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MATERIALS MIND

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Institute of Materials, Malaysia

HIGHLIGHTS

- The Materials Lecture Competition's Journey to Global Success
- Materials Lecture Competition 2023 & Young Person's World Lecture Competition 2023
- Why is the Coating Quality Management System Critically Important?
- Magnetite based nanocomposite in wastewater treatment: A greener approach

ISSN 2289-9030

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Institute of Materials, Malaysia

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The Institute of Materials, Malaysia (IMM) which promotes honourable practice and professional ethics, and encourages education and skills in materials science, technology and engineering shall carry out its activities and services as a certification body with integrity and credibility.

IMM and its personnel are required to be totally committed to quality, and adopt a culture of impartiality and continuous improvement, and be responsible to uphold this policy and the related procedures established by IMM and in accordance with the requirements of ISO/IEC 17024.

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Ts. Dr. Chew Khoon Hee
President
Institute of Materials, Malaysia

29th March 2024

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APPLICATION FOR RENEWAL OF MEMBERSHIP						
PARTICULARS OF MEMBER (*update where necessary*)						
PERSONAL INFORMATION						
FULL NAME	:					
TITLE	:		IC/PASSPORT NO.	:		
DATE OF BIRTH	:		AGE	:		
CORRESPONDENCE ADDRESS	:					
MOBILE PHONE NO.	:		HOUSE PHONE NO.	:		
EMAIL ADDRESS	:					
IMM MEMBERSHIP NO.	:					
CURRENT JOB INFORMATION						
NAME OF COMPANY	:					
DESIGNATION/POSITION	:					
ADDRESS OF COMPANY	:					
OFFICE PHONE NO.	:		OFFICE FAX NO.	:		

MEMBERSHIP SUBSCRIPTION AND PAYMENT						
GRADE (Thick the appropriate box)		SUBSCRIPTION PERIOD				
	Fellow (F.I.M.M)		1-year			
	Professional (M.I.M.M)		More than 1-year, please state	:		years
	Associate (A.M.I.M.M)		Amount paid	:		
	Company					
	Ordinary					

MEMBERSHIP ANNUAL SUBSCRIPTION FEES SCHEDULE

Description	Amount (RM)				
	Fellow (F.I.M.M.)	Professional (M.I.M.M.)	Associate (A.M.I.M.M.)	Company	Ordinary
Annual Subscription	150.00	100.00	80.00	200.00	40.00

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Account Name	:	Institute of Materials, Malaysia
Account	:	8009055156
Bank	:	CIMB
Swift Code	:	CIBBMYKL

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The Secretariat
Institute of Materials, Malaysia
Suite 1006, Block A, Kelana Centre Point
No.3, Jalan SS3/17, Kelana Jaya
47301 Petaling Jaya, Selangor

The membership renewal online form can be accessed through IMM website at this link

https://www.iomm.org.my/membership-renewal/

INSTITUTE OF MATERIALS, MALAYSIA

CONTINUING PROFESSIONAL DEVELOPMENT REPORT

NAME: ..... **YEAR:**.....

IMM MEMBERSHIP NO:..... **CERTIFICATION NO:**.....

IMM CERTIFICATION:.....

CONTINUING PROFESSIONAL DEVELOPMENT (CPD) LOG
(Supporting documents to be submitted wherever applicable)

Date or Period	Professional Development Activity Code & Description	Role	No. of Activity Hours	Weightage	No. of CPD Points
				TOTAL	

Professional Development Activity Code	Professional Development Activity Scope	Weightage Factor
A	Attending Online or Physical Training Courses/Workshops	4
B	Online or Physical Course Trainer/Facilitator/Examiner/ConferencePresenter	3
C	Attend Online or Physical Seminar/Conference/Webinar	2
D	Paper Author Main Author (max 30 hours/year)Co-author (max 10 hours/year)	2
E	Attend Online or Physical Committee Meeting	1
F	Fieldwork (max claimable 480 hours per year) **	0.1

** 1. Need to submit an endorsement from the superior/supervisor as evidence.
2. Calculated based on the assumption that the minimum project duration of 3 months and 8 hoursper day for 20 days.
3. The minimum number of CPD Points accumulated for 5 consecutive years shall be 100 points.

CPD Points per year : **10 points minimum**.
CPD Points per 5 year for re-certification : **100 points**.

Year						Total CPD Points
CPD Points						

I hereby declare that the information and particulars provided by me in this form is true and correct.

....

(Signature) (Date)

COVER STORY

The Materials Lecture Competition's Journey to Global Success

Dr. Nor Akmal Fadil, Universiti Teknologi Malaysia (Chairperson, IMM-MLC Committee)
Dr. Abdul Hakim Md Yusop, Universiti Teknologi Malaysia (Chairperson, UTM-MLC Committee)

Introduction to the Materials Lecture Competition (MLC)

For over a decade, the Institute of Materials, Malaysia (IMM) has been at the forefront of nurturing young talents in the field of materials science and engineering. The crown jewel of their efforts, the Materials Lecture Competition, has not only showcased Malaysia's expertise but has also left an indelible mark on the global stage. The MLC competition aims to provide a platform for young students, engineers, and researchers under the age of 28, particularly in the fields of materials science, technology, and engineering, to showcase their capabilities and share their knowledge of materials and their roles in society. This event has become a prestigious and signature annual occasion in IMM's calendar.

