CARe Newsletter



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UTeMEX2015

TeM Research and Innovation Expo (UTeMEX) has been held on 27th-28th October 2015, at Dewan Besar with the theme "Innovating Technology for Societal Well-being". The event is jointly organized by University Commercialization Centre (UCC) and all faculties in UTeM. A total of 202 entries have been received by the organizer with 158 from UTeM, 30 from Polytechnics/Community Colleges and 14 from other universities. Researchers from CARe have shown outstanding achievements with 6 entries are awarded Gold medal, 15 entries received Silver medal and 13 for Bronze. CARe also received Special Jury Award for an innovation entitled Agro-Waste for Sustainable Self-Lubricating Materials by Dr. Mohd Fadzli Abdollah. Congratulations to all the participants and below are the Gold medal winner from CARe.

		AGRO-WASTE FOR SUSTAINABLE SELF-LUBRICATING MATERIALS	MOHD FADZLI ABDOLLAH (FKM)	
1	X	READ 'IMPERATA CYLINDRICAL' AS GREEN SOUND ABSORBER	AZMA PUTRA (FKM)	
1		DO IT YOURSELF (DIY) NATURAL FIBRE SOUND ABSORBER	AZMA PUTRA (FKM)	
	FOOI	PROCESSING MACHINE USING WATER HYDRAULIC SYSTEM	AHMAD ANAS YUSOF (FKM)	
	CECAIR GETAH ASLI BERBILANG ARAS FASA		MOHD AZLI SALIM (FKM)	
	ECO-	FRIENDLY HUMAN-POWERED RECREATIONAL VEHICLE	MOHD AZMAN ABDULLAH (FKM)	



NEWSLETTER TEAM

Manager of CoE (CARe) Mohd Fadzli Abdollah (until October 2015)

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MALAYSIAN INTERNATIONAL TRIBOLOGY CONFERENCE 2015 (MITC2015)

For the year 2015, once again, MYTRIBOS in association with the Centre for Advanced Research on Energy (CARe) of Universiti Teknikal Malaysia Melaka (UTeM) and other participating universities and industries have organized the Malaysian International Tribology Conference 2015 (MITC2015). The MITC2015 is also supported by the International Tribology Council (ITC). The conference took place in Park Royal Hotel, Penang from 16 till 17 November 2015. The objective of MITC2015 is for the scientists, scholars, engineers and students from universities, research institutions and industries all around the world to present findings of ongoing research activities, and hence foster research collaborations between the universities and the industries. The other objective is to introduce young tribologists in the scientific field of tribology through keynote lectures and presentations, to offer mentoring through senior scientists, and to foster the building of networks through the informal style of the event.

In this 4th edition the conference has received more than 200 participants from 19 countries such as Japan, India, Indonesia, Germany, China, Thailand, Austria, Russia, The Netherlands, US and UK. The keynote speakers for this conference include Prof. Dr. Michael Khonsari from Louisiana State University, USA, Prof. Dr. Mohamed El-Mansori from ParisTech, France, Assoc. Prof. Dr. Abdul Talib Ria from Universiti Teknologi MARA and Prof. Dr. Takahisa Kato from University of Tokyo, Japan. The conference has also introduced Young Tribologist Awards in recognizing outstanding tribology research achievement by young researchers. The recipients for this edition are Dr. Kartik S. Pondicherry (Anton Paar GMBH, Austria), Dr. Alan Hase (Saitama Institute of Technology, Japan), Dr. Satoru Maegawa (Nagoya Institute of Technology, Japan), Dr. Shahira Liza Kamis (Tokyo Institute of Technology, Japan) and Jester Ling Lih Jie (Universiti Malaysia Sabah, Malaysia). Each recipient received RM500 and certificate.





