

Organizer:



Co-Organizer:



ICAMME
International Conference on Advances in
Manufacturing and Materials Engineering

2022 ICAMME

5th International Conference on
Advances in Manufacturing and
Materials Engineering

KUALA LUMPUR, MALAYSIA

UPDATE

Nurturing Innovation for Sustainable Future

This is a series of conference organized by Kulliyah of Engineering, International Islamic University Malaysia (IIUM) with the aims to serve as a platform for exchange of ideas on advances in manufacturing and materials engineering and their applications as well as to foster research and worldwide collaboration.

Important Dates: EXTENDED

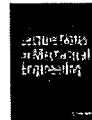
- Submission of full paper deadline: 20 June 2022
- Notification of acceptance: 3 June 2022
- Camera-ready paper submission deadline: 1 July 2022
- Full payment deadline: 8 July 2022
- Conference date: 9-10 August 2022

The conference will highlight the following topics (but not limited to):

Graphene | Carbon Nano Tube | 2D Materials | Nano materials | Materials for Renewable & Sustainable Energy Harvesting | Smart Materials | Functional Materials | Nanoelectronics | Nanoelectromechanical Systems | Advanced Composite | Ceramics | Metallic Materials | Corrosion of Materials | Heritage Preservation | Electrochemistry | Machining & Tooling | Manufacturing Processes | Lean Manufacturing | Flexible Manufacturing | Green Manufacturing | Additive Manufacturing | Metal Forming | Smart Manufacturing | Computer-Aided Design | Computer Aided Engineering

Conference Fee: RM 300
NO additional cost for 2nd paper

Publication:



Selected papers of ICAMME 2022 will be published in the **Lecture Notes in Mechanical Engineering** indexed by SCOPUS

Award:



Best paper award will be granted for each of the conference categories.

VIRTUAL PLATFORM

**9-10 AUGUST
2022**



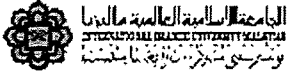
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<https://conference.iium.edu.my/icamme>



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MD. ABDUL MALEQUE <maleque@iium.edu.my>

ICAMME2022 Paper ID-37: Notification of Acceptance

1 message

Microsoft CMT <email@msr-cmt.org>

Tue, Jun 21, 2022 at 12:48 PM

Reply-To: Nor Aiman Sukindar <noraimansukindar@gmail.com>

To: "Prof Md. Abdul A Maleque" <maleque@iium.edu.my>

Cc: hazleen@iium.edu.my, shaimihezri@iium.edu.my, norshahida@iium.edu.my, zahirani@iium.edu.my, farahudahalim@iium.edu.my, adibah@live.iium.edu.my, norkhairusshima@iium.edu.my, shaimihezri@live.iium.edu.my, afifahali@iium.edu.my, syazwani_mohdzaki@iium.edu.my, natashar@iium.edu.my, icamme@iium.edu.my

Dear Prof Md. Abdul A Maleque,

We are pleased to inform you that your paper "Wear and corrosion behavior of metallic coated surface under exposure to biodiesel" has been ACCEPTED for presentation in the virtual conference of 5th International Conference on Advances in Manufacturing and Materials Engineering (ICAMME 2022) to be hosted by International Islamic University Malaysia (IIUM) Kuala Lumpur during 9 - 10, August, 2022. Please note that the conference registration is compulsory for the presentation and publication of your paper. Upon successful registration and presentation in the ICAMME 2022, your paper will be processed for possible publication in the Lecture Notes in Mechanical Engineering (LNME).

Registration Process:

The registration for ICAMME 2022 is already open, hence you are requested to complete the payment and registration process as soon as possible. Details of the conference fee can be referred at <https://conference.iium.edu.my/icamme/fees/>.

Preceding the payment, kindly follow the guideline available on the website, at <https://conference.iium.edu.my/icamme/payment/>.

For direct transfer, please refer to the payment details below:

Conference Fees: RM300

Banking account details for payments (Local participants)

- Bank: Bank Muamalat Malaysia Berhad (BMMB)
- Account Name: UIAM OPERATING ACCOUNT
- Account Number: 1407-000000-4716
- Swift code: BMMBMYKL
- Branch: International Islamic University Malaysia (IIUM), Gombak, Selangor
- Mode of payment: By Cash Counter at BMMB, or Online Banking.
- Reference payment: Conference name-Paper ID. Example: ICAMME2022-37

Registration link for payments (International participants):

For international participants, kindly make payment via this link only:

<https://landing-pages.flywire.com/landing/iium>

Once the payment has been made, please register by filling in the registration form and submitting the scanned receipt as proof of payment through <https://bit.ly/3KJ1gST> before 8th July 2022.