Initially, IMM played a central role in organizing the event for the first two years. However, subsequent years have seen a wonderful collaboration between public and private universities, taking turns to host this prestigious event. Since 2013, the winner of MLC has had the privilege of being sponsored by IMM and UK Institute of Materials, Minerals and Mining (IOM3-UK) to compete in the esteemed Young Person's World Lecture Competition (YPWLC), hosted by the IOM3-UK in various countries, usually in October or November of the same year.

Year after year, aspiring young scientists and engineers from across Malaysia gather to compete in the prestigious event, presenting groundbreaking research and innovative solutions to pressing global challenges. Under the guidance and sponsorship of IMM, these young minds unleash their creativity, ingenuity, and passion for materials science and engineering, captivating audiences and judges alike. This proves that IMM not only offers career advancement opportunities through technical competency, certification, and educational training courses but is also dedicated to empowering and engaging with young materials scientists and engineers. IMM's goal is to foster enduring relationships with the community, society, and the nation.

Participation and Success at the Global Stage

However, the journey doesn't end there. The winners of the Materials Lecture Competition earn the opportunity to represent Malaysia on the international stage at the YPWLC competition. Armed with their research findings and the support of IMM, these exceptional individuals embark on a mission to demonstrate Malaysia's excellence to the world. Over the years, our Malaysian representatives have brought great pride to our nation by securing top-three positions in YPWLC on multiple occasions, notably in 2014, 2017, 2018, 2019, 2021, 2022 and 2023 (Table 1). After years of determination, dedication, and perseverance, Malaysia made history by becoming champion for the first time in YPWLC 2022. Despite the challenges posed by the COVID-19 pandemic, we have adapted to the virtual mode for both national and international competitions since 2020, ensuring the continuity of this vital event. With presentations that push the boundaries of materials science and engineering, Malaysian delegates have left a lasting impression on audiences and adjudicators from around the globe.

Preparation for International Competitions

Preparing Malaysian representatives for the global stage involves rigorous coaching sessions and meticulous planning to ensure they excel in the YPWLC competition. The international competition is a highly competitive challenge. This is because the participants at the international level are the best finalists who have won competitions at the national level in their respective countries. The presentations by the finalists encompassed a diverse range of topics, from the use of polymers as self-healing materials to examining the effects of thermal shock on rocks, exploration of novel energy absorption in 3D printed polymer blend systems, co-electrospinning for vascular patch development, pitting corrosion, and more.

Table 1: the MLC past events

Year	MLC Host & Co-host	MLC First Winner / Malaysia Finalist in YPWLC	YPWLC organized by IOM3-UK & Prize won by Malaysia
2012	IMM (Participating Universities: 3)	Undergraduate: Mohd Danial Shafiq (USM) Postgraduate: M. Ghaddafy Affendy (USM)	No participation from MLC2012 first winner
2013	IMM (Participating Universities: 10)	Farahani Irna Nazari (UTeM)	Hong Kong
2014	IMM & UiTM (Participating Universities: 13)	Losini A/P Amarasan (MMU)	University of California, River-side, USA (3rdPlace)
2015	IMM & UKM (Participating Universities: 15)	Hana Atiqah Abdul Karim (UM)	Dublin, Ireland
2016	IMM & UM (Participating Universities: 12)	Hoy Chun Wai (APU)	Araxa, Brazil
2017	IMM & APU (Participating Universities: 12)	**Ng Zheng Yu (Nottingham University Malaysia)**	**Perth, Australia (3rd Place)**
2018	IMM & UTM (Participating Universities: 11)	**Andrew Ng Kay Lup (UM)**	**Port Elizabeth, South Africa (3rd Place)**
2019	IMM & UTeM (Participating Universities: 20)	**Lam Jia Yong (UPM)**	**London (2nd Place)**
2020	IMM & UPM (online) (Participating Universities: 16)	Tan Kai Xin (UniMAP)	Online
2021	IMM & USM (online) (Participating Universities: 18)	**Farah Hannan Abd Nasir (UM)**	**Online (2nd Place)**
2022	IMM & Xiamen University Malaysia (online) (Participating Universities: 12)	**Rathosivan Gopal (UTM)**	**Online (1st Place)**
2023	IMM & UTM (online) (Participating Universities: 14)	**Kugambikai Vangetaraman (UTM)**	**Online (2nd Place)**

COVER STORY

Hence, to ensure Malaysia consistently presents top finalists on the global stage, the MLC committee consistently provides strong support by organizing several series of coaching sessions for Malaysian representatives prior to the international competition. Coaching sessions focus on honing participants' presentation skills, including public speaking, slide design, and effective communication techniques. Participants practice delivering their presentations, receive feedback, and work on improving their delivery and clarity of message. Moreover, IMM consistently maintains the quality of its national events by ensuring that the judging process and selection of winners are benchmarked against international standards.

The Importance of Communication

In today's world, the ability to communicate complex scientific concepts to diverse audiences is paramount. It holds greater significance than ever before. Effectively conveying complex scientific concepts to diverse audiences is essential for innovation, collaboration, and societal progress. With advancements in technology and increased accessibility to information, the demand for clear and concise communication of intricate scientific ideas has never been higher, underscoring its critical importance in driving scientific understanding and advancement across various fields. The top two winners from Malaysia in the recent three years of YPWLC have exemplified effective communication in scientific endeavors.

