Head, Sustainable Palm Oil Research Unit (SPOR)

***Universiti Malaysia Sabah***

***Keynote Speaker 1:***

***Biography:***

Assoc. Professor Dr. Khim-Phin Chong holds a PhD in Plant Science from the University of Nottingham, UK. He is currently the Head of the Sustainable Palm Oil Research Unit (SPOR) of Universiti Malaysia Sabah (UMS). Throughout his career as a lecturer in UMS he has published more than 100 papers in journals and proceedings, co-authored two chapters in book and authored two books in Ganoderma disease. To date, Dr Chong has led 17 research projects in the capacity as the head of project and co-member another 7 which all related to plant diseases sponsored by various industries and government agencies with total amount approximately USD 500,000. He also serves as editor and reviewer to several journals published by Elsevier, Springer and others. He was the Deputy Dean for Research and Innovation of School of Sustainable Agriculture, UMS in 2010-2011. Dr. Chong has been invited to talk in several conferences as keynote and plenary speaker. Currently, he is a supervisor to 5 PhD and 7 MSc. students and actively involves in several consultancy work related to oil palm diseases.

**Title :**

**FATTY ACIDS AND PHENOLS INVOLVED IN RESISTANCE OF OIL PALM TO *GANODERMA BONINENSE***

Basal Stem Rot (BSR) disease of oil palm caused by *Ganoderma boninense* remains one of the serious threats to the industry. To date, there is no effective control against this disease is reported. The next strategy in combating this disease may the search for potential resistance variety. Reliable biomarkers may help to accelerate the screening of possible resistance materials. This paper will discuss a study which has been conducted to analyze volatile organic compounds, which may involve in resistance of oil palm. Sixteenth month-old of four different commercial oil palm progenies Deli dura × AVROS pisifera crosses (P1, P3. P4 and P5) were inoculated with *G*. *boninense* colonized rubber wood blocks. Palms were harvested after nine months inoculated and evaluated based on their disease incidence and disease severity. Differences of volatile organic compound profiles between the non-inoculated and inoculated seedlings were studied using gas chromatography mass spectrometry (GC-MS). The GC-MS analysis revealed the presence of eight major phytocompounds with higher abundances of several fatty acids such as benzoic acid, methyl ester; 1,4-benzenedicarboxylic acid, dimethyl ester; hexadecanoic acid, methyl ester; 9,12-octadecadienoic acid (Z,Z)-, methyl ester; 9-octadecenoic acid (Z)-,methyl ester and octadecanoic acid, methyl ester. Meanwhile, the other two phenol compounds found were phenol,2,6-dimethoxy- and phenol, 2,4-bis(1,1-dimethylethyl). The compounds identified in this study are reported, in regards to their feasible roles in plant self-defense against pathogen-stress and their prospective application as biomarkers for evaluating oil palm progenies for development of resistance variety to BSR in the future.

**Keywords:** Basal stem rot, oil palm, phenols, fatty acids



**Engr. Dr. M. Danial Ibrahim**

***Universiti Malaysia Sarawak***

***Keynote Speaker 2:***

***Biography***

Engr. Dr. M. Danial Ibrahim is a senior lecturer at the Mechanical and Manufacturing Engineering Department of Universiti Malaysia Sarawak. He serves as a fellow researcher at Institute of Social Informatics and Technology Innovation (ISITI), and Centre for Renewable Energy (CREN), UNIMAS. He is also a corporate member (Professional Engineer) of Institution of Engineers Malaysia (IEM). He received his Bachelor of Engineering (Mechanical), Master of Engineering (Mechanical) and Doctor of Engineering (Science and Technology) from Tokai University, Japan. He worked in manufacturing plants in Japan for two years before pursuing his doctorate degree. His expertise is Thermofluidic and Tribology. He has interests in research related to improvements of high precision engineering parts such as hard disk drives (HDD) components and fluid dynamic bearings. His interest also covers improvement of white pepper retting and sago related production, and improvements of infrastructures around Malaysia rural areas. He is a consultant at DRB-HICOM, which involves mass production and manufacturing of automobile parts for Mazda Japan. He is also involved with United Nations Industrial Organization (UNIDO) expert program, promoting system optimization in plants and factories. He received Best Paper Award from Japan Society of Design Engineering in 2011 and Honor of Invention Award from World Invention Intellectual Property Association in 2013 and Excellent Paper Award from the American Eurasian Network for Scientific Information and International Postgraduate Network in 2014. Currently he is working closely with Japanese universities for research collaboration particularly in fluid dynamics and bearing designs.

**Title: Innovations and Optimizations in Engineering**

Abstract:

Improving a state of an engineered science usually needs a push of innovative ideas as their prime mover. In our lab, we aimed at improving anything such as high precision engineering parts, enhancing productions of Malaysian made goods, and others. In this talk, the innovation examples involved in improvements of bearing designs, white pepper production using enzymes, and surface modifications are discussed. The aim of improving the lifestyle of indigenous people of Malaysia rural areas is also introduced. The improvement of bearing designs involved mathematical expression to obtain the objective function decided by the designer (engineer). Arbitrarily changing the groove designs in fluid dynamic bearings (FDB) gave a hope for new dimensions and space for improvements in current designs of FDB. The innovation of white pepper retting machine provides a new integrated mechanical way to produce white pepper using enzymes. It uses friction force generated between the blade and inner wall of the skin of the berries. The enzymatic solution will help the skins to accelerate the retting process, suitable for efficient mass production of high quality cottage industries of white pepper. This innovative modification actually improved the production time as much as three times at current un-optimized ratio of enzymes used in the solutions. In another example, sometimes, Mother Nature also tells us hints on how to enhance our engineering sciences. For example in the designing of tidal turbine blades, whale flippers bumps initiated the modification designs of conventional tidal blade designs. Numerical flow visualization proved that the wake verified the reduction of swirl behind the turbine and the contra-rotating with whale tip blades turbine works best at high tip speed ratios. The high tip ratio values for a contra-rotating turbine has the highest value for a blade with modifications based on whale flippers. Optimization in energy usage is also a challenge for engineers to ensure that we have the optimal condition when a process is being conducted in plant, factories and even small island projects. The energy saving opportunities (ESO) that is being promoted by United Nations Industrial Organization is also being briefly introduced in this presentation. The examples shared in this talk include the ESO projects implemented at DRB-HICOM and a board manufacturer plant, and energy management projects at deserted islands and indigenous people rural areas in Malaysia.

**List of the Conference Committee**

**IPN – IWNEST 2015 Conferences Kuching, Honorary Advisor**

Prof. Dr. Abdel Rahman Mohammad Said Al-Tawaha (Ph.D McGill University)

Founder President of Islamic World Network for Environmental Science and Technology

Editor in Chief, Journal of Applied Science and Agriculture

Editor in Chief, Australian Journal of Basic and Applied Sciences

Al Talal Bin Hussein University, Jordan

**IPN – IWNEST 2015 Conferences Kuching, Chairman**

Datin MZ Zainab

**IPN – IWNEST 2015 Conferences Kuching, Academic Committee**

***Conference Chair***

Prof. Dr. Abdel Rahman Mohammad Said Al-Tawaha (Ph.D McGill University)

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Dr. Madhuban Gopal National Fellow, Division of Agricultural Chemicals,IARI,, India

Dr. Shaban Sharaf El-DeenNational Research Centre, Cairo,Egypt.

Prof. Anish Upadhyaya.India  
Prof. Kantesh Balani. India  
Prof. Sunil Mohan. India  
Prof. Shri. J.K.singh. India  
Dr. Anuchit Uchaipichat, Thailand

Dr. Sunil Kumar, India  
Dr. Ezzeddine Ben Mohamed, Tunis  
Dr. Mahboub Sheikhalizadeh Heris, Iran  
Dr. Azimi Anaraki, Iran   
Dr. Cheevin Limsiri, Thailand

**IPN – IWNEST 2015 Conference Kuching, Organising Committee**

YKY

Nurul

Shaiful

Rafie

**Instruction for Oral Presentation**

***Devices Provided by the Conference Organizer:***

* Laptop (with MS-Office & Adobe Reader)
* Projector & Screen
* Laser Sticks

***Materials Provided by the Presenters:***

* PowerPoint or PDF files

***Duration of each Presentation (Tentatively):***

* Regular oral presentation: about12 minutes (including Q&A)
* Keynote speech: about 40 minute (including Q&A)

Notice: Please keep your belongings (laptop and camera etc) with you!

***During registration:***

Original Receipt

Representative / Pass Card with lanyard

Printed Program

Lunch Coupon

Dinner Coupon

Participation Certificate (collected from Session Chair after the session)

Conference Souvenir

Conference Bag

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**IPN – IWNEST 2015 Conferences Kuching**

**Conference Program**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **February 27, 2015** | Venue:  Lobby | 1400 - 1700 | Registration | |
| **February 28, 2015** | Venue:  TBA | 0830 - 0840 | Opening Remarks | TBA |
| 0840 - 0910 | Plenary Speech 1 | TBA |
| 0910 - 0940 | Plenary Speech 2 | TBA |
| 0950 - 1020 | Group Photo and Coffee Break | |
| Venue:  TBA | 1030 - 1300 | Session 1 | |
| Venue:  TBA | 1030 - 1300 | Session 2 | |
| Venue:  Restaurant | 1300 -1400 | Lunch | |
| Venue:  TBA | 1400 - 1600 | Session 3 | |
| Venue:  TBA | 1400 - 1600 | Session 4 | |
| Venue:  TBA | 1600 - 1630 | Coffee Break | |
| Venue:  TBA | 1630 - 1800 | Session 5 | |
| Venue:  TBA | 1630 - 1800 | Session 6 | |
| Venue:  Restaurant | 2000 - 2200 | Best/Excellent Paper Awards Ceremony  And  Dinner | |