Technical Support and Contact:

For any queries, please do not hesitate to contact by emailing us at icamme@iium.edu.my. Visit our website for the updates of ICAMME 2022: <https://conference.iium.edu.my/icamme/>.

We thank you for your participation in ICAMME 2022 and we look forward to seeing you in the conference.

Best Regards,

Dr. Ahmad Zahirani Ahmad Azhar
Conference Chair, ICAMME 2022,
Department of Manufacturing & Materials Engineering,
Kulliyah of Engineering,

INTERNATIONAL CONFERENCE ON ADVANCES IN MANUFACTURING AND MATERIALS ENGINEERING
ICAMME 2022

DAY 1: 9 AUGUST 2022				
8.00 - 9.00	Registration			
9.00 - 10.00	Opening Ceremony			
10.00 - 11.00	ICAMME '22 Keynote Speaker Session - Prof. Dr. Ihsan Efeoglu <i>Synthesis of Nb and Zr Added TiCN/TiBN Composite Coatings with CRBM-HIPIMS Technology and Investigation of Mechanical Properties</i> Chairman - Prof. Dr. Maleque			
11.00 - 12.00	ICAMME '22 Keynote Speaker Session - Prof. Dr. Mohd Nasir Tamin <i>Characterization of Multifacial Fatigue Crack Propagation</i> Chairman - Assoc. Prof. Dr. Norhashimah Shaffar			
12.00 - 2.00	Noon Break			
2.00 - 2.20	ROOM 1	ROOM 2	ROOM 3	ROOM 4
2.20 - 2.40	5	10	11	66
2.40 - 3.00	16	18	19	71
3.00 - 3.20	53	26	25	76
3.20 - 3.40	55	50	31	77
3.40 - 4.00	63	51	33	83
4.00 - 4.20	68	57	36	87
4.20 - 4.40	80	69	48	95
	109	75	62	96

DAY 2: 10 AUGUST 2022				
9.00 - 9.20	ROOM 1	ROOM 2	ROOM 3	ROOM 4
9.20 - 9.40	29	4	7	72
9.40 - 10.00	13	12	22	74
10.00 - 10.20	14	21	30	78
10.20 - 10.40	15	38	34	89
10.40 - 11.00	17	40	41	90
11.00 - 11.20	Break			
11.20 - 11.40	9	44	43	65
11.40 - 12.00	20	46	54	67
12.00 - 12.20	24	47	58	103
12.20 - 12.40	27	49	59	104
12.40 - 1.00	28	52	60	105
1.00 - 2.00	32	56	61	110
2.00 - 2.20	Break			
2.20 - 2.40	35	64	81	93
2.40 - 3.00	37	70	85	106
3.00 - 3.20	42	82	88	107
3.30 - 4.00	79	86	108	
Closing Ceremony				

GREEN ENERGY AND SUSTAINABLE MANUFACTURING
 Chairperson: Ir. Dr. Yang Chuan Choong
 9 AUGUST 2022
 ROOM 3

TIME	ID	TITLE
2:00 - 2:20	11	Microstructure and Mechanical Properties of Porous Aluminium Composites Reinforced with Diamond Particles <i>Bisma Parveez*, Nur Ayyuni Jamal</i>
2:20 - 2:40	19	Effect of Fuel Flow Analysis on a ECU Controlled MPFI Engine with IAA & IBA Blends <i>DVVS B Reddy Saragada</i>
2:40 - 3:00	25	Heterologous Iama Kelulut Honey Dehydration Process To Prolong Shelf Life <i>Adibah Amir*, Mohd Amirul Ashraf Muhammad, Abdul Rahman Abdul Razak</i>
3:00 - 3:20	31	Effect of Supercritical Carbon Dioxide Pressure on Foamed Polylactic Acid Biocomposite <i>Nurfarahin Mohd. Noridin*, Hazleen Anuar, Yose Fachri Buys</i>
3:20 - 3:40	33	Energy Cost Characteristics of a Micro-Wind Power System Based on Different Capacity Factor: A Case Study of Locations in Nigeria <i>Bashir Isyaku Kurya, S. I. Auwal, S. Ramesh*</i>
3:40 - 4:00	36	Electric vehicle Modeling: A review <i>Ibraheem Alzeahwi (Ibraheem)*</i>
4:00 - 4:20	48	Structural, optical and photocatalytic performance of ZnO particles synthesized via direct heating technique for Rhodamine B removal <i>Chee Meng Koe*, Swee Yong Pung, Sumiyah Sabar</i>
4:20 - 4:40	62	Tribology Properties of Titanium (Ti-6Al-4V) at Various Temperature on α/β Solution Treatment and Aging Condition <i>Poppy Pusitasari*, Muhammad Raffiq Putra Wardana, Ayta Ayu Permannasari, Abdul Muin H. S. Lubis, Muhammad Iman Hakim Chua Abdullah, Puput Risdanareni</i>