Imagine explaining the concept of electron transport in organic semiconductor using the familiar scenario of a Super Mario character moving at different conditions. You could illustrate how different materials conduct electrons differently by comparing the performance of Super Mario catching the bonus point on a different land barrier. The way Farah Hannan Abd Nasir (Figure 1) from Universiti Malaya (UM) explains the concept using the analogy of Super Mario attracted audience's attention when she presented her lecture on Organic Semiconductor, and she won 2nd place at YPWLC 2021.

Meanwhile, Rathosivan A/L Gopal (Figure 2) from Universiti Teknologi Malaysia (UTM), the champion of YPWLC 2022, employed a unique approach to engage the audience during his lecture entitled “Immobilisation of Factor VII through polydopamine grafting on polycaprolactone membrane for cardiac bleeding application”. Despite having too much technical content in his lecture, by frequently referencing the iconic character of super-agent 007, James Bond, he effectively illustrated the relevance and impact of his innovative work, captivating the audience's attention and securing his victory in the competition.

In addition to employing effective analogies, the utilization of well-designed slide presentations plays a crucial role in enhancing the audience's understanding of complex theoretical concepts. By incorporating clear and visually appealing graphics, diagrams, and schematics, presenters can provide a structured and systematic overview of the theory, making it easier for the audience to follow along and grasp the key concepts. This approach, exemplified by Kugambikai A/P Vangetaraman's presentation during the recent international competition YPWLC 2023, won the judges' hearts as she explained how her discovery has improved vascular patch biofunctionality to hinder endothelialization in blood vessels.

In the YPWLC 2023 event, Dr. Kate Thornton, President of IOM3, applauded the YPWLC as an exceptional event, thanking all participants for their outstanding presentations. She emphasized the significance of effectively communicating complex scientific ideas to diverse audiences, expressing confidence in the next generation of science communicators and acknowledging that she personally gained valuable insights from each presenter (source: https://www.iom3.org/resource/south-africa-finalist-wins-online-2023-ypwlc-final.html).

Conclusion

Beyond the awards and trophies, the success story of the Materials Lecture Competition is a testament to the transformative power of education, mentorship, and collaboration. Through this platform, IMM has empowered a new generation of materials scientists, implanting in them the skills, knowledge, and confidence to tackle the complex challenges of the 21st century. With continued support and investment in education and research, Malaysia will undoubtedly remain a powerhouse in the field of materials science and engineering for years to come.

Organized by:

Institute of Materials Malaysia Under Corrosion Committee

16 CPD Points

Event Organizer:

20 MTE YEARS Materials Technology Education Sdn Bhd

ONE-DAY IMM CORROSION CONFERENCE 2024 & PLANT VISIT

NAVIGATING CORROSION CHALLENGES IN 2020S: SUSTAINABLE PRACTICES FOR A RESILIENT FUTURE

CALL FOR PAPERS

CONFERENCE DATE & VENUE

Thursday, 17 October 2024

8:00am - 5:00pm

Nusantara Ballroom 1,2&3
Sheraton Imperial KL,
Level 2 , Jalan Sultan Ismail,
50250 Kuala Lumpur

PLANT VISIT DATE & VENUE

Friday, 18 October 2024

TBA

WHO SHOULD ATTEND?

- **Industrial Professionals (**engineers, technicians, and managers) who are involved in asset management, maintenance, and corrosion control.
- **Researchers and Academicians** (scientists, researchers, and scholars), who are engaged in corrosion science, materials engineering, and related fields.
- **Environmental advocates** (environmentalists, sustainability experts, and advocates for responsible resource management), who are interested in exploring the intersection between corrosion mitigation and environmental stewardship.
- **Students and Young professionals**, who are eager to learn from industry experts and contribute fresh perspectives to the discourse on corrosion challenges and sustainable practices.

In today's ever-changing world, combating corrosion threats with sustainable solutions is paramount. Corrosion threatens the integrity of valuable industrial assets like machineries, equipment, industries plants, pipelines, and storage tanks, etc. Making corrosion protection, prevention, mitigation essential for operational efficiency and investment preservation. The energy sector, including oil and gas production, faces heightened vulnerability to corrosion treats due to harsh operating conditions such as operating in offshore environments.

Corrosion's significance persists into the 2020s and beyond, impacting infrastructure integrity, environmental sustainability, and global trade. Addressing these challenges demands a holistic approach, integrating innovations, sustainability, and collaboration. In response, the IMM Corrosion Committee in the Institute of Materials, Malaysia (IMM) is organizing a One-Day Corrosion Conference themed *"Navigating Corrosion Challenges in 2020s: Sustainable Practices for a Resilient Future."*

This Corrosion conference is aimed to gather professionals from similar backgrounds to share their concerns and solutions to the challenges posed by corrosion treats in the 2020s. Through collaborative discussions and knowledge exchange, participants will explore innovative strategies, best practices, and sustainable approaches to corrosion prevention and mitigation.

CONFERENCE DELEGATES
EXHIBITORS

REGISTER NOW!!