Session 1

Time: 1030 - 1300

Venue: TBA

Session Chair: Assoc. Prof. Dr. Chong Khim Pin and Prof. Dr. Hayder A AbdulBari

|  |  |  |
| --- | --- | --- |
| **No** | **Paper ID** | **Presenter** |
| 1 | 002-icias | An integrated approach of robust controller design for uncertain mechanical structural systems  **Guisheng Zhai¹** , Nobufumi Naito¹  Shibaura Institute of Technology |
| 2 | **017-iclss** | The Best Scenario of Carbon Capturing Storage and Utilization (CCSU) in Malaysia  **Mohd. Yussoff Ibrahim1,** Zulkipli Ghazali2, Haseeb Ur Rahman\*3  ***University Teknologi PETRONAS*** |
| 3 | 004-iclss | Extraction purification and composition determination of policosanols from Thai beeswax  **Anakhaorn Srisaipet \***1, Maypawee Aoopkham 1  Maejo University |
| 4 | 001-iclss | The effective model of linear regressions for colorectal cancer stages in general hospital: A case study in Kuala Lumpur.  **Muhammad Ammar Bin Shafi \***1, Mohd Saifullah Bin Rusiman 2, Siti Noor Asyikin Binti Mohd Razali3 , Mahathir Bin Mohamad  **University Tun Hussein Onn Malaysia** |
| 5 | 003-iclss | Investigation on Relationship between Human Behavior and Portfolio Selection Problem in Malaysia using Decision Making Model  **1Lam Weng Siew,** 2Saiful Hafizah Hj. Jaaman, 3Hamizun bin Ismail  Universiti Kebangsaan Malaysia |
| 6 | 002-iclss | Status of Patient After Receiving Treatment Using Multinomial Logistic Regression at Intensive Care Unit in Johor    Mohd Saifullah Rusiman **\*1**, **Muhammad Ammar Shafi 2**  **University Tun Hussein Onn Malaysia** |
| 7 | 005-iclss | Slow Drug Release of Encapsulated Ibuprofen in Cross-linked Hydrogel for Tissue engineering application  **Nor Jannah Mohd Sebri** & Khairul Anuar Mat Amin  Universiti Malaysia Terengganu |
| 8 | **008-iclss** | An Empirical Study on the Characteristics of High Risk Aversion Behavior in Portfolio Decision Making using Regression Model  **1Lam Weng Siew,** 2Saiful Hafizah Hj. Jaaman, 3Hamizun bin Ismail  Universiti Kebangsaan Malaysia |



Session 2

Time: 1030 - 1300

Venue: TBA

Session Chair: Dr Surya Hermawan and Prof Ir Dr Barkawi

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| **No** | **Paper ID** | **Presenter** |
| 1 | **013-iclss** | Daily lifestyle and body composition among Adolescents in Kuala Lumpur, Malaysia.  **Farihah Abu Kasim \***1, Che Wan Jasimah bt Wan Mohamed Radzi 1    University of Malaya |
| 2 | **019-iclss** | Public Acceptance of Renewable Energy in Malaysia: A NIMBY approach.  **Zulkifli, D.A \*1**, Aslam, M.M 2  Universiti Malaysia Perlis |
| 3 | 001-icseem | A Review of Maritime Logistics Performance  **M.H. Norhidayah,** Wan Ahmad Najmuddin Wan Saidin, Nazrul Idzham Kasim  Kolej Islam Antarabangsa Sultan Ismail Petra (KIAS) |
| 4 | 003-icias | An Analysis of the Social Implications of CO2 Capture and Storage (CCS) Technology  **Tan Siok Kee \*1**, Zulkipli Ghazali 2, Muhammad Ridhuan Tony Lim Abdullah 3  University Teknologi PETRONAS |
| 5 | 040-iccis | Crystallization, characterization, & application of hydroxyl apatite on hydroxyl ethyl cellulose in the present of stimulated body fluid solution (SBF)  **Hassanal Haris** , Fathima Shahitha Jahir Husin, Mashitah Mohd Yusoff  Universiti Malaysia Pahang |
| 6 | 026-icfefs | The bandwidth selection in connection to option implied volatility extraction  Milos kopa, **Tomas Tichy**, Sebastian Vitali  Technical University Ostrava |
| 7 | 024-iccis | Epoxidation and ring-opening of palm oil to produce high-functionality polyols  **Trinh Thi Kim Hoang1**, Il Kim  Pusan National University |
| 8 | **030-iccis** | Jatropha Based Microemulsion Efficiency Screening Study for Enhanced Oil Recovery  **Nordiyana Muhammad Soffian**, Zahra Jeirani, Badrul Hisham Mohamad Jan, Brahim Si Ali, Mohd Kamal Sareh, Mohd Rashidi Shafi’i  Universiti Malaya, Malaysia |



Session 3

Time: 1400 - 1600

Venue: TBA

Session Chair: Assoc Prof Dr Mohd Yussoff and Dr Anakhaorn Srisaipet

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| **No** | **Paper ID** | **Presenter** |
| 1 | 022-iclss | Properties of n-octadecane-encapsulated activated carbon nanocomposite for energy storage medium: The effect of surface area and pore structure  **Mohd Zobir Hussein** \*1, Tumirah Khadiran 2, Zulkarnain Zainal 3 , Rafeadah Rusli 4  Universiti Putra Malaysia |
| 2 | 014-iclss | An Integrated Decision Support System (DSS) for the Management of Sustainable Fish Farming in Indonesia  **1/2\*Hermawan S.,** 1Mayerle R ., 3Syafrani  Lancang Kuning University |
| 3 | 020-iclss | Relationship between CO2, Carbon Tax, Financial Development and Research and Development Expenditures in Malaysia: A proposed Study.  **Ali Wajahat** \*1, Azrai Abdullah2  University Teknologi PETRONAS |
| 4 | 018-iclss | Corporate Sustainability Practices among Malaysian REITs and Property Companies: A Proposed Study  **Muhammad Zahid\***1, Zulkipli Ghazali2  University Teknologi PETRONAS |
| 5 | 016-iclss | Biotransformation of benzyl acetone from *Aquilaria malaccensis* using microorganisms  **Norul A. S.\***1, Nazira M.2 and Tajuddin S. N.3  Universiti Malaysia Pahang |
| 6 | 014-iccis | Drag Reduction Efficacy of CTABr and Nanosilica Particles Using Rotating Disk  Apparatus (RDA)  **Edward Oluwasoga Akindoyo**, Hayder A. Abdulbari  **Universiti Malaysia Pahang, Malaysia** |
| 7 | **036-iccis** | Biodegradable Bags Properties Evaluation for Nursery Application  **Mohd Khairulniza Mansor**, Mazlina Mustafa Kamal, Dayang Habibah A.I.H.,  Mohd Fauzi, Mohd Yusoff  Lembaga Getah Malaysia |
| 8 | 001-iccis | Polymer-Surfactant complex for enhancing the Mechanical and Drag Reduction performances of a turbulent flow  **Hayder Abdulbari,** Emsalem Hawege  Universiti Malaysia Pahang, Malaysia |



Session 4

Time: 1400 - 1600

Venue: TBA

Session Chair: Assoc Prof Dr Talib Bon and Dr Samson Merkib Atnaw

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| **No** | **Paper ID** | | **Presenter** | | |
| 1 | **029-iccis** | | Properties of corrugated paper from recycled paper blended with Semantan bamboo pulp  **Nurul Husna Mohd Hassan**, Suhaimi Muhammed, Rushdan Ibrahim  Universiti Teknologi Mara, Malaysia | | |
| 2 | **031-iccis** | | Characterization of PVOH/Starch film for use in agriculture application  **Mazlina Mustafa Kamal**, Dayang Habibah A.I.H, Mohd Khairulniza Mansor  Lembaga Getah Malaysia | | |
| 3 | | 019-iccis | | Reactive Absorption of Carbon Dioxide into Piperazine Activated Diethanolamine Solutions  **Abdelbaki Benamor**, Mohammed Jaber Al-Marri  Qatar University |
| 4 | | 021-iccis | | School Performance Measurement In Indonesia  **Arif Murti Rozamuri**, Nur Riza Mohd Suradi  Universiti Kebangsaan Malaysia |
| 5 | | 016-iccis | | Removal of Lead(II) Ions in Water Using Banana Fiber  **Siti Kartina Abdul Karim,** Soh-Fong Lim  **Universiti Teknologi Mara, Malaysia** |
| 6 | | 002-icma | | Exploiting the Wave Characteristics in Natural Fibre Reinforced Composites for Passive Damage Evaluation  **M. Zaleha**, S. Mahzan, I.Maizlinda Izwana  Universiti Tun Hussein Onn, Malaysia |
| 7 | | 013-icma | | Effects of Low-Velocity Impact on Different Density of Woven Kenaf Fiber Reinforced Composites  **S.N.A.Khalid,** M.R.Jamaluddin, M.N.Roslan, A.E.Ismail, M.H.Zainulabidin  Universiti Tun Hussein Onn, Malaysia |
| 8 | | 015-icma | | Finite Element Modelling of 1-year-old pediatric head with fontanel impact: Validation against experimental data  **J.M. Nursherida**, B.B. Sahari, A.A.Nuraini and A.Manohar  Universiti Putra Malaysia |



Session 5

Time: 1630 - 1800

Venue: TBA

Session Chair: Dr Nurul Husna Mohd Hassan and Dr Mazlina Mustafa Kamal

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| **No** | **Paper ID** | **Presenter** |
| 1 | 028-icma | Optimization of Hot Press Compression Molding and Fabrication of Poly Lactic Acid (PLA)  Luffa Biocomposites for Biomedical Applications  **Akshay Kakar**, Elammaran Jayamani, Soon Kok Heng, Muhammad Khusairy Bin Bakri,  Sinin Hamdan  Swinburne University of Technology Sarawak Campus |
| 2 | 033-icma | Mechanical Properties in Fe-Mn-Si-C Transformation-Induced Plasticity Steel  **Byung-Young Moon** , Ki-Yeol Lee, Sun-Jung Youk  Kunsan National University |
| 3 | 037-icma | A Study on Bending Properties According to the FRP Composite Fiber Material  **Young Jun Kim,** Dong-soo Kim, Byung-Young Moon  Kunsan National University |
| 4 | 020-icma | Growth of Reaction Layer on Diffusion Bonded of Sialon to Nitrided AISI 420 Martensitic Stainless Steel  **Nor Nurulhuda Md. Ibrahim**, Patthi Hussain, Mokhtar Awang  Universiti Teknologi Petronas |
| 5 | 022-icma | A Review of Quality Coffee Roasting Degree Evaluation  **A. M. Noor Aliah,** A. M. Fareez Edzuan, H. L. Bong, A. M. Noor Diana  Universiti Malaysia Sarawak, Malaysia |
| 6 | 017-icma | Investigation of Industrial Energy Efficiency: A Case Study  **Samson Mekbib Atnaw,** Daniel Kitaw  Universiti Malaysia Pahang, Malaysia |



Session 6

Time: 1630 - 1800

Venue: TBA

Session Chair: Dr Mohamad Danial and Prof Dr Mohd Zobir Hussein

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| --- | --- | --- |
| **No** | **Paper ID** | **Presenter** |
| 1 | 001-icpra | Online risks and safety among the Muslim teens in Malaysia and Bangladesh  **Taslim Taher,** Mohd. Adam Bin Suhaimi  International Islamic University Malaysia |
| 2 | 001-icsth | Travelling Motivation for Malaysian to Nature and Cultural Destinations  **Cheng Fan Fah** and Cheng Seow Voon  *University Putra Malaysia.* |
| 3 | 002-icsth | Determining Factors for Competitive Performance among Malaysian Frozen Food Manufacturing  **ZarinaZainudin,** Shahariah Ibrahim  Universiti Teknologi MARA |
| 4 | 038-icfefs | The Behaviour of Exchange Rate and Interest Rate Differential in Malaysia: Evidence from Wavelet Analysis  **Lalitha Dhamotharan,** Mohd Tahir Ismail  Universiti Sains Malaysia |
| 5 | 018-icfefs | Overall Equipment Effectiveness Forecasting using Markov Chains  **Abdul Talib Bon,** Lim Ping Ping  Universiti Tun Hussein Onn, Malaysia |
| 6 | 027-icfefs | Measuring The Performance And Efficiency Of Top Listed Government Linked Companies (Glcs)  **Vikniswari Vija Kumaran,** Hussin Abdullah, Fauzi Hussin  Universiti Utara Malaysia |