GREEN ENERGY AND SUSTAINABLE MANUFACTURING
 Chairperson: Assoc. Prof. Dr. Mohd Hanafi Ani
 9 AUGUST 2022
 ROOM 4

TIME	ID	TITLE
2:00 - 2:20	66	Palladium / Lanthanum/Cobalt-oxide Catalyst Polymer Exchange Membrane Fuel Cell for Electric Vehicle <i>Mohammed Atour Rahman*, Muhammad Abdullah, Ali Mahmoud</i>
2:20 - 2:40	71	Potential of Polyvinyl Alcohol (PVA)-based Membrane for Direct Borohydride Fuel Cell Application <i>Shaari, N. *, Siti Kartom Kamarudin, Ahmad Afhan Fahmi</i>
2:40 - 3:00	76	Investigation of Whole Day Thermoelectric Energy Scavenging from Solar Heat Using Carbon Based Nanofluid <i>Megat Muhammad Ikhwan Megat Hassan*, Penzi Panguot, Nur Natashia Ena Herman, Abdal Nadiyah Khamis, Mohd Aswani Jimal, Lily Yong</i>
3:00 - 3:20	77	Seebeck and Diffusion of Spin Crossover Complexes Towards Ionic Thermoelectric Power Generation <i>Megat Muhammad Ikhwan Megat Hassan*, Chai Chang Yi, Nur Aqilah Mohamad, Ahmad Razani Haron, Pungut Ibrahim, Ismail Saad</i>
3:20 - 3:40	83	Nano-structured Zinc Oxide/Silicon dioxide Thermoelectric Generator: A Waste Heat Harvesting Technology <i>Mohammed Atour Rahman*, Sany Ihsan</i>
3:40 - 4:00	87	Producing blast furnace slag cement clinker by mixing limestone with hot blast furnace slag <i>Ahmad Anil Ismail*, Rafiq Hakeel, Abd Malek Abdul Hamid, Hadi Purwanto, Muhammad Faiz Md Din, Mohd Farus Mohd Yasin, Mohd. Hanafi Ani, Alya Rozhan</i>
4:00 - 4:20	95	Perforation Size Effect on Lotus Leaf Based Oil/Water Separator <i>Muhammad Hariz Ahaz Fethma M Nor Rameah, S, Denni Kurniawan*</i>
4:20 - 4:40	96	Investigation of Chip Formation During Turning of Aluminium Alloys 7075-T651 in Dry and Chilled Air Condition <i>Muhammad Khoirul Arner Mohd Zamri*, Natashia A. Raof, Nor Khairussihma Muhammad Khairussaleh, Aishah Najiah Dahnel</i>

INDUSTRIAL DESIGN AND ENGINEERING MANAGEMENT
MACHINING ADDITIVES & SMART MANUFACTURING
 Chairperson: Assoc. Prof. Dr. Mohd Radzi Che Daud
 10 AUGUST 2022
 ROOM 4
 Co-Chairperson: Romaimor Manshor