TENTATIVE PROGRAMME

Institute of Materials Malaysia Under Corrosion Committee

20 MTE YEARS Materials Technology Education Sdn Bhd

08:00 am **Registration, Light Breakfast and Tour of Exhibition**

09:00 am **Welcome Remarks by Emcee & Safety Briefing by Hotel Staff**

09:10 am **Opening Address - IMM President** by Dr. Ts. Chew Khoon Hee (TAR University of Management & Technology)

09:20 am **Paper 1**

09:45 am **Paper 2**

10:10 am **Paper 3**

10:35 am **Tea Break I Tour Exhibition**

11:00 am **Paper 4**

11:25 am **Paper 5**

11:50 am **Paper 6**

12:15 pm **Group Photo**

12:30 pm **Lunch**

14:00 pm **Paper 7**

14:25 pm **Paper 8**

14:50 pm **Paper 9**

15:15 pm **Tea Break | Tour Exhibition**

16:00 pm **Paper 10**

16:25 pm **Paper 11**

16:50 pm **Paper12**

17: 15 pm **Closing Remarks by Chairman of Corrosion Committee, Ir Ong Hock Guan**

IMM CORROSION ORGANIZING COMMITTEE 2024

Technical Sub Committee

1) Ir Ong Hock Guan (Sarawak Shell Bhd)

2) Ir Dr Azzura Ismail (University Tun Hussein Onn Malaysia)

3) Dr Yoga Sugama Salim (CETIM Asia Pacific Sdn Bhd)

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6) Dr Kee Kok Eng (University Petronas Malaysia)

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7) CY Wee (Chong Wah-NTIA Sdn Bhd)

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Organized by:

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Under Corrosion Committee

Event Organizer:

Materials Technology Education Sdn Bhd

REGISTRATION FORM
ONE-DAY IMM CORROSION COFERENCE 2024

Delegate Name	(Prof./ Dr./ Ir./ Ts./ Mr./ Ms.)		
Institution / Company Name			
Institution / Company Address			
Tel No. (Office)		**Mobile No.**	
Email Address			

		FEES (RM) *	✔
Delegates	**IMM Member**	**RM 540.00**	
	Non - IMM Member	**RM 648.00**	
Plant Visit	**I would like to join the Plant Visit on 18 October 2024**		

Note: *Fee included 8% SST

EVENT SPONSOR / EXHIBITOR (Please Tick ✔)

☐ **EVENT SPONSOR - RM 5,500.00***

Package Includes :

- **One (1) Technical Presentation Slot & One (1) Free Pass for Presenter**
- **One (1) Table-Top Exhibition Table**
- **Two (2) Free Passes as Conference Delegate**
- **Two (2) Free Passes for Exhibition Promoters**

☐ **TABLE - TOP EXHIBITION STAND - RM 3,500.00**

A. Package Includes :

- **One (1) Table-Top Exhibition Table**
- **Two (2) Free Passes for Exhibition Promoters**

B. Please reserve Table No _____ For us

(Refer to Exhibition Layout Plan for Table - Top Exhibition stand number)

Notes:
*a) *Event Sponsor and Table - Top Exhibition Stand are subject to 8% SST.*
b) Additional pass for exhibition promoter will be charged at RM 486.00 nett (IMM Member) and RM 594.00 nett (Non IMM Member).
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Country: *Malaysia*

*Note :

1) Payment must be made at least two weeks before the conference
2) Onsite payment is not acceptable
3) Proof of payment to be sent via email to zaimah@mte.com.my

For any enquiries, please contact us at :

03 5524 3704 or 014 377 3704

email : info@mte.com.my or karen@mte.com.my

Materials Technology Education Sdn Bhd
13 - 2, Pusat Dagangan Shah Alam
Lot 13, Persiaran Damai
Seksyen 11, 40100 Shah Alam, Selangor

Website : www.mte.com.my

Organized by:

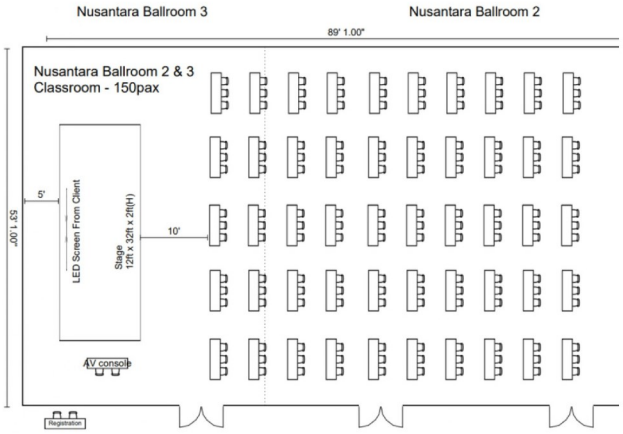
Institute of Materials Malaysia
Under Corrosion Committee

Event Organizer:

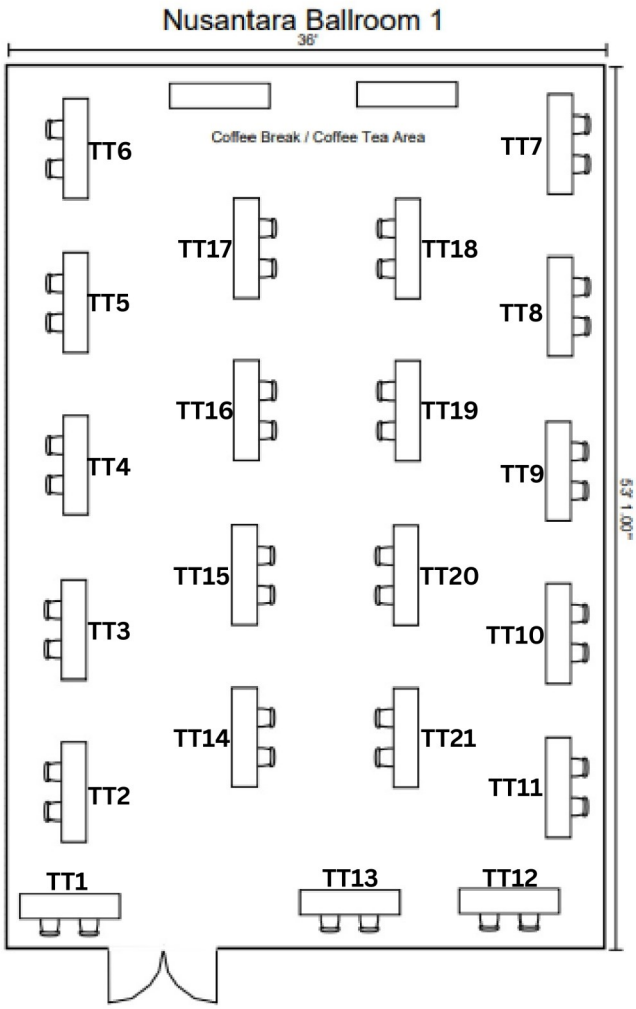
20 MTE YEARS 2004 - 2024 Materials Technology Education Sdn Bhd