**Conference Venue**

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**Grand Margherita Hotel,**  
Jalan Tunku Abdul Rahman,   
P.O. Box 2362,   
93100 Kuching, Sarawak, Malaysia.  
Tel: (6082) 423111  (6082) 532111   |   Fax: (6082) 426169  |   Email: contact@gmh.my

**Conference Secretariat Contact:**

International Postgraduate Network (IPN.org)

37B Jalan Pelabur 23/B, Seksyen 23

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Programme website:

[www.ipnconference.org](http://www.ipnconference.org)

[www.internationalpostgraduatenetwork.org](http://www.internationalpostgraduatenetwork.org)

[www.ipnmalaysia.org](http://www.ipnmalaysia.org)

Contact Person: Mr Shaiful

**Note**

**Note**



**List of Abstract**

|  |  |  |
| --- | --- | --- |
| **No** | **Paper ID** | **Presenter** |
| 1 | 002-icias | An integrated approach of robust controller design for uncertain mechanical structural systems  **Guisheng Zhai¹** , Nobufumi Naito¹  ¹Department of Mathematical Sciences, Shibaura Institute of Technology  Fukasaku 307, Minuma-ku, Saitama 337-8570, Japan  **Abstract-** We propose an integrated approach of robust controller design for mechanical structural systems which are composed of interconnected basic mechanical components. More precisely, we assume that the mass is uncertain, and the damping matrix and the stiﬀness matrix are expressed by a linear combination of several distribution matrices. For this system, we consider a kind of static output feedback with respect to the generalized coordinate vector and its derivative, where the control speciﬁcation is to require stability of the closed-loop system and certain H∞ disturbance attenuation level. By using the bounded real lemma, we reduce the control problem to solving simultaneous LMIs with respect to all the variables. Simulation examples are given to show eﬀectiveness of the proposed design method. |
| 2 | 003-icias | **An Analysis of the Social Implications of CO2 Capture and Storage (CCS) Technology**  **Tan Siok Kee \*1**, Zulkipli Ghazali 2, Muhammad Ridhuan Tony Lim Abdullah 3  1 Tan Siok Kee, Master Candidate, Management and Humanities Department, University Teknologi PETRONAS, Bandar Sri Iskandar, 31750 Tronoh, Malaysia.  2Dr. Zulkipli Ghazali, Associate Professor, Management and Humanities Department, University Teknologi PETRONAS, Bandar Sri Iskandar, 31750 Tronoh, Malaysia.  3 Dr. Muhammad Ridhuan Tony Lim Abdullah, Lecturer, Management and Humanities Department, University Teknologi PETRONAS, Bandar Sri Iskandar, 31750 Tronoh, Malaysia.  **Abstract-** Background: The increasing trend of energy demand worldwide had caused the excessive natural gas production over the decades. This has substantially increased the current level of CO2 emitted to the atmosphere and significantly aggravates global warming. As a mitigation measure, carbon capture and storage (CCS) was introduced. Several studies have been conducted globally to investigate the social implications of CCS on the society. However, no such studies have been carried out in Malaysia. Objective: This paper has therefore proposed a study to investigate the full range of social issues that could be the major concern of the stakeholders pertaining to CCS initiatives in Malaysia by using Fuzzy Delphi Methods (FDM) and Interpretive Structural Modeling (ISM). Results: A conceptual framework was developed to define the determining social issues that may impact on the CCS implementation in Malaysia. Conclusion: This paper provides insights on the utilization of two sophisticated proposed methods in the investigation of societal aspect of CCS initiatives in Malaysia. |