TIME	ID	TITLE
9.00 - 9.20	72	Optimizing Tensile Strength of PLA-Lignin Bio-composites using Machine Learning Approaches <i>Mohd Romaimor Manshor*, Anjad Fakhri Kamaruzaman, Hazreen Anuar, Siti Fauziah Toha, Nursyam Dzuhra Haris, Fathilah Ali, Suhr Longhwan</i>
9.20 - 9.40	74	Rapid Test Kit To Detect Honey Adulteration <i>Nurul Zafiqah Jeffery, Adibah Amir*, Hadi Purvanto</i>
9.40 - 10.00	78	In Situ Measurement And Remediation Of Condensation Issue In Sarawak General Hospital Molecular Lab During COVID 19 <i>Muhammad Syukri Inan*</i>
10.00 - 10.20	89	Fabrication of plaque using hot press method for recycling plastic material <i>Abu Kasim Haszeme*, Muhammad Hussain Ismail, Ab Aziz Mohd Yusof</i>
10.20 - 10.40	90	A Case Study on Exploring the Benefits and Challenges Influencing the Implementation of Life Cycle Assessment as a Design Tool In The Manufacturing Industry <i>Ahah Abdullah Sidek*</i>

CONTEMPORARY MATERIALS
 Chairperson: Dr. Nur Ayuni Jamal
 10 AUGUST 2022
 ROOM 1
 Co-Chairperson: Ahmad Abdul Munim

TIME	ID	TITLE
11.00 - 11.20	9	Influence of milling parameters on the characteristics of alumina-titania nanocomposite prepared by high-energy ball milling <i>Mahani Yusoff*, Mohd Hasnizam Razali, Wan Mohd Norsani Wan Nik, Mohamad Najmi Ilasri, Hidayani Jaafar</i>
11.20 - 11.40	20	Comparative study on performance characteristic of modified alloy steels by TiG and water jet peening processes <i>Ahmed Nazim Md Idriss*, Azmi Mohd Azhar, Md. Abdul Maleque</i>
11.40 - 12.00	24	The Physical Activation and Chemical Activation Reaction during Synthesis of Activated Carbon from Empty Fruit Bunch <i>Alya Rozhan*, Hasan Marzuki, Hadi Purvanto</i>
12.00 - 12.20	27	Effect of Zirconia Doping on the Sintering and Mechanical Properties of Hydroxyapatite Bioceramic <i>C.H.C. Alexander, S. Sivakumar, S. Ramesh*</i>
12.20 - 12.40	28	Two-Stage Sintering of Zirconia Toughened Alumina Composite (ZTA) Doped with Copper Oxide <i>S. Sivakumar, C.H.C. Alexander, S. Ramesh*</i>
12.40 - 1.00	32	Characteristics of Zinc-Doped Hydroxyapatite Prepared Using Biogenic and Synthetic Calcium Precursor <i>C.M. Mardiah, S. Ramesh*</i>

MACHINING ADDITIVES & SMART MANUFACTURING
 Chairperson: Dr. Sharife Kamaruddin
 10 AUGUST 2022
 ROOM 4
 Co-Chairperson: Aisyah Madhiah Mustafa

TIME	ID	TITLE
11.00 - 11.20	65	An experimental study on friction stir welded AA5052 aluminum alloy <i>Thanh Ky Ho*, Son Le, Tuan La, Do, Hol Do, Thong Pham</i>
11.20 - 11.40	67	Review on Fused Deposition Modelling Extruder Types with Their Specialities in Filament Extrusion Process <i>Nor Aiman Sukindar*, Muhammad Afri Md Azhar</i>
11.40 - 12.00	103	The Influence Of Cutting Parameters And Chilled Air On The Tool Wear Of Solid Uncoated Carbide Cutting Tool During Milling CFRP <i>Muhammad Nabil Rosli, Nor Khairussihma Muhammad Khairussaleh*, Sharifah Imthezri Syed Shaharuddin</i>
12.00 - 12.20	104	Study on the Hardness of Uncoated Carbide Cutting Tool at Different Cutting Parameters <i>Muhammad Irfan Khaiuzman, Nor Khairussihma Muhammad Khairussaleh*, Nazasha A. Raof, Suhaily Mokhtar, Aishah Najiah Dahnel</i>
12.20 - 12.40	105	Cutting Temperatures and Their Effects on Drilling of NFRP Composites Using Taguchi Method <i>Suhaily Mokhtar*</i>
12.40 - 1.00	110	Analysis and Optimum Machining Parameters on Surface Roughness and Material Removal Rate for Titanium Alloy in Milling Machining with MQL <i>Siti Haryani Tomadri*, Nor Farah Huda Abd Halim</i>

TEMPORARY MATERIALS
 Chairperson: Assoc. Prof. Dr. Noorastika Samat
 10 AUGUST 2022
 ROOM 1
 Co-Chairperson: Mudrikah Sofia