EXHIBITION LAYOUT-PLAN

CONFERENCE HALL



EXHIBITION HALL



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2024-2026 SESSION

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Technical Article 1

Materials Lecture Competition 2023 & Young Person's World Lecture Competition 2023

Dr. Abdul Hakim Md Yusop, Universiti Teknologi Malaysia
(Chairperson, UTM-MLC Committee)
Dr. Nor Akmal Fadil, Universiti Teknologi Malaysia
(Chairperson, IMM-MLC Committee)

Date: 2nd August 2023 (MLC 2023 Semi-final), 28th August 2023 (MLC 2023 Final), 8th November 2023 (YPWLC 2023)
Venue: MLC 2023: Webex Online Platrom by Universiti Teknologi Malaysia (UTM) YPWLC 2023: ZOOM Online Platform by IOM3-U

Materials Lecture Competition 2023 (MLC 2023)

Universiti Teknologi Malaysia (UTM) has been selected as the host for the Materials Lecture Competition 2023 (MLC 2023) and Dr. Norah Md Noor was appointed as the Organizing Chairperson of MLC 2023. The MLC 2023 semi-final and final round were held online on 2nd August 2023 and 28th August 2023, respectively, by UTM in collaboration with the Institute of Materials, Malaysia (IMM) and the Institute of Materials, Minerals and Mining UK (IOM3-UK). Both events were held on the Webex online platform and aired live on the Facebook page of The School of Postgraduate Studies, UTM. Since the year 2020, national and international competitions have been held online due to the continued Covid-19 pandemic situation.

The aim of the event was to provide a platform for young talents to exhibit effective and impressive presentation skills in delivering topics in the field of material science and engineering. The MLC 2023 semi-final event was officiated by Dr. Nor Akmal binti Fadil, the Chairperson of IMM-MLC Committee. The semi-final and final judging panels comprised experts from academia and industry, mirroring international standards to ensure competition quality (Table 1).

The MLC 2023 semi-final competition was aimed to select five finalists from participants in fourteen Malaysian universities, as shown in Table 2. The first five participants in Table 2 are the MLC 2023 top five finalists who won the semi-final round. The top five finalists competed in the MLC 2023 final round, hosted online by UTM. The MLC 2023 Final event was officiated by Assoc. Prof. Dr. Noor Hazarina Hashim, the Chair of the School of Graduate Studies, UTM. The half-day competition ended with closing remarks given by Dr. Nor Akmal Fadil, representing Dato' Dr. Ir. Ts. Haji Mohd Abdul Karim Abdullah, President of IMM.

Kugambikai Vangetaraman from UTM was the winner of MLC 2023, while Jerome Liew from Universiti Malaya and Harivalagan Siva Kumar from Universiti Kebangsaan Malaysia came in second and third place, respectively. The winners received cash prizes of RM 3000, RM 2000 and RM 1000, respectively, while the last two finalists received consolation prizes of RM 500 each. The cash prize was sponsored by IMM. Kugambikai Vangetaraman represented Malaysia in Young Persons' World Lecture Competition (YPWLC 2023) in November, which was organised by IOM3-UK via an online competition.

Table 1: The panel of judges for the MLC 2023 semi-final and final.

MLC 2023 Semi-final	MLC 2023 Final
1. Assoc. Prof. Dr. Norkhairunnisa Mazlan, Universiti Putra Malaysia (Moderator)	1. Assoc. Prof. Dr. Jariah Mohamad Juoi, Universiti Teknikal Malaysia Melaka (Moderator)
2. Ts. Hj Mohd Azmi Mohd Noor, Triple EEE Sdn Bhd	2. Ir. Mohd Syukri Mohd Khalid, Shell.
3. Assoc. Prof. Ir. Ts. Dr. Wan Sharuzi Wan Harun, Universi-ti Malaysia Pahang	3. Ir. Ts. Noor Hisham Yahaya, Safe Asbestos Solutions Sdn. Bhd.
4. Mr. Kang Kim Ang, CORRTROL Group of Companies (Moderator)	4. Prof. Ir. Dr. Sapu-an Salit, Universiti Putra Malaysia

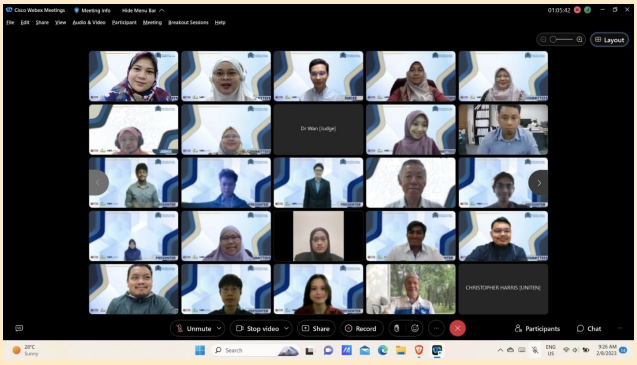


Figure 1: Webex screenshot of the fourteen MLC 2023 semi-final participants with IMM representative, MLC Chairperson, MLC committee members, and the judges.