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| **No** | **Paper ID** | **Presenter** |
| 1 | 001-iclss | **The effective model of linear regressions for colorectal cancer stages in general hospital: A case study in Kuala Lumpur.**  Muhammad Ammar Bin Shafi \*1, Mohd Saifullah Bin Rusiman 2, Siti Noor Asyikin Binti Mohd Razali3 , Mahathir Bin Mohamad  *1* Muhammad Ammar Bin Shafi, Faculty of Science, Technology and Human Developtment, UTHM, 86400 Parit Raja, Batu Pahat, Johor. Malaysia, ammar26121991@gmail.com  *2* Mohd Saifullah Bin Rusiman, Faculty of Science, Technology and Human Developtment, UTHM, 86400 Parit Raja, Batu Pahat,Johor. Malaysia, saifulah@uthm.edu.my  *3* Siti Noor Asyikin Binti Mohd Razali, Faculty of Science, Technology and Human Developtment, UTHM, 86400 Parit Raja, Batu Pahat,Johor. Malaysia, asyikinr@uthm.edu.my  4 Mahathir Bin Mohamad, Faculty of Science, Technology and Human Developtment, UTHM, 86400 Parit Raja, Batu Pahat,Johor. Malaysia, mahathir@uthm.edu.my  **Abstract -** Regression analysis has become popularity among several sources of researcher and standard tolls in analyzing data. This structure was represented two commonly statistical models such as multiple linear regression and extended fuzzy correlation and regression analysis (Ni, 2005). Colorectal cancer was applied and case in Malaysia. The quality of life in CRC patients to detect the early CRC stage is still very poor, mainly ad-hoc and not implemented as a national wide programme. This study aims to determine the best model to measuring the mortality rate of patients by CRC stages at hospital using mean square error compared. Secondary data of 180 patients have colorectal cancer and received treatment in hospital recorded by nurses and doctors. Based on the results of regression, extended fuzzy correlation and regression analysis (Ni, 2005) is the best model to measuring the mortality rate of patients who have colorectal cancer after received treatment in hospital. |
| 2 | 002-iclss | Status of Patient After Receiving Treatment Using Multinomial Logistic Regression at Intensive Care Unit in Johor  Mohd Saifullah Rusiman \*1, **Muhammad Ammar Shafi 2**  *1* Mohd Saifullah Rusiman, Faculty of Science, Technology and Human Developtment, UTHM, 86400 Parit Raja, Batu Pahat,Johor. Malaysia, saifulah@uthm.edu.my  *2* Muhammad Ammar Shafi, Faculty of Science, Technology and Human Developtment, UTHM, 86400 Parit Raja, Batu Pahat, Johor. Malaysia, ammar26121991@gmail.com  **Abstract-** Background: ICU in terms of Intensive Care Unit (ICU) was established in Malaysia since 1968. The number of patients receiving treatment at ICU had been increased day by days until now. Rapid development of medical and surgical subspecialties in the last decade resulted in increasing demands for more ICU beds and provides momentum for its development. Objective: This study aims to identify the determinants of patient status (alive, died, discharge with grave prognosis or transfer to another hospital) after receiving treatment in ICU using multinomial logistic regression. Results: Secondary data of 1314 patients who received ICU treatment recorded by nurses and doctors using cluster sampling was used. Based on the results of the multinomial logistic regression, this study discovered that patient’s age, category of patients, score of SAPS II admission, days in ICU and score of SAPS II discharge are the factors contributing patients to die after receiving treatment in ICU. Odds ratio are calculated among the status patients. Conclusion: The age, category of patients, score of SAPS II admission and score of SAPS II discharge is the four significant variables that influence the status of patients who alive. The patients who are discharged with grave prognosis are influenced by age, days in ICU and score of SAPS II discharge whereas the patients who are transferred to another hospital are influenced only by score of SAPS II discharge. |
| 3 | 003-iclss | Investigation on Relationship between Human Behavior and Portfolio Selection Problem in Malaysia using Decision Making Model  **1Lam Weng Siew,** 2Saiful Hafizah Hj. Jaaman, 3Hamizun bin Ismail  1,2,3 School of Mathematical Sciences, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor, Malaysia  **Abstract-** Background: Different level of risk aversion is important to understand the human behavior. In portfolio selection, the human behavior exhibits different level of risk aversion in finding a trade-off between maximizing the return and minimizing the risk of loss. The human with low risk aversion aims to set the first priority in maximizing the return. On the other hand, the human with high risk aversion desires to set the first priority in minimizing the risk of loss. Objective: The objective of this paper is to study the relationship between the human behavior and portfolio selection problem in Malaysia. In this study, the decision making model is applied in portfolio selection to reflect the human behavior towards different level of risk aversion. The objective function of the decision making model is to find a trade-off between maximizing the return and minimizing the risk of loss according to the priority. The portfolio selection is developed for the human with low and high risk aversion. Besides that, the portfolio performance for the human with low and high risk aversion is compared in terms of mean return and risk. In this study, the data consists of weekly price of 23 stocks in Malaysia market from January 2010 until December 2013. Results: The results of this study indicate that the human with low and high risk aversion give different portfolio selection and portfolio performance in Malaysia. This is because the human with different level of risk aversion sets different priority between minimizing the risk of loss and maximizing the return. Conclusion: In conclusion, the human with different level of risk aversion gives different portfolio selection and portfolio performance in Malaysia. The significance of this study is to understand the relationship between the human behavior and portfolio selection problem in Malaysia. This study helps the fund managers to select the suitable portfolio according to their level of risk aversion. |
| 4 | 004-iclss | Extraction purification and composition determination of policosanols from Thai beeswax  **Anakhaorn Srisaipet \*1,** Maypawee Aoopkham 1  1 Maejo University, Department of chemistry, Faculty of Science, 50290, Chiang Mai, Thailand  **Abstract-** Policosanol is a mixture of long chain aliphatic alcohol of 20-36 carbon atoms. It has been use in pharmaceutical composition and dietary supplements. Beeswax is a rich sources of Policosanols. In this research, we focus on extracted and purified policosanols from Thai beeswax. The compositions of beeswax were checked by TLC and it contains wax ester, free fatty acids and triglycerides. The impurity such as triglycerides and free fatty acid were removed via refluxing with hexane. The get rid of triglycerides beeswax was saponified with 2.0 molar NaOH in 80% ethanolic on 3 hours. The saponified beeswax was great purified by the mixture of toluene : water : ethanol (70 : 20 : 10 v/v) in first step and use of isooctane : water : ethanol (70 : 20 : 10 v/v) in the second step. The isooctane extracted mostly contains policosanols without free fatty acids. The policosanols compositions were identified by gas chromatography and the range of carbon chain in fatty alcohol were C18 to C30. Thereby Tetracosanol (C24) was predominant fatty alcohol in range 34.80 - 46.54 % proportion of total alcohols. |
| 5 | 005-iclss | Slow Drug Release of Encapsulated Ibuprofen in Cross-linked Hydrogel for Tissue engineering application  **Nor Jannah Mohd Sebri** & Khairul Anuar Mat Amin  1 Universiti Malaysia Terengganu , School of Fundamental Sciences, 21030, Kuala Terengganu, Malaysia.  2 Universiti Malaysia Terengganu , School of Fundamental Sciences, 21030, Kuala Terengganu, Malaysia.  **Abstract-** Dication cross-linked gellan gum hydrogel loaded with Ibuprofen with excellent mechanical properties had been synthesized as potential candidate for non-toxic biocompatible polymer material in tissue engineering. The gellan gum hydrogel with 5% Ibuprofen had produced a slow release profile with total drug release time of 25 hours as a resulting low swelling value recorded at 22 + 0.5%. Its compressive strength, 200 + 21 kPa was highest of all other hydrogel ratio of 0.5% and 1.0% Ibuprofen incorporation. Young’s Modulus of the hydrogel with 5% Ibuprofen was recorded at 1800 ± 10 kPa, indicating good gel strength in which it is capable of withstanding a fair amount of subjected force during topical wound dressing application. Excellent mechanical properties, together with slow release profile, make the ibuprofen-loaded hydrogel a prospect candidate as biocompatible extracellular matrices in wound management. |
| 6 | 008-iclss | An Empirical Study on the Characteristics of High Risk Aversion Behavior in Portfolio Decision Making using Regression Model  **1Lam Weng Siew,** 2Saiful Hafizah Hj. Jaaman, 3Hamizun bin Ismail  1,2,3 School of Mathematical Sciences, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor, Malaysia  **Abstract-** Background: Human behavior exhibits different level of risk aversion in decision making process. In portfolio selection, human with high risk aversion try to avoid risk of loss in stock market. Therefore, they aim to minimize the risk of loss rather than maximize the return. Index tracking is portfolio decision making to generate similar return with the benchmark index return. Human with high risk aversion desires to minimize the risk of loss in index tracking. Objective: The objective of this paper is to study the characteristics of high risk aversion behavior in portfolio selection for index tracking problem. The portfolio selection is developed for high risk aversion behavior using decision making model with regression approach in Malaysia. In this study, Kuala Lumpur Composite Index is the benchmark index to be tracked. Minimum number of stocks is determined to track the benchmark index which consists of 100 stocks. Besides that, minimum risk of loss is determined for the human behavior with high risk aversion. Results: The results of this study indicate that there are only 33 stocks selected in the portfolio to track the benchmark index which consists of 100 stocks with minimum risk 0.3201%. This implies that minimum 33% of benchmark index components are required in index tracking for high risk aversion behavior in Malaysia. Conclusion: Human with high risk aversion is able to track the benchmark index in Malaysia using the decision making model with regression approach. The significance of this study is to find out the portfolio selection for high risk aversion behavior is able to generate higher return than benchmark index return with only selecting 33% of index components |
| 7 | 013-iclss | Daily lifestyle and body composition among Adolescents in Kuala Lumpur, Malaysia.  **Farihah Abu Kasim \*1**, Che Wan Jasimah bt Wan Mohamed Radzi 1  *1 Department of Science and Technology Studies, Faculty of Science, University of Malaya, 50603 Lembah Pantai, Kuala Lumpur, Malaysia.*  **Abstract-** Background: Obesity and overweight rate among adolescents have increased over the last 4 decades. Daily lifestyle like eating behavior and physical activity play a role to contribute to this growing trend. Objective: This study aims to determine whether any association exists between daily lifestyle especially adolescent daily eating behavior and their daily physical activities with their body composition. Results: Findings from the studies showed a positive association between daily physical activities of the respondents. 78% of the respondents were at the normal weight, around 13.5% of the respondents were overweight and 9.6% were obese. Those obese were found have a lower rate of daily physical activity compare to those who are normal. Conclusion: A large number of studies show that there is a link between energy intake and physical activity and weight status. The recommendation that we make is increasing the physical rate could help prevent weight gain and other health problems related to obesity. |
| 8 | 014-iclss | An Integrated Decision Support System (DSS) for the Management of Sustainable Fish Farming in Indonesia  ***1/2\*Hermawan S.,*** *1Mayerle R ., 3Syafrani*  1Christian-Albrechts-University Kiel, Research and Technology Center Westcoast (FTZ), Büsum, Germany  2Civil Engineering, Faculty of Technic, Lancang Kuning University, Pekanbaru Riau, Indonesia.  3Faculty of Agriculture, Lancang Kuning University, Pekanbaru Riau, Indonesia.  **Abstract-** Indonesia has great potential for aquaculture development but its expansion is often insufficiently focused in environmentally sustainable practice. For this reason, regarding an ecosystem approach to aquaculture (EAA), the aim of this paper is to demonstrate the application of decision support system for the management of sustainable floating net cage mariculture (SYSMAR DSS) in three selected regions in Indonesia: Talise Island, Galang Island and Ekas Bay. Through GIS spatial planning tools, SYSMAR DSS is used to perform site selection and assesses production and ecological carrying capacity. Economic analysis provides vital information on 18 cases, focusing on the economic viability of Tiger Grouper (Epinephelus fuscoguttatus), Humpback Grouper (Cromoliptes altivelis) and Leopard Coral Grouper (Plectropomeus leopardus) which utilizes various feed types and production scales. SYSMAR DSS shows that only Galang Island provides a substantial area with a suited area of about 12,940 ha. The estimated maximum production carrying capacity is 51 – 366 tons/farm and ecological carrying capacity is in the range 18,393 – 21,727 tons/year/suitable area. After a 5-year projection period, the economic evaluation highlighted that all studied culture developments are economically viable. These results confirm the SYSMAR DSS is able to determine potential sites which comply with environmental sustainability and socio-economic criteria. |
| 9 | 016-iclss | Biotransformation of benzyl acetone from *Aquilaria malaccensis* using microorganisms  **Norul A. S.\*1,** Nazira M.2 and Tajuddin S. N.3  1\**Department of Biotechnology*, *Faculty of Industrial Science and Technology, Universiti Malaysia Pahang*, *Kuantan*, *26300, Pahang, Malaysia*  2 3*Department of Chemistry*, *Faculty of Industrial Science and Technology, Universiti Malaysia Pahang*, *Kuantan*, *26300, Pahang, Malaysia*  **Abstract-** : The oil of A. malaccensis was extracted by microwave assisted extraction (MAE) technique. Extraction of agarwood oil from 100 g of sample using MAE in this study has yielded 0.209% (w/w); the extraction was carried out for 5 h at 300 W and the analysis was done using gas chromatography mass spectrometry (GCMS). Benzyl acetone (11.82%), agarospirol (1.28%), δ-guaiene (1.89%), γ-eudesmol (11.89%), guaiol (4.86%), β-guaiene (0.78%), α-guaiene (3.22%), α-humulene (4.67%) and aristolone (1.81%) were among the major constituents extracted in this study. Benzyl acetone was isolated using prep-GC and further verified by GCMS. Pseudomonas aeruginosa, Escherichia coli, Enterococcus faecalis, Bacillus subtilis, Bacillus cereus, Staphylococcus aureus, Saccharomyces cerevisiae, Aspergillus niger, Candida albicans and Trichoderma reesei were tested for biotransformation of benzyl acetone. Among all microorganisms tested, benzyl acetone was successfully reduced to its analog, 4-phenyl-2-butanol, by S. cerevisiae, A. niger, P. aeruginosa, E. faecalis and B. cereus. The range of working concentrations for biotransformation of benzyl acetone was determined for each of the selected microorganisms through minimal inhibitory concentration (MIC) test. The growth of S. cerevisiae and A. niger, were completely inhibited at 0.85 and 0.45 g/L benzyl acetone, respectively; the growth of P. aeruginosa, E. faecalis and B. cereus were completely inhibited at 0.4 g/L benzyl acetone. |
| 10 | 017-iclss | The Best Scenario of Carbon Capturing Storage and Utilization (CCSU) in Malaysia  **Mohd. Yussoff Ibrahim1,** Zulkipli Ghazali2, Haseeb Ur Rahman\*3  *1 Dr. Mohd. Yussoff Ibrahim, Associate Professor, Management and Humanities Department, University Teknologi PETRONAS, Bandar Sri Iskandar, 31750 Tronoh, Malaysia.*  *2 Dr. Zulkipli Ghazali, Associate Professor, Management and Humanities Department, University Teknologi PETRONAS, Bandar Sri Iskandar, 31750 Tronoh, Malaysia.*  *3 Haseeb Ur Rahman, PhD Fellow, Management and Humanities Department, University Teknologi PETRONAS, Bandar Sri Iskandar, 31750 Tronoh, Malaysia.*  **Abstract-** Background:The rapid climate change has grabbed the attention of policy makers, academia, media and industry around the world at the dawn of twenty first century. The combustion of fossil fuels for the satisfaction of energy and transportation needs has enhanced greenhouse (GHG) emissions which harm environment. The Kyoto Protocol of United Nations Framework Convention on Climate Change (UNFCCC) obligated industrial countries to reduce greenhouse gas emissions. However, the member countries like the USA and Japan, which took this initiative failed to achieve their emissions targets. Thus, there is a need to highlight the associated revenue charm for reducing GHG emissions. Objective: This paper has therefore focused the identification and calculation of rates for various associated sources of revenue which might help reduce GHG emission in a developing country like Malaysia which having no mandatory emission obligation. The results: This paper has identified different sources of revenue and its feasible rates, if Malaysia starts carbon capturing storing and utilization process. Conclusion: The paper contributes to limited literature as well as policy, particularly in Malaysian context. |
| 11 | 018-iclss | Corporate Sustainability Practices among Malaysian REITs and Property Companies: A Proposed Study  **Muhammad Zahid\*1,** Zulkipli Ghazali2  *1 Muhammad Zahid, PhD Fellow, Management and Humanities Department, University Teknologi PETRONAS, Bandar Sri Iskandar, 31750 Tronoh, Malaysia*  *2 Dr. Zulkipli Ghazali PhD , Associate Professor, Management and Humanities Department, University Teknologi PETRONAS, Bandar Sri Iskandar, 31750 Tronoh, Malaysia*  **Abstract-** Corporate sustainability in real estate and property sectors has been comparatively recognized late than the other sectors of an economy around the world. Though the sustainability practices have been extensively analyzed in the recent past, but real estate and property sector still lack holistic understanding of these practices particularly in developing and emerging economies. Thus, this paper proposes to investigate the current practices and reporting quality of sustainability in real estate investment trusts (REITs) and property sector of Malaysia. This paper proposes content analysis of corporate sustainability, CSR and annual reports of the REITs and property sectors for 3 years i.e. from 2011 to 2013. The proposed study will examine, nature, extent and quality of sustainability practices disclosures in these reports. The proposed sample is based on 127 companies including 17 REITs and 110 property companies. The current study will be the first of its kind to observe corporate sustainability within three dimensions (environmental, social, & economic) after the 10th Malaysian Plan (2010-2015). The proposed study will have implications for the practitioners, academia, researchers, CEO’s of the companies and regulatory bodies of Malaysia. The stakeholder and legitimacy theories provide theoretical underpinning for the proposed study. |
| 12 | 019-iclss | Public Acceptance of Renewable Energy in Malaysia: A NIMBY approach.  **Zulkifli, D.A \***1, Aslam, M.M 2  *1Universiti Malaysia Perlis, School of Human Development and Technocommunication (iKOM) ,Kompleks Pusat Pengajian UniMAP (Blok B) , Jalan Kangar – Arau, 02600 Jejawi, Arau, Perlis , Malaysia.*  2 *Rector Ofiice , Kolej Universiti Islam Perlis (KUIPs), Lot Aras G-3, Blok S1, Kompleks Desa Siswa, 02100 Padang Besar, Perlis, Malaysia.*  **Abstract-** Background: Renewable energy in Malaysia focused mainly in the big and modern city rather than small states like Perlis. So, renewable energy in Perlis is still new. Furthermore, SEDA (Sustainable Energy Development Authority) didn’t focus on educating the local community in Perlis regarding renewable, whereas the renewable-energy project already existed in Perlis. This research will investigate the exposure of local communities in Perlis towards renewable energy through examining the public perception using NIMBY approach. The public opinion on renewable energy technologies was analyzed by means of a survey implemented in Perlis. Result show that NIMBYism still exists, although not felt by the immense bulk of the population. We can conclude that NIMBYism is not definitely an attitude shared by the majority (Ribeiro et al.,2013). Similarly to Jones et al, (2009), in this research also been addressed the NIMBYism between the comparison groups of gender, ages, level of education and type of occupations. Few respondents believe that renewable energy tend to raise the electricity bill. This survey proves that local community in Perlis is generally supportive of the growth of more renewable energy projects in the country and state. |
| 13 | 020-iclss | Relationship between CO2, Carbon Tax, Financial Development and Research and Development Expenditures in Malaysia: A proposed Study  **Ali Wajahat \*1,** Azrai Abdullah2  *1 Wajahat Ali, PhD Fellow, Management and Humanities Department, University Teknologi PETRONAS, Bandar Sri Iskandar, 31750 Tronoh, Malaysia*  *2 Azrai Abdullah, PhD., Associate Professor, Management and Humanities Department, University Teknologi PETRONAS, Bandar Sri Iskandar, 31750 Tronoh, Malaysia*  **Abstract-** The proposed study will analyze the relationship between Carbon dioxide and its determinants like a carbon tax, financial development and research and development expenditures for the time period 1980-2013. There exists theoretical and empirical contradiction in the literature on the relationship between the variables of the study, but these variables still have importance in determining the CO2 emissions. The carbon tax and R&D expenditures which are not yet tested in the case of Malaysia and are supposed to improve the environmental quality by controlling the CO2 emissions. The impact of these variables is controversial in different case scenarios therefore the study proposes further investigation about their relationship. The proposed study will apply the Vector error correction model (VECM) to analyze the variable’s relationship. The study will also employ variance decomposition (VD) and impulse response function (IRF) to justify the results. |
| 14 | 022-iclss | **Properties of n-octadecane-encapsulated activated carbon nanocomposite for energy storage medium: The effect of surface area and pore structure**  **Mohd Zobir Hussein \*1**, Tumirah Khadiran 2, Zulkarnain Zainal 3 , Rafeadah Rusli 4  *1 Material Synthesis and Characterization Laboratory (MSCL), Institute of Advanced Technology (ITMA), Universiti Putra Malaysia (UPM), 43400 Serdang, Selangor, Malaysia.*  *2 Material Synthesis and Characterization Laboratory (MSCL), Institute of Advanced Technology (ITMA), Universiti Putra Malaysia (UPM), 43400 Serdang, Selangor, Malaysia.*  *3 Material Synthesis and Characterization Laboratory (MSCL), Institute of Advanced Technology (ITMA), Universiti Putra Malaysia (UPM), 43400 Serdang, Selangor, Malaysia.*  *4 Forest Product Division, Forest Research Institute of Malaysia (FRIM), 52100 Kepong, Selangor, Malaysia.*  **Abstract-** Shape-stabilized phase change materials (PCMs) composed of n-octadecane encapsulated into activated carbon (AC) micro- and meso-pores were prepared by direct impregnation method. Three types of ACs with different pore structures were used as frameworks, namely AC prepared from peat soil using phosphoric acid activation method (PSAC-C) and physical activation method (PSAC-P), and a commercial activated carbon (CAC). The results show that the phase change properties of the n-octadecane/AC PCM nanocomposite are governed by the pore structure-adsorption interaction of the n-octadecane on the AC. Generally, the specific surface area is the important parameter, which is directly proportional to the latent heat of fusion and encapsulation efficiency. Similarly, the encapsulation efficiency is directly proportional to the latent heat of fusion. This study shows that peat soil is a potential, cheap source for activated carbon which can be used as inorganic frameworks for the preparation of shape-stabilized phase change materials which can be designed by tuning the pore structures of the activated carbon. |