TIME	ID	TITLE
2.00 - 2.20	35	Co-Precipitation of Indium Oxide Nanoparticles at Low Temperature <i>K.W. Goh, S. Ramesh*</i>
2.20 - 2.40	37	Wear and corrosion behavior of metallic coated surface under exposure to biodeisel <i>Md. Abdul A Maleque*, H H Masjuki, S Y Ceain, Ihsan Efteoglu</i>
2.40 - 3.00	42	Conformational Stability of Proteins on the Surface of Ti-6Al-4V, 316L SS and NiTiNi Alloys using 2D Correlation Analysis <i>Nik Rezlin Nik Masek*, Ain Athirah Rezali, Zainal Abidin Kamarul Baharin</i>
3.00 - 3.20	79	Cement-Based with Partial Replacement of Nano-Silica for Improvement in Compressive Strength <i>Mudrikah Sofia Mudrikah, Aina Fadzaeen Adnan, Farah Diana Mohd Daud*, Norshahida Sarjuddin, Hafizah Hanim Mohd Zaki, Norhuda Hidayah Nordin, Nur Farahiyah Mohammad</i>

SMART AND FUNCTIONING MATERIALS
 Chairperson: Dr. Norita Hassan
 10 AUGUST 2022
 ROOM 2
 Co-Chairperson: Nur Amanina Abd Kadir

TIME	ID	TITLE
2.00 - 2.20	64	Electrical Resistance of Fabric Immersed with PEDOT:PSS Doped Ag NPs and DMISO Solution <i>Nur Aishah A Shahrim*, Zuraida Ahmad, Amelia Wong Azman, Norshahida Sarjuddin</i>
2.20 - 2.40	70	A Comparison of the Thermal Conductivity of 3D Printed ABS and ABS/graphite at Various Infill Patterns and Densities. <i>Ahmad Amri Nordin*</i>
2.40 - 3.00	82	Effect of Pore Forming Agent on Phase Transformation Behavior of Porous NiTi Shape Memory Alloy <i>Hafizah Hanim Mohd Zaki*, Nur Amanina Abd Kadir, Nur Ayuni Jamil, Md. Abdul A Maleque, Norshahida Sarjuddin, Farah Diana Mohd Daud, Jamuluddin Abdullah</i>
3.00 - 3.20	86	Experimental Study of Biofluid Lubrication Characteristic for Artificial Joints <i>Mohammad Mazwan Mahat*, Amira Atikah</i>

Wear and corrosion behavior of metallic coated surface under exposure to biodiesel

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Abstract

The aim of this work is to study the wear and corrosion behavior of metallic coated steel under exposure to biodiesel. The TiC coating was developed by replacement on the surface of alloy steel using TIG torch melting method. The wear behavior was performed using CSM pin-on-disc tribometer under bio-diesel. The corrosion test of material was done using Autolab potentiostat-galvanostat corrosion analyzer in presence of biodiesel as electrolytic solution. The SEM micrograph shows the abrasive type of wear with mild pitting as main wear mechanism for the coated material. The Tafel plot exhibited lower corrosion current density (I_{corr}) for the coated material compared to uncoated substrate. However, the incorporation of TiC on the steel substrate increases the corrosion susceptibility of the material in a biodiesel environment.

Keywords: Biodiesel, Wear, Corrosion, Alloy Steel

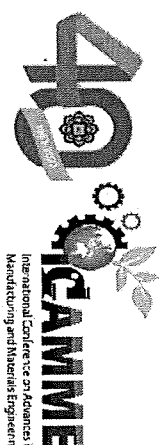


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KULLIYAH OF ENGINEERING



CERTIFICATE OF PARTICIPATION

This is to certify that

PROF. DR. MD ABDUL MALEQUE

has presented a paper titled

**WEAR AND CORROSION BEHAVIOR OF METALLIC COATED SURFACE UNDER EXPOSURE TO
BIODIESEL**

at the

**5TH INTERNATIONAL CONFERENCE ON ADVANCES MANUFACTURING AND MATERIALS ENGINEERING
(ICAMME '22)**

9th – 10th August 2022,

International Islamic University Malaysia, Kuala Lumpur

ASST. PROF. DR. AHMAD ZAHIRANI AHMAD AZHAR
CHAIRMAN
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ASSOC. PROF. DR. SANY IZAN IHSAN
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