Table 2: MLC 2023 semi-final participants and the top five finalists.

No	Name	Title	
1	Kugambikai Vangetaraman Universiti Teknologi Malaysia (UTM)	Band aids for blood vessels: dual composite co-electrospun polyurethane /chitosan and polyvinyl alcohol/ elastin for vascular patch development	Top Five Finalists
2	Jerome Liew, Universiti Malaya (UM)	Mxene: the future of solid-state batteries?	
3	Harivalagan A/L Siva Kumar, Universiti Kebangsaan Malaysia (UKM)	Nitrogen-doped carbon quantum dots (N-CQDS)/CO_3O_4 nanocomposites for enhanced supercapacitor performance	
4	Christopher Harris, Universiti Tenaga Nasional (UNITEN)	From science fiction to reality: unveiling the potential of self-healing concrete	
5	Isaac Yaw Wai Zac, Taylor's University	Towards the development of 3D-printed food: a systematic engineering approach	
6	Teo Eu Gin, Curtin University Malaysia	Ammonia - A sustainable solution to replace coal & hydrogen in steel industry	
7	Sathaniswarman Remesh, Universiti Teknologi Petronas (UTP)	Lignographene	
8	Mimi Syahira Masraff, Universiti Sains Malaysia (USM)	Revive and ride: exploring the inner self-healing rubber tape for puncture-proof tire	
9	Teoh Min Wei, University Tunku Abdul Rahman University of Management and Technology	Synthesis and sintering of bio-waste derived hydroxyapatite	
10	Muhammad Akmal Kosnan, Universiti Teknikal Malaysia Melaka (UTeM)	2D materials powering the future of energy storage: a path to sustainable energy solution	
11	Shaktivell M.Letchumanan, Universiti Tun Hussein Onn Malaysia (UTHM)	Smart AI predictive maintenance on piping system using composite wrapper	
12	Yogenthran A/L Santhru, Universiti Selangor (UNISEL)	Kenaf hydrogel: A potential solution towards skin problems	
13	Rosmia binti Naping, International Islamic University Malaysia (IIUM)	Environmental friendly SiC – A sustainable coating material	
14	Baiq Rusma Jatuwita Amalin, Universiti Teknologi MARA (UiTM)	Powering sustainable solutions: microwaved oil palm frond carbon as a gamechanger in dye removal	

Figure 2: MLC 2023 top five finalists (source: https://www.facebook.com/utmsps).

Figure 3: Malaysia finalist, Kugambikai Vangetaraman from Universiti Teknologi Malaysia (UTM) won second place at YPWLC 2023 (source: https://www.facebook.com/utmsps).

Young Persons' World Lecture Competition 2023 (YPWLC 2023)

The IOM3 Young Persons' World Lecture Competition (YPWLC) has been held annually in different locations around the globe including Brazil, South Africa, Malaysia, and Australia since 2005 in London. The YPWLC 2023 took place virtually on 8th November 2023 at 20:00 – 11:30 MYT (12:00 – 15:30 GMT). This is the fourth time the competition has been held virtually due to the Covid-19 pandemic. The competition was organized by the IOM3 Student & Early Career Committee and participated by the finalists from around the world (Malaysia, South Africa, China, Canada, and Hong Kong) who had won their respective finals and represented their countries at this year's final.

Malaysia's representative, Miss Kugambikai Vangetaraman, a postgraduate student from UTM, won the second prize in the competition with her topic 'Band Aids for Blood Vessels: Co-electrospinning of Polyurethane/Chitosan and Polyvinyl Alcohol/ Elastin for Vascular Patch Development' to bring home a prize of £1400. Besides, she was awarded a free one-year IOM3 membership to be part of a dynamic and vibrant professional community.

The judging panel of YPWLC 2023 included the President of IOM3 as the Chair of the judging panel, Dr. Kate Thornton CEng CSci FIMMM, IOM3 President; Dr. Ilija Rasovic MIMMM, Event Co-ordinator and the Vice-Chair, Student & Early Career Committee; Mr. Martyn Jones CEng MIMMM, Chair, Members' Board; and Dr. Aimee Goodall CSci MIMMM, Chair, Student & Early Career Committee of IOM3.

The first prize went to Mr. Lodewikus Vorster representing South Africa, with his talk on 'Cyclic Potentiodynamic Polarization Testing of TIG Welded 316L Stainless Steel for Characterization of Pitting Corrosion'. Georgina Burgoyne Morris from the United Kingdom won third place for her lecture 'Stimuli-Responsive Polymers as Self-Healing Materials'.

The main objective of the YPWLC competition is to encourage young materials scientists and engineers to develop their communication and presentation skills. Delivering informative complex technical knowledge enthusiastically and understandably to a non-specialist audience has become an essential communication skill in today's dynamic world.