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| **No** | **Paper ID** | **Presenter** |
| 1 | 001-iccis | Polymer-Surfactant complex for enhancing the Mechanical and Drag Reduction performances of a turbulent flow  **Hayder Abdulbari** , Emsalem Hawege  University Malaysia Pahang, Chemical and Natural Resources Engineering, Faculty of Chemical and Natural Resources Engineering , 26300. Kuantan, Pahang  University Malaysia Pahang, Chemical and Natural Resources Engineering, Faculty of Chemical and Natural Resources Engineering, 26300. Kuantan, Pahang, Centre of Excellence for Advanced Research in Fluid Flow (CARIFF)  **Abstract-** Polymer additives in drag reduction (DR) are vulnerable to the mechanical and the thermal degradation. In the present work, an interaction between nonionic polymer Hydroxypropyl cellulose and anionic surfactant sodium Oleate (HPC - S.O) complex in aqueous solution has been studied by using rheology and RDA techniques to evidence complex capability and stability in enhancing the drag reduction and mechanism degradation performance, respectively. The effect of the concentration of the polymer on the drag reduction and the effect of increasing concentration of surfactant to the polymer-surfactant complex in enhancing the drag reduction were studied. In addition, the effect of the rotational speed on the drag reduction has also been studied. A maximum of 48 % DR was observed at 500 rpm with a concentration of 1000 ppm of HPC - S.O complex. |
| 2 | 014-iccis | Drag Reduction Efficacy of CTABr and Nanosilica Particles Using Rotating Disk Apparatus (RDA)  **Edward Oluwasoga Akindoyo**, Hayder A. Abdulbari  Faculty of Chemical and Natural Resources Engineering, University Malaysia Pahang, 26300 Kuantan, Pahang, Malaysia,University Malaysia Pahang, 26300 Kuantan, Pahang, Malaysia  Centre of Excellence for Advanced Research in Fluid Flow (CARIFF), University Malaysia Pahang, 26300 Kuantan, Pahang, Malaysia,University Malaysia Pahang, 26300 Kuantan, Pahang, Malaysia  **Abstract**- Over the years, it has been proven an energy consuming and cost effective to transport fluid in pipe, efforts that have been made to investigate this have not yielded a consensus on the mechanism and principles behind such, polymers that have been used degrade and less effective over time, surfactant which are self repair are not as effective as the polymer, recent studies on this concept with other solid particles have majorly been concentrated in pipe, this work investigated the drag reduction efficacy of silica nanoparticle with cationic surfactant, CTABr in a rotating disk apparatus, it was observed that, these material can reduce drag by 50% and are mechanically stable after degradation. Before drag could be reduced with these materials, proper proportions on the materials should be selected. |
| 3 | 016-iccis | Removal of Lead(II) Ions in Water Using Banana Fiber  Siti Kartina Abdul Karim, Soh-Fong Lim  Universiti Teknologi MARA Sarawak, Samarahan 2 Campus, Kota Samarahan, Sarawak, Malaysia.  Fac. of Engineering, Universiti Malaysia Sarawak, Kota Samarahan, Sarawak, Malaysia.  **Abstract**- The removal of lead(II) ions in water is important as lead is a hazardous heavy metal and poses threat to human health. The conventional processes used to treat lead in water are usually expensive, not environmental friendly and produced harmful byproducts. The use of natural sorbent is cheap and has high sorption capacity. Thus, the aim of this paper was to use three different parts of banana fiber as sorbent to remove lead(II) ions from water. The banana stalk sorbent showed the highest lead(II) removal compared to banana stem sorbent and banana leaves sorbent. Higher initial concentration and higher pH favours lead(II) removal using banana fiber. |
| 4 | 019-iccis | Reactive Absorption of Carbon Dioxide into Piperazine Activated Diethanolamine Solutions  **Abdelbaki Benamor** and Mohammed Jaber Al-Marri  Gas Processing Center, Faculty of Engineering, Qatar University, Box 2713 Doha  Qatar  **Abstract**- The use of alkanolamines for the removal of acid gases from natural and flue gases is widely used in the industry. The most commonly used amines are Monoethanolamine (MEA), Diethanolamine (DEA), and Methyldiethanolamine (MDEA). Blending these amines with rate promoters such as Piperazine to enhance their absorption rates has become a common practice in the industry. In this work, Kinetics of CO2 reaction with blends of diethanolamine (DEA) and Piperazine (PZ) was investigated using a stirred cell reactor. The reaction temperature ranged from 303K to 323K and the total amine concentration was varied from 0.5 to 2 molar. The increase in promoter concentration resulted in the expected increase in the absorption rates. The overall reaction can be regarded as a reaction between CO2 and DEA in parallel with the reaction of CO2 with PZ. The rate constant for the blended amine (DEA/PZ) was determined and the effect of temperature was assessed using Arrhenius plot. |
| 5 | 021-iccis | School Performance Measurement In Indonesia  **Arif Murti Rozamuri** and Nur Riza Mohd Suradi  School Of Mathematics Universiti Kebangsaan Malaysia, ayiep\_murti@yahoo.com  School Of Mathematics Universiti Kebangsaan Malaysia, [nrms@ukm.my](mailto:nrms@ukm.my)  **Abstract**- Background: Education is one of the elements and things that are important in the wake of a civilization and development for the community. Developed nation is a nation that is able to provide special attention to the rank in the field of education. One of the educational institutions in Indonesia is school. Schools play an active role in creating young people who have the ability and good education stage.Objective: In this paper will discuss how far the process of measuring school performance in Indonesia later whether the factors that may have not been specifically considered in measuring the performance of the school in Indonesia.Results: Indonesia have eight National Education Standards and now for evaluation for school in Indonesia used EDS (Self-Evaluation) and Accreditation. Conclusion: There are two factors that can be seen in assessing and measuring the performance of a school of internal and external factors. |
| 6 | 024-iccis | Epoxidation and ring-opening of palm oil to produce high-functionality polyols  **Trinh Thi Kim Hoang**, Il Kim  Pusan National University, Department of Polymer Science and Engineering, 609- 735. Busan. Republic of Korea.  **Abstract**- Palm oil is a one of the most interesting renewable resources to prepare bio-polyol. With low unsaturated content, palm oil favors for making thermoplastic polyurethanes. In this work, we investigated the effect of reaction time on producing palm-based polyol through epoxidation and ring-opening reaction. By using water as nucleophilic agent, hydroxyl functionality increased resulted in improving properties of the corresponding polyurethane. In reaction time of 180 min, the epoxidation was achieved the highest conversion. In reaction time of 6 h, epoxy groups are completely disappeared, which indicated the formation of the bio-polyol. The polyurethane showed a glass transition temperature (Tg) at 25 oC. The tensile strength was 6.05 MPa and elongation at break point was 62.05 %. |
| 7 | 029-iccis | Properties of corrugated paper from recycled paper blended with Semantan bamboo pulp  **Nurul Husna Mohd Hassan**, Suhaimi Muhammed, Rushdan Ibrahim  Wood Industry Department, Faculty of Applied Sciences, Universiti Teknologi MARA Pahang, 26400 Bandar Tun Abdul Razak, Jengka, Pahang, Malaysia.  Bio-Composite Technology Programme, Faculty of Applied Sciences, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia.  Pulp & Paper Programme, Forest Research Institute of Malaysia (FRIM), 52109 Kepong, Selangor, Malaysia  **Abstract**- The effect of virgin pulp blended with recycled paper in terms of corrugated paper properties has been studied. The proposed virgin pulp was Semantan bamboo and for some comparison, the recycled paper was also blended with softwood long fiber and kenaf soda-anthraquinone (AQ) pulp. The Semantan bamboo was pulped with soda-AQ pulping process with the enhancement of 8000 beating revolutions. The percentage of virgin pulp used was only 5 or 10% for each batch of paper while the rest of the paper raw material used was recycled paper. The zero-span index and flat crush test index for Semantan bamboo and recycled paper blending showed positive increment with the addition of higher percentage of Semantan bamboo pulp. The results showed that Semantan bamboo fiber is comparable with softwood long fiber and therefore can be substituted for imported virgin softwood pulp. |
| 8 | 030-iccis | Jatropha Based Microemulsion Efficiency Screening Study for Enhanced Oil Recovery  **Nordiyana Muhammad Soffian**, Zahra Jeirani, Badrul Hisham Mohamad Jan, Brahim Si Ali, Mohd Kamal Sareh and Mohd Rashidi Shafi’i  Department of Chemical Engineering, Faculty of Engineering, University of Malaya, 50603 Kuala Lumpur, Malaysia  Center for Energy Science, Department of Mechanical Engineering, Faculty of Engineering, University of Malaya, 50603 KualaLumpur, Malaysia  Department of Chemical and Biological Engineering, University of Saskatchewan, Saskatoon, SK S7N 5A9, Canada  Phase Reservoir Technology Sdn Bhd, Ara Damansara, 47301 Petaling Jaya, Selangor Darul Ehsan.Malaysia.  **Abstract**- Background: There is no secret that ultralow interfacial tension between formulated microemulsioan and crude oil lead to high crude oil recovered from the reservoir. However, development of non edible triglyceride based microemulsion for enhanced oil recovery application is still considered scarce. Objective: This paper presents the determination of an aqueous phase composition of Jatropha based microemulsion in which the triglycerides constitute the whole oil-phase of the microemulsion. Conclusion: The measured interfacial tension between the optimum microemulsion and oil model, which is n-octane was 0.0015 mN/m. The corresponding maximum cumulative tertiary oil recovery is 78%, which was achieved after the injection of the optimum microemulsion formulation to a sand pack. The significant amount of oil recovered during cumulative tertiary oil recovery(78%) suggests the effectiveness of the optimum microemulsion formulation in enhanced oil recovery. |
| 9 | 031-iccis | Characterization of PVOH/Starch film for use in agriculture application  **Mazlina Mustafa Kamal**, Dayang Habibah A.I.H, Mohd Khairulniza Mansor  High Value-Added Rubber Products and Nanostructured Materials Program, Technology and Engineering Division, Malaysian Rubber Board (MRB), Stesen Penyelidikan RRIM, Sg. Buloh, 47000, Sg. Buloh, Selangor Darul Ehsan  **Abstract**- There is great interest in developing eco-friendly green biocomposites from crop-derived bioplastics attributable to their renewable resource-based origin and biodegradable nature. Fully nonbiodegradable and nonrenewable nature of plastic packaging has led to a renewed interest in packaging materials based on eco-friendly green biocomposites. Over the past ten years ears packaging suppliers have been introducing various forms of biodegradable plastics made from a variety of plants, in the main corn. The market of biodegradable polymers at the present is growing based on projections that consumers and  recycling regulations will drive demand for environmentally-friendly packaging. Market introduction has started successfully all over Europe. Most important application sectors of biodegradable polymers today: organic food and service packaging, shopping bags, catering products, bio waste bags, mulch film such, horticulture auxiliaries. In this study the effect of starch loading on PVOH film towards soil biodegradation and water absorption behaviour were carried out. The rate of biodegradation in soil and water absorption increased significantly as the starch content was increased to 50%. Scanning electron microscopy revealed that starch promotes the biodegradation of PVOH. Gel permeation chromatography  indicated a molecular weight decreased for the PVOH after soil exposure and confirmed that  biodegradation was enhanced by the starch content. Results also demonstrated that the biodegradation rate also was affected by soil moisture. |
| 10 | 036-iccis | Biodegradable Bags Properties Evaluation for Nursery Application  **Mohd Khairulniza Mansor**, Mazlina Mustafa Kamal, Dayang Habibah A.I.H. and Mohd Fauzi Mohd Yusoff  (Research Officer, Technology and Engineering Division, Rubber Research Institute of Malaysia, Malaysian Rubber Board, Sungai Buloh, Malaysia)  (Research Officer, Production Development Division, Rubber Research Institute of Malaysia, Malaysian Rubber Board Sungai Buloh, Malaysia)  **Abstract**- Background: In agriculture, biodegradable plastic films are desirable alternatives to black low density poly(ethylene) (LDPE) plastic for the usage of nursery applications. Therefore, an interest study of different types of potential biodegradable polymers used for nursery application has been carried out. Objective: To evaluate the durability and degradation of several alternatives of nursery polybag in rubber tree nursery application. Results: The samples are supplied from different companies were designated as control (LDPE), CF, SF and CO. Within the time period of three months, tensile properties for all the samples showed less changes except ductility for CO. Fourier Transform Infra-red (FTIR) revealed a characteristic absorbance of control sample, CF, SF and CO are associated with poly(ethylene), poly(butylene adipate-co-terephthalate) (PBAT), polyl(lactic acid), poly(vinyl alcohol) and starch molecular structure respectively. Thermal properties for degradation and decomposition temperature were carried out by thermogravimetry analyser (TGA). Conclusion: The tensile properties showed no significant changes during the three months period except for Nurbag CO. Absorbance peaks of FTIR characterization showed the nursery bags are associated with poly(ethylene), poly(butylene adipate-co-terepthalate), poly(lactic acid), poly(vinyl alcohol) and starch. Thermal properties revealed the Nurbag CO give low thermal stability compared to other nursery bags. |
| 11 | 040-iccis | Crystallization, characterization, & application of hydroxyl apatite on hydroxyl ethyl cellulose in the present of stimulated body fluid solution (SBF)  **Hassanal Haris** , Fathima Shahitha Jahir Husin, Mashitah Mohd Yusoff  Faculty of Science, Industry and Technology, Universiti Malaysia Pahang, Lebuhraya Tun Razak, 26300 Gambang, Kuantan, Pahang Darul Makmur, Malaysia.  \*Corresponding author at: Yayasan Dakwah Islamiah Malaysia (YADIM), Kompleks Pusat Islam, Jalan Perdana, 50480, Kuala Lumpur, Malaysia. Tel.:+60-01125492490; email:hassanalharis@hotmail.com  **Abstract**- Background: From the experiment we discovered that the hydroxyapatite can be synthesis by the crystallization process on hydroxyethylene sponges. The sponges of hydroxyethylene was fabricated successfully. The liquid-solid hydroxyethylene was placed in the freeze dryer for the sponges formation. The sponges let the samples to have larger surface area compared when it was in liquid-solid form. The larger surface area result the larger area for the formation of crystal. At the end of the study we discovered that the crystal was successfully growth on the sponges. |