MYTRIB

Proceedings of Malaysian International Tribology **Conference 2015**

ISBN: 978-967-13625-0-1 (online) http://www.mytribos.org/ proceedings

This ebook is a compilation of papers presented at the Malaysian International Tribology Conference 2015 (MITC2015) - Penang, Malaysia on 16 ~ 17 November 2015

Indexed by Google Scholar

FROM THE EDITOR

 γ elcome to the second issue of CARe Newsletter. As the ensuing pages show, colleagues have been active, productive and impactful on several fronts during the past few months from July till December 2015. Headline accomplishments include successful hosting of MITC2015 scholarly meetings and exhibition events; awards and recognitions; research publications and research grant applications. This Newsletter also draws attention to the recently released Call for Papers for the Mechanical Engineering Research Day 2016 (MERD'16). The previous proceeding (MERD'15) has been indexed in Thomson Reuters WoS. We look forward to disseminating selected highlights from this event in a future Newsletter. Finally, our heartiest thanks to Dr. Mohd Fadzli Abdollah for his endless contribution in serving as Manager of CARe until his term completed on 31st October 2015. Happy New Year 2016 and have a productive year ahead.



Best wishes,

Dr.Tee Boon Tuan

CONFERENCES GALLERY





31 July 2015 International Conference on Electronic Green Materials (EGM), Surabaya, Indonesia Participant: Mohd Basri Ali

INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINE



AcTiVe Advanced Vehicle Technology

A-MAT Advanced Materials

EFFECTS Efficient Energy & Thermal Management System

GMG Green Materials Group

GTeV Green Technology Vehicle

G-TriboE Green Tribology and Engine Performance

HiPS High Performance Structure

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IDeA Integrated Design

INNOMA Innovative Machine and Mechanism

POCSEET Pollution Control and Environmental Engineering Technology

SuSME Sustainable Maintenance Engineering

VIBRO-ACOUSTICS Vibration and Acoustics

<section-header>

International Conference on 📒 4th



光 🍢

6-7 September 2015

International Conference on Design & Concurrent Engineering 2015 (IDECON2015), Tokushima, Japan Participant: Noreffendy Tamaldin

CONFERENCES GALLERY

What is said is not as important as what we hear and what we feel. That is why we make an effort to experience conference in a setting where the still small voice of the spirit can be clearly heard, felt and understood.

Robert Hales



16-20 September 2015 International Tribology Conference 2015 (ITC2015), Tokyo, Japan Participants: Mohd Fadzli Abdollah, Muhammad Zulfattah Zakaria



11-12 November 2015

The 4th International Conference and Exhibition on Sustainable Energy and Advanced Materials 2015 (ICE-SEAM 2015) Participants: Noreffendy Tamaldin, Ahmad Rivai, Azma Putra, Mohd Zulkefli Selamat





2-4 December 2015

The 24th Scientific Conference of The Microscopy Society Malaysia (SMSM2015), Melaka Participants: Siti Hajar Sheikh Fadzullah, Umar Al-Amani Azlan, Ghazali Omar

Laminated Rubber-Metal Spring

The laminated rubber-metal spring (LR-MS) is a one of vibration isolators known for earthquake protection, and it was developed by using Standard Malaysian Rubber Constant Viscosity - 60 (SMRCV-60), santoflex, zinc oxide, black HAF, paraffin wax, CBS and sulphur. The product is thus designed to be able to reduce the transmitted vibration waves from horizontal direction. In this state, the LR-MS has also a potential application for a case where the excitation mainly comes from axial direction, for instance, the vibration transmission to a heavy bridges from the motor vehicles. In addition, the product prototype is first developed like a simple finite rod to stimulate the effect of internal resonances at high frequency, when the wavelength is much smaller than the length of the finite rod. The effects of metal plates inserted in the rubber is then studied to observe the improvement of the stiffness in axial direction, and, finally, to prevent the bulging effect. In mathematical modelling, three models are developed namely: (i) lumped parameter system, (ii) distributred parameter isolator (known as LR-MS) and, (iii) discrete lumped parameter system. Then, finite element analysis is also developed to study the distribution of stress and the dynamics behavior of the product, and, finally, the finite element results is used to verify the mathematical modelling results, which are mainly presented in vibration transmissibility. Last but not least, the measure data from LR-MS product has validate with mathematical modelling results. Based on the validation, it has shown a good agreement between measured and modelling data.