Since 2013, Malaysian finalists selected via the IMM Materials Lecture Competition have consistently secured top-three prizes at the YPWLC, including 2023's second prize. Over 11 years, Malaysia, through IMM, has maintained a continuous presence at the event, with unwavering support from both public and private universities nationwide.

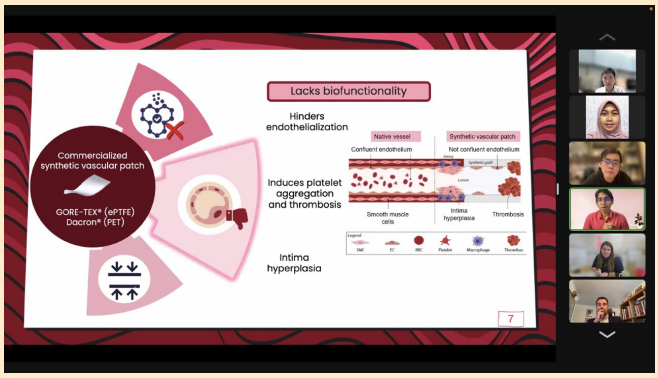


Figure 4. Kugambikai Vangetaraman and the panel of judges and other finalists during the YPWLC 2023 competition (a snapshot photo via ZOOM Application)

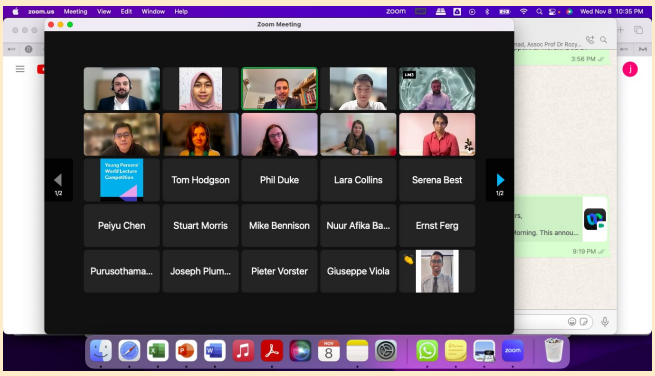
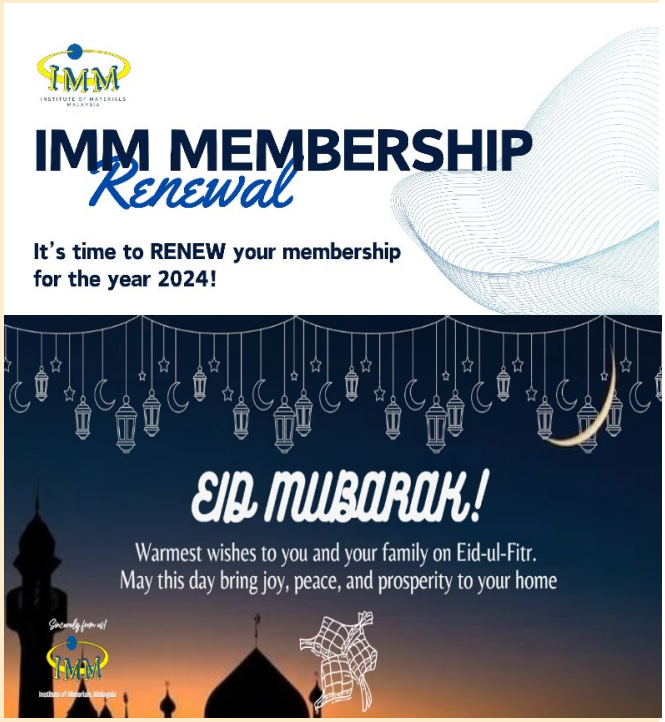


Figure 5. Some of the participants, a panel of judges, organizing committees, and the audience attended the YPWLC 2023 competition (a snapshot photo via ZOOM Application).



Technical Article 2

Why is the Coating Quality Management System Critically Important?

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The Coating Quality Management provides insight into coating conditions before coating failure; how good does the visually good coating still protect? Coating failure can be defined as the loss of a coating's protection against corrosion of the steel substrate. However, before coating failure, the coating degrades; after 15 years, a coating can still look good, though it will not be as good as when applied initially. Water and later also oxygen can penetrate through the coating deeper and deeper and when oxygen gradually reaches the steel, the corrosion starts and builds up stresses. The corrosion underneath the coating starts far before the visually detectable coating failure (Figure 1).

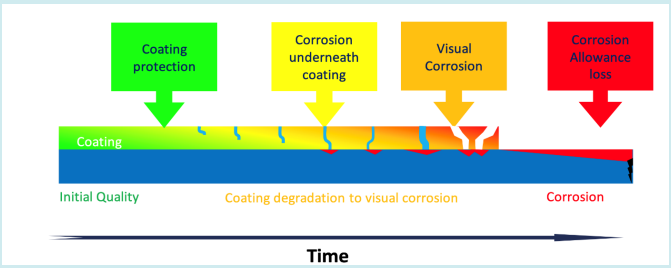

Figure 1: The degradation of a coating; over time water and later oxygen penetrate deeper and deeper into the coating; visually intact coatings after 15 years are not as good as initially applied.

Premature coating failure is extremely disruptive to the operation and costly to the client. Measuring and following the condition over time helps the client with coating maintenance strategy and planning, keeping coating and corrosion under control. Namely, before the start of corrosion underneath the coating, overcoating can be done to revive the coating's properties to the level necessary for it to function as a corrosion barrier (Figure 2). After failure, one can utilize the coating up to failure and recoat.