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| **No** | **Paper ID** | **Presenter** |
| 1 | 002-icma | Exploiting the Wave Characteristics in Natural Fibre Reinforced Composites for Passive Damage Evaluation  **M. Zaleha**, S. Mahzan, I.Maizlinda Izwana  University Tun Hussein Onn Malaysia, Departments of Engineering Mechanics, Faculty of Mechanical and Manufacturing Engineering, 86400 Parit Raja, Batu Pahat, Johor,Malaysia  University Tun Hussein Onn Malaysia, Departments of Engineering Mechanics, Faculty of Mechanical and Manufacturing Engineering, 86400 Parit Raja, Batu Pahat, Johor,Malaysia  University Tun Hussein Onn Malaysia, Departments of Materials Engineering and Designs, Faculty of Mechanical and Manufacturing Engineering, 86400 Parit Raja, Batu Pahat, Johor,Malaysia  **Abstract -** Background: Low-velocity impact damage has created a major concern in the design of structures made of composites material because such damage is mostly hidden inside the laminates and cannot be detected by naked eye. Objective: This study investigates the wave velocity characteristic of the woven natural fibre reinforced composite when impacts introduced onto the panel. It is based on a classical sensor triangulation methodology, combines with experimental strain wave velocity analysis. Results: As demonstrated in this study, the present dynamic response based procedure using smart sensors can be effectively used to assess the validity and capability of the strain characteristic in the natural fibre composite (NFC) sample. |
| 2 | 013-icma | Effects of Low-Velocity Impact on Different Density of Woven Kenaf Fiber Reinforced Composites  **S.N.A.Khalid**, M.R.Jamaluddin, M.N.Roslan, A.E.Ismail, M.H.Zainulabidin,  Faculty of Mechanical and Manufacturing Engineering, UniversitiTun Hussein Onn Malaysia, 86400 Parit Raja, BatuPahat, Johor, Malaysia  **Abstract-** This work focuses on the mechanical behavior of low-velocity impact on the kenaf fiber reinforced composite for different types of woven densities. Kenaf is one of the natural fibers mostly used as an reinforcement in Polymer Matrix Composites (PMCs). The ability of woven fabric to protect against bullets depends mainly on the mechanical properties of yarns such as tensile modulus, toughness and its capability to prolong the collision time. In this research, kenaf composite was produced in eight different woven densities before it is hardened with a polymeric resin. Impact test was performed using high speed puncher machine called Shimadzu Hydroshot HITS-T10 at a speed of 1m/s. Force-displacement and energy absorption were calculated and analyzed. Failure mechanism was also observed visually through the fragmentation pattern of the composites. Hence, composite that has lightest density produce the highest energy absorption performance in impact behavior. The lightest woven of composite density had been revealed as the highest energy absorption. |
| 3 | 015-icma | Finite Element Modelling of 1-year-old pediatric head with fontanel impact: Validation against experimental data  J.M. Nursherida, **B.B. Sahari**, A.A.Nuraini and A.Manohar  Department of Mechanical and Manufacturing Engineering, Faculty of Engineering, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia  Department of Orthopedics, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia  **Abstract-** Background: In this study, a biofidelic finite element models (FEM) of 1-year-old head with fontanel was used to investigate child head dynamic response under drop impact conditions. Computer simulation using FEM are often used as a substitute for human experimental head injury studies, especially in predicting car accident injuries, enhance understanding of injury mechanism and develop prevention strategies. The use of FEM in crash test dummies is advantageous over physical dummies because of the lower cost and repeatability. A morphing method within LS-Prepost software was used to morph the geometry of a baseline child head FEM into models with geometries representing a 1-year-old infant head with fontanel. Although the finite element method has been widely used for investigating adult head injury from impact, only a few 3D pediatric head FEM that complete with AF morphology have been reported. The surface area of the AF at age 1-year old used in this study is 184.2 mm2 that obtained from published journal. The model was developed by using both deformable and rigid body materials. The 1-year-old head anthropometric data were obtained from published journal articles. Using recent published material property data, the infant skull, skin and scalp FEM of the 1-year-old ATD head was developed to study the response in head drop tests. The head assembly was validated by using two different head drop tests set-ups. The two impact locations are frontal/forehead, and lateral (left parietal) drop tests. All tests with two different drop heights of 150 mm and 300 mm are the certification procedure. Objective: to develop FEM head for 1-year-old ATD dummy to use in occupant safety analysis, and to simulate a validation process under drop conditions based on the experimental cadaver drop tests data from published literature Results: For the forehead impact, a good correlation in terms of accelerations (G) between experiment and simulation were observed. It is intended for automotive crashworthiness assessment. Conclusion: A FEM of the 1-year-old head was developed in this study, and was validated against experimental data in terms of acceleration. |
| 4 | 017-icma | Investigation of Industrial Energy Efficiency: A Case Study  **Samson Mekbib Atnaw**, Daniel Kitaw  Universiti Malaysia Pahang, Department of Energy and Environmental Engineering Technology, Faculty of Engineering Technology, 26300, Gambang, Kuantan, Malaysia  Addis Ababa University, Department of Mechanical Engineering, Faculty of Technology, P.O.BOX 1176, Addis Ababa, Ethiopia  **Abstract-** Developing economies are mostly unaware of the actual savings potential of energy conservation and are additionally restricted due to the application of outdated technology in their industrial production. This is partly because their industries have not been checked for proper energy use and conservation. Therefore, it is the intention of this paper to provide and apply tools on the procedure and methods involved to firstly assess possible deficiencies suspected of irrational consumption of energy bill. Also steps to be taken to raise possible required investment for energy conservation measures and their financial analysis like payback period will be included. The status of Industrial Energy Efficiency in Ethiopian Industries has been analyzed with a special focus on the leather sector taking Batu Tannery a case study. The various energy utilization and saving practices of the plant and its potential saving areas are identified. Though higher saving is possible through the introduction of modern technology, this study focuses on housekeeping and low investment measures that will gain fast results and will motivate the management for more in – depth energy conservation measures. This approach is found suitable for developing countries who suffer from lack of funds for higher investment in energy conservation programs and the use of renewable energy sources. |
| 5 | 020-icma | Growth of Reaction Layer on Diffusion Bonded of Sialon to Nitrided AISI 420 Martensitic Stainless Steel  **Nor Nurulhuda Md. Ibrahim**, Patthi Hussain, Mokhtar Awang  Mechanical Engineering Department, Universiti Teknologi PETRONAS, Bandar Seri Iskandar, 31750 Tronoh. Perak. Malaysia  **Abstract-** Sialon and stainless steel possessed dissimilar properties and for this reason, it was very difficult to join them but with the advancement of technology, they could be joined using one of the techniques developed namely diffusion bonding process. The benefit of joining them, it would result in more effective component design since the properties from both materials could be optimized. This work studied the effect of bonding time on the reaction layer when sialons were diffusion bonded to 1 and 4 h nitrided AISI 420 martensitic stainless steels. The materials were joined at 1200°C in a vacuum under a uniaxial pressure of 17 MPa for 2 and 3 h. Sialon retained its microstructure after joining. Reaction layer that made of interface and diffusion layer was developed due to the interdiffusion and reaction of elements between the joined materials. Increasing the bonding time had caused the formation of thicker and denser layer since more decomposition of sialon took place. However, thinner reaction layer was developed when joining with longer nitrided steel since the nitriding had suppressed the decomposition of sialon. Grinding caused the border of diffusion layer and steel to be “peeled off” but the joint remained intact. The interface displayed a sharp drop of hardness due to sialon’s decomposition at this region and this indicated that the weakest part of the joint might be at the border of sialon and the interface layer. All samples produced crack-free joints since the reaction layers’ properties and thickness were sufficient to bond sialon and the steel together by acting as flexible zones to absorb the excessive generated residual stress upon the cooling process |
| 6 | 022-icma | A Review of Quality Coffee Roasting Degree Evaluation  **A. M. Noor Aliah**, A. M. Fareez Edzuan, H. L. Bong, A. M. Noor Diana  Universiti Malaysia Sarawak, Mechanical and Manufacturing Engineering Department, Faculty of Engineering, 94300 Kota Samarahan,Sarawak, Malaysia.  Universiti Teknologi Petronas, Chemical Engineering Department, Faculty of Engineering, 31750 Tronoh, Perak, Malaysia.  **Abstract-** Background: Roasting is the most essential part in coffee processing; the desired  aroma and flavors of coffee are developed in the process. During this process, the beans undergo a series of reactions leading to the changes in physical properties and chemical composition. It is important to control the roasting process, and stop the process when the aromas have fully developed and the color of the coffee is homogeneous throughout the whole bean. Therefore, a method to evaluate the coffee roasting doneness in real-time is necessary. Many studies have been done to evaluate the quality of roasted coffee experimentally using different parameters such as aroma, flavor, color, bean temperature, pH, and chemical composition. However, these techniques could not be implemented in real-time and have their own limitations. Objective: This paper presents a review of recently developed approaches and latest researches carried out for evaluating the quality of roasted  coffee beans. The review is based on some selected refereed journal articles. Results: The review indicates that end product alone, i.e. beans weight loss and color are not suitable to determine the roasting degree of doneness. Conclusion: Future direction should investigate on the chemical compositions in high quality roasted beans, and more effort must be done in establishing a large database of v formation dynamics during roasting |
| 7 | 028-icma | Optimization of Hot Press Compression Molding and Fabrication of Poly Lactic Acid (PLA) Luffa Biocomposites for Biomedical Applications  **Akshay Kakar**, Elammaran Jayamani , Soon Kok Heng , Muhammad Khusairy Bin Bakri , Sinin Hamdan  Faculty of Engineering, Computing and Science, Swinburne University of Technology Sarawak Campus, Jalan Simpang Tiga, 93350, Kuching, Sarawak, Malaysia.  Faculty of Engineering, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Kuching, Sarawak, Malaysia  **Abstract-** Biopolymer composites for tensile testing were fabricated according to the American Society for Testing Materials, ASTM D638-10, using poly lactic acid (PLA) as the matrix material and varying volume percentage of heat treated and untreated luffa fiber as the reinforcement material. To achieve the composite materials with the highest tensile strength, optimization of the use of hot press machine for fabrication of composite specimens was given high importance. While optimizing the use of hot press machine, various parameters were considered. These parameters included processing temperature, processing time and cooling time. Combinations of varying magnitudes of these parameters were used to find the optimum processing method. The optimized method was then used to produce PLA-luffa composites. The fiber-matrix interface adhesion was studied using scanning electron microscope (SEM). The results show that composites made with heat treated fibers have higher tensile strength and better interfacial adhesion when compared with the tensile strength of composites made with untreated fiber. Heat treated fibers showed a remarkable improvement in the tensile strength of the biocomposites, which may be used for a variety of applications in the orthopedic field |
| 8 | 033-icma | Mechanical Properties in Fe-Mn-Si-C Transformation-Induced Plasticity Steel  **Byung-Young Moon**, Ki-Yeol Lee, Sun-Jung Youk  Dept. of naval Architecture, Kunsan National University, Kunsan, 573-701, Korea  Shipbuilding& Marine Technical Manpower Agency, Kunsan University, Kunsan, 573-701, Korea  Dept. of Information and Communication Engineering Graduate School, Kunsan University, Kunsan, 573-701, Korea  **Abstract-** The microstructural changes and the tensile properties of TRIP-assisted steels resulting from different chemical compositions were investigated by using SEM, TEM, XRD and UTM. As a result of microscopic observation, the morphology of retained austenite could be characterized by two types: a granular type in steel containing higher Si and a film type in steel having higher C. In the case of the steel containing higher C with a tensile strength of 860 MPa and a total elongation of 38%, the film type retained austenite could be observed among the lath bainitic ferrites. Actually, the metastable retained austenite was required for good formability, which means that the chemical composition plays a significant role in the microstructure and tensile property of TRIP-assisted steel. With respect to the tensile property, each steel type that contained a suitable amount of Si and Mn demonstrated a typical TRIP effect on a stress-strain curve while steel that contained a higher Mn content exhibited similar behaviors, as demonstrated in the dual phase steels. |
| 9 | 037-icma | A Study on Bending Properties According to the FRP Composite Fiber Material  Young Jun Kim, Dong-soo Kim, **Byung-Young Moon**  Dept. of Mechanical and Automotive Engineering, High Safety Vehicle Core Technology Research Center, Inje University, Gimhae, Korea  Dept. of Coastal Construction Engineering Graduate School, Kunsan National University, Kunsan, 573-701, Korea  **Abstract-** The fiber reinforced plastic (FRP), which is an advanced composite material for aerospace structures such as aircrafts and space devices, is applied to many sectors that require lightweight materials for its high specific strength and stiffness. FRP is used for the materials for machinery and structures, and the fracture toughness evaluation is important to improve its soundness and reliability. In this study, the bending characteristics of three materials (Hybrid-C-GFRP, CFRP and GFRP) were examined to understand the bending characteristics of FRP. The results of the test showed that the maximum stress was highest in the CFRP test piece, and similar in GFRP and C-G Hybrid test pieces. This indicated that the stress is related to the strength. In addition, while GFRP and C-G hybrid had similar stress values, GFRP had higher bending strength than C-G hybrid because the stress of GFRP increased within a shorter displacement by the difference in the initial tangent line slope. |