This product has also won a number of achievements, such as the gold medal in UTeMEX2014, bronze medal in Malaysian Road Conference – Invention & Innovation Exhibition 2014, and, silver medal in Malaysia Technology Expo 2015. Apart from that, LR-MS was developed through a partnership between Universiti Teknikal Malaysia Melaka, Institute Sound and Vibration Research (ISVR), University of Southampton, United Kingdom, and Malaysian Rubber Board (MRB).







By: Mohd Azli Salim GTeV Research Group

Figure 2 Author at Malaysia Technology Expo 2015



By: Siti Nurhaida Khalil IDeA Research Group

Breaking-Down Work Tasks: Systematic Approach in Project Management

Actual truth about project management is that it is always started as something that is very wide in scope and objectives, it involved undetermined variables and measures in controlling the project, be it time and cost. However, in light with this challenges in managing project, breaking down the complexities of the project may be one of the solution viable for this purpose.

Work breakdown structure or in short WBS is a systematic approach introduced by Department of Defense (DoD) in the US Army Materiel Command (USAMC) [1]. This technique was introduced to the public in 1971 has been applied in various fields i.e. software engineering, systems engineering, industrial engineering, management etc. [2,3]. The reason is clear, WBS provides vital information by defining the work to be accomplished; constructing a network plan; summarizing the cost and schedule status of a program for progressively higher levels of management [4].

WBS levels

WBS is a structure that visualizes projects into hierarchical tasks, subtasks, work packages etc[5]. Different approaches to hierarchical decomposition could be considered in developing WBS. These approaches or views that can be considered are:

Product-oriented Process or functional Organizational Logistics Timing or project life cycle Geographic location of people or divisional organizations Economic benefit, type of cost Project management style (centralized, etc) Location of work in the product

Figure 1 depicts the 4 levels of tasks decomposition in organizing Conference A. Each levels described the tasks based on process or function in the management of Conference A. WBS illustrate the 'order' or 'flow' of the event, as well as act as a pictorial plan of the program. On the other hand WBS can be used as a tool to



Conclusion

The work-breakdown structure is the backbone of the proper planning, execution and control of a project. The WBS construct is not unique to any particular project. It is the work of science and arts in planning any event or project. Thus it can be concluded that WBS is the result of a group effort of professionals from various

functions and positions.

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INFO CARe Publications

2013 ISI (WoS) — 38 Scopus — 66

2014 ISI (WoS) — 23 Scopus — 48

2015 ISI (WoS) — 72 Scopus — 41

Sources: WoS, Scopus

Academic success depends on research and publications. *Philip ZImbardo*

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ANNOUNCEMENT



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https://cmt3.research.microsoft.com/merd2016