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| **No** | **Paper ID** | **Presenter** |
| 1 | 018-icfefs | Overall Equipment Effectiveness Forecasting using Markov Chains  **Abdul Talib Bon**, Lim Ping Ping  Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia (UTHM) 86400 Parit Raja, Batu Pahat, Johor, Malaysia  Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia (UTHM) 86400 Parit Raja, Batu Pahat, Johor, Malaysia  **Abstract**- Nowadays, consumers expect manufacturers to provide excellent quality, reliable delivery and competitive pricing. This demands that the manufacturer’s machines and processes are highly reliable. In order to possess highly reliable machines to make sure smooth manufacturing process, many organizations have implemented Total Productive Maintenance (TPM) as the enabling tool to maximize the effectiveness of equipment. Measurement is an important requirement of continuous improvement process. It is necessary to establish appropriate metrics for measurement purposes. From generic perspective, TPM can be defined in terms of Overall Equipment Effectiveness (OEE) which in turn can be considered a combination of the operation maintenance, equipment management and available resources. The goal of TPM is to maximize equipment effectiveness, and the OEE is used as a measure. In short, OEE is used as a measure when evaluating the result of TPM. This paper intended to find out OEE performance in a manufacturing company. Besides that, it also has figured out the trend of OEE in future by using Markov Chains to calculate. The forecast of OEE is performed by a software name Risk Simulator. Markov Chains used in this software has forecasted that there is high probability of OEE to stay at its current state. By knowing the state of OEE in future, an organization is able to make sufficient preparation to face future situation. |
| 2 | 026-icfefs | The bandwidth selection in connection to option implied volatility extraction  Miloš Kopa, **Tomáš Tichý** , Sebastian Vitali  Institute of Information Theory and Automation of the ASCR, Department of Econometrics, Pod Vodárenskou věží 4, 182 08 Prague, Czech Republic  Technical University Ostrava, Faculty of Economics, Department of Finance, 701 21 Ostrava, Czech Republic  Department of Management, Economics and Quantitative Methods, University of Bergamo, Via dei Caniana 2, Bergamo, Italy  **Abstract**- At the market, we can identify various kinds of options. Some of them are traded at organized exchanges and are quite liquid. Others are traded only between particular parties. The current market practice is to obtain implied volatility of liquid options as based on Black-Scholes type (BS hereafter) models. Such volatility is subsequently used to price illiquid or even exotic options. It therefore follows that the BS model at one time moment can be related to the whole set of IVs as given by maturity/moneyness relation of tradable options. One can therefore get IV curve or surface (a so called smirk or smile). Since the moneyness and maturity of IV often do not match the data of valuated options, some sort of estimating and local smoothing is necessary. However, it can lead to arbitrage opportunity, if no-arbitrage conditions on state price density (SPD) are ignored. In this paper, using option data on DAX index, we analyze the behavior of IV and SPD with respect to different choices of bandwidth parameter h. We identify a set of bandwidths which violates no-arbitrage conditions. We document that the change of h implies interesting changes in the violation interval of moneyness. Finally, we also show the impact of h on the total area of SPD under zero, which can be seen as a degree of no-arbitrage violation |
| 3 | 027-icfefs | Measuring The Performance And Efficiency Of Top Listed Government Linked Companies (GLCS)  **Vikniswari Vija Kumaran**, Hussin Abdullah and Fauzi Hussin  School of Economics, Finance and Banking, Universiti Utara Malaysia  School of Education and Modern Languages, Universiti Utara Malaysia  **Abstract**- Government have direct controlling stake in listed GLCs especially under federal such as G20. GLCs would be able to create a platform to generate and enrich knowledge in key sectors and able to implement government policies. The aim of this study is to measure the performance and efficiency of top listed GLCs in Malaysia. Data envelopment analysis (DEA), that known as linear programming method was employed to measure the performance of GLCs from the period of 2004Q1 to 2013Q4. The DEA scores indicate that most of GLCs are efficient in 2010Q1 and inefficient in 2007Q2. Overall, most of GLCs start to be efficient start from 2008 to 2013. Only few companies such as Axiata, BIMB, CCM, CIMB, MAS and UEM have to improve their performance to be more efficient. |
| 4 | 038-icfefs | The Behaviour of Exchange Rate and Interest Rate Differential in Malaysia: Evidence from Wavelet Analysis  **Lalitha Dhamotharan**, Mohd Tahir Ismail  University Sains Malaysia, School of Mathematical Sciences, 11700 Penang, Malaysia.  University Sains Malaysia, School of Mathematical Sciences, 11700 Penang, Malaysia  **Abstract**- . Background: The general consensus from a plethora of literatures is that the relationship between exchange rate and interest rate differential is ambiguous. However, a close examination of the literature reveals that the results have been elusive due to one dimensional analyses of conventional econometric methods that are unable to decipher the complex time-scale relationship between these variables. Objective: The present study investigates the linear and nonlinear causality between nominal exchange rate and interest rate differential for Malaysia (vis-à-vis the US) using wavelet analysis during the period 1990 to 2013. Results: The key empirical finding from wavelet decomposed data along with the nonlinear Granger causality tests reveal reinforcing evidence between exchange rate and interest rate differential during the short-term (2-, 4-month periods); while nominal interest rate differential Granger causes spot exchange rate in the longer-term (16-month period). Conclusion: We find that time scale decomposition is crucial when examining complex nonlinear economic variables. |