http://icei2016.utem.edu.my

ACTIVITIES GALLERY



Lab equipment training for Dust Trak Monitor by TSI



A visit to Kyoto University, Japan



Clean Air Workshop with MBMB and GIZ, Germany





A visit from Prof. Ito, Tokushima University, Japan

TMAC Autumn Symposium 2015

Lab visit from Assoc. Prof. Tokoroyama, Akita University, Japan



FRGS GRANT RECIPIENTS FOR 2015				
	TTLE	PRINCIPLE RESEARCHER	AMOUNT	
WEAR CHARACTERISTICS OF ABS REINFORCED	CARBON PARTICLE AS NEW MATERIAL FOR FDM	MOHD NIZAM SUDIN	RM 88,000	
CONSOLIDATIO <mark>N CHARACTERIS</mark> TICS OF PARTS PRINTING UTILIZ <mark>ING A NEW</mark> INTEGRATED PLA	FABRICATED VIA OPEN SOURCE 3D METAL SMA DEPOSITION TECHNIQUE	MOHD RIZAL ALKAHARI	RM 98,800	
INVESTIGATION ON THE LAYER ADHESION OF PLANT BASED BIOADHESIVE ON THE PRINTING	FUSED FILAMENT FABRICATION BY APPLYING BED TO ENHANCE MANUFACTURABILITY	FAIZ REDZA RAMLI	RM 79,400	
INVESTIGATION ON PERFORMANCE OF PARAMI OPTIMUM MODEL STRUCTURE SELECTION IN S	ETER MAGNITUDE-BASED CRITERION FOR SYSTEM IDENTIFICATION	MD FAHMI ABD SAMAD @ MAHMOOD	RM 65,400	
CHARACTERISATION OF BIOMECHANICAL PROF FIELD MAGNETIC RESONANCE IMAGING (MRI)	PERTIES OF ARTICULAR CARTILAGE USING LOW- IMAGE	MOHD JUZAILA ABD LATIF	RM 87,200	
STUDY OF TURBULENCE CHARACTERISTICS OF THERMOACOUSTICS USING EXPERIMENTALLY	AN OSCILLATORY FLOW CONDITIONS IN VALIDATED TWO-EQUATIONS TURBULENCE MODEL	FATIMAH AL ZAHRAH MOHD SAAT	RM 146,200	
PHYSIO-CHEMICAL EVALUATION AND TRIBOLO BIODEGRADABLE NOVEL BIO-LUBRICANTS BAS	GICAL STUDIES OF ECO-FRIENDLY ED ON BANANA PEEL WASTE	NOR AZMMI MASRIPAN	RM 142,300	
FABRICATION TOWARDS MECHANICAL PROPER FIBRE REINFORCED HYBRID COMPOSITE AS BI MATERIAL	TIES INVESTIGATION OF ALUMINIUM-KENAF ODEGRADABLE LIGHT WEIGHT COMPOSITE	OMAR BAPOKUTTY	RM 99,200	
YAW ANGLE EFFECT ON FLOW CHARACTERISTI	C OF REAR-ROOF SPOILER OF ROAD VEHICLE	CHENG SEE YUAN	RM 79,700	

PECIPTA2015 & I-PHEX2015

CARe made further strides in the research field after entries from the CoE won 2 bronze medals at the 14th International Conference and Exposition on Inventions by Institutions of Higher Learning (PECIPTA2015) which was recently held from 4th to 6th December 2015 at the Kuala Lumpur Convention Centre.

The bronze medals along with certificate of appreciation were conferred to Mr. Safarudin Gazali Herawan for his project entitled 'E-Attendance' and Mr. Mohd Azli Salim for his work on 'T-Test'. Overall, UTeM won 1 Gold, 2 Silver and 8 Bronze medals in the event.

PECIPTA is a biannual event since 2001, organized by the Ministry of Higher Education, Malaysia together with a selected local university. The event for this year was hosted by the Universiti Pendidikan Sultan Idris (UPSI). The aim of this event is to showcase the creations and innovative products and services from the local and international higher education institutions.





On 6 August 2015, a team from GTeV Research Group, led by Dr. Musthafah Mohd Tahir had participated in the Innovative Practices in Higher Education Expo 2015 (I-PHEX 2015), held at UTM International Campus, Universiti Teknologi Malaysia, Kuala Lumpur. The event was participated by 53 participants from Malaysia, USA, Singapore, Korea, India and Japan. The I-PHEX 2015 was a platform to showcase innovative practices that can be shared and emulated among academics in higher education worldwide where the main purpose of the exhibition is to recognise and award efforts to improve higher education.

The CARe team showcased their innovative product called "UTeM-MUS Hydraulic Engine Dynamometer" and was awarded gold medal. Congratulations to G-TeV team on the achievements!

Visit our website: http://www.utem.edu.my/care

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