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| **No** | **Paper ID** | **Presenter** |
| 1 | 001-icpra | **Online risks and safety among the Muslim teens in Malaysia and Bangladesh**  Taslim Taher \*1, Mohd. Adam Bin Suhaimi 2  *1 Department of Information Systems (DIS), Kulliyyah (Faculty) of Information and Communication Technology (KICT), International Islamic University Malaysia (IIUM), P.O. Box 10, 50728 Kuala Lumpur, Malaysia.*  *2 Department of Information Systems (DIS), Kulliyyah (Faculty) of Information and Communication Technology (KICT), International Islamic University Malaysia (IIUM), P.O. Box 10, 50728 Kuala Lumpur, Malaysia.*  **Abstract-** The most rapidly increasing and influential segment in the internet user population (as well as most vulnerable) are teenage internet users. Though many studies have been conducted in the western world from their viewpoints, this is not the case for developing nations. This study aims to offer the intensity to the knowledge base regarding online risks and safety toward teenagers in Malaysia and Bangladesh. Thorough analysis of the studies conducted in these two regions, the risky practices and perceptions of the youths fallen in this age group are considered and explored. It is expected that this study should help to develop a secure atmosphere in which they can be trained and become useful members of the society. |

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| **No** | **Paper ID** | **Presenter** |
| 1 | 001-icseem | **A Review of Maritime Logistics Performance**  M.H. Norhidayah \*1, Wan Ahmad Najmuddin Wan Saidin 2 , Nazrul Idzham Kasim3  *1 Kolej Islam Antarabangsa Sultan Ismail Petra (KIAS), Muamalat Department, P.O.Box 68, Nilam Puri, 15730 Kota Bharu, Kelantan., Malaysia*  *2,3 International College of Automotive (ICAM),Mechanical Department, Faculty of Engineering, DRB-HICOM Pekan Automotive Complex, Lot 1449, PT 2204 Peramu Jaya Industrial Area,26607 Pekan, Pahang Darul Makmur, Malaysia*  **Abstract**- Background: Supply chain management related with transportation, procurement, management, marketing and so on. Regarding of that, the paper only focusses on transportation. Objective: The aim of this research is to review the integration between items that influenced maritime logistics performance, at the same time to identify the new approaches related. Results: many researchers are focused to maritime logistics because the mode are friendly to customers-suppliers relations. Additionally, a summarize of new approaches with some items that considered, are identified. Conclusion: The enquiry described in this paper stands as an initiative requiring further research and investigation. |

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| **No** | **Paper ID** | **Presenter** |
| 1 | 001-icsth | **Travelling Motivation for Malaysian to Nature and Cultural Destinations**  Cheng Fan Fah1, Ph.D and Cheng Seow Voon2, Msc(LSE)  *1Associates Professor, Faculty of Economics and Management, University Putra Malaysia.*  *Email:* [*chengfanfah@yahoo.com*](mailto:chengfanfah@yahoo.com)*.*  *2 Lecturer, Faculty of Accounting, Finance and Business, TAR University College.*  **Abstract**- There are various factors that motivate people to travel. Just like other products, tourists generally undergo several stages in their decision making before finally deciding on the destination to visit. Although there are numerous studies done on travel motivation so far, the latest travel motivations among Malaysians are somewhat unknown. This study, therefore, was carried out to identify the latest demographic variables of Malaysians on their travel motives. It is important to understand if travel motivations among Malaysians are affected by their demographic variables that include factors such as gender, age group and income level. A 17-item questionnaire was used to survey 200 respondents on their travelling motivation, while that the respondents are basically motivated to visit certain nature and cultural destination. Another 18 items were utilised to measure the attractions. Findings of this study showed destinations because of the attractions at the places. Furthermore, the survey results also showed that the travel motivations of Malaysians are directly influenced by their gender, age, income level and education level. |
| 2 | 002-icsth | **Determining Factors for Competitive Performance among Malaysian Frozen Food Manufacturing**  ZarinaZainudin1, Shahariah Ibrahim2  *1ZarinaZainudin, UniversitiTeknologi MARA, Masters candidate in Foodservice Management , Faculty of Hotel and Tourism Management, 40450Shah Alam, Selangor Malaysia*  *2Shahariah Ibrahim, UniversitiTeknologi MARA, Dept of Culinary Arts , Faculty of Hotel and Tourism Management, 40450*,*Shah Alam,Selangor , Malaysia*  **Abstract**- Background: The food manufacturing sector in Malaysia has escalated its contribution to the national economy. In particular the frozen food sector was expected to double its market size by the 2010 over a span of 5 years. As such the competition in this particular sector is expected to be challenging. Hence, since performance is a crucial indicator of success strategies need to be identified in order to ensure a competitive performance. By that token, using the identified strategic determinants, this study discusses their roles towards competitive performance of frozen food manufacturing companies. Objective: To discuss a model that relates strategic determinants, competitive performance, frozen food, manufacturing and Malaysian food industry. Expected Results and Conclusion: The proposed model will be able to identify the relationship between identified strategic determinants and performance in the frozen food industry; strategic determinants will contribute significantly on performance while corporate strength is found to mediate the relationship between strategic determinants and performance. |