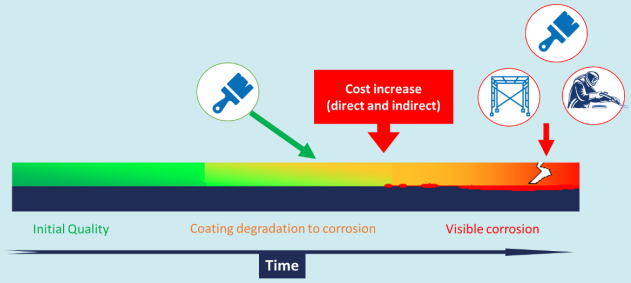

Figure 2: Before the start of corrosion underneath the coating, an overcoating can be applied (when technically possible). After corrosion has developed underneath the coating, it is best to utilize it until failure and recoat.

Coating-related failure is a complicated subject. As a result, the identification of the underlying causes of a failure isn't an easy task, especially since these causes tend to involve a combination of mechanical and environmental factors. It is vital to assess the main reasons for coating failures in order to measure financial responsibility, as well as to understand the fundamental causes. Therefore, it is imperative to have a detailed understanding and knowledge of the frequently encountered failures, reasons for their occurrence, and potential remedial measures to efficiently deal with coating failures.

C-Cube International BV has emerged as a pioneering company, providing cutting-edge solutions to measure coating degradation and predict corrosion. Since its start in 2005, C-Cube has consistently led innovations on material degradation, developing the technology while providing expert consultation services and conducting thorough evaluations of residual values for discerning asset owners. Operating out of the prestigious high-tech incubator Yes! Delft, recognized as one of Europe's most successful technology incubators, C-Cube has unveiled its latest game-changing innovation - the CQM handheld (Figure 3).

Figure 3: The CQM Handheld of C-Cube International BV

The CQM method, which stands for Coating Quality Measurement, is a revolutionary device developed by C-Cube to equip coating inspectors with advanced tools to combat corrosion in the field. By striving to bridge the gap between scientific measurements and practical field needs, C-Cube ensures that inspectors can effectively address coating conditions in real-world situations, while maintaining quality standards at a scientific level. The background technology is a combination of dipole measurements and electrochemical impedance spectroscopy (EIS). In contrast to traditional methods that mainly concentrate on coating appearance and % corrosion with visual inspections, the CQM handheld delves deeper into the degradation processes, determining the current protective behaviour and permeability of the visually intact coating. (Figure 4).

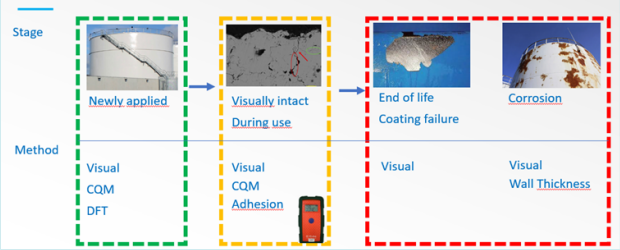

Figure 4: CQM handheld as an additional inspection/ decision-making tool

The primary objectives of the CQM Method include assessing how well a visually intact coating protects against corrosion (barrier) and determining the extent of corrosion beneath the coating (permeability), predicting the future development of corrosion, and forecasting the future visual corrosion of steel assets. This method, used in conjunction with other techniques like adhesion and thickness, provides a comprehensive approach to corrosion prevention.

The CQM handheld's standout feature lies in its capacity to quantify coating degradation on steel assets throughout its lifecycle (Figure 5) in a fast and simple way. This compact and user-friendly device, featuring a one-button mechanism, is specifically designed for field inspections. Its lightweight design enables inspectors to carry it effortlessly for on-the-spot assessments. Importantly, the device adeptly characterizes the barrier properties and permeability of coatings, delivering crucial information independently of adhesion and thickness.

All data produced by the CQM Method comply with the rigorous standards set by ISO 16773-2 Electrochemical Impedance Spectroscopy (EIS) on coated and uncoated metallic specimens. This ensures that the measurements are accurate and reliable, meeting the stringent demands of the industry. After uploading the data to the C-Cube environment, typical graphs are produced, as shown in Figure 5.

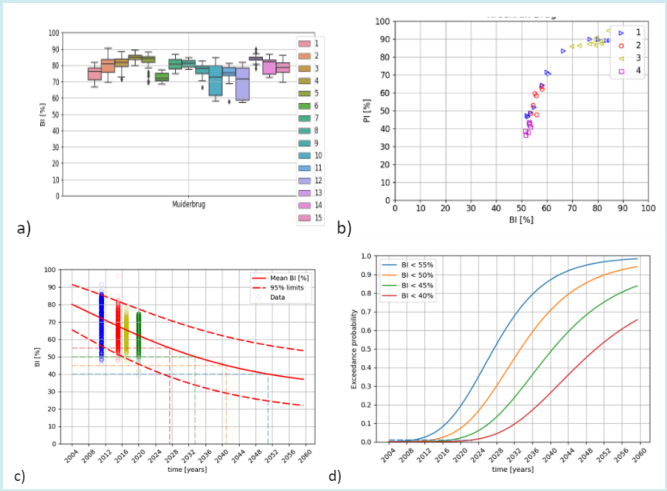

Figure 5: Standardized data plotting graphs from actual projects, indicating:

a. The boxplot, presenting the data from the project per section of a construction, in this case clearly indicates that all sections are relatively fine, though Sections 10 and 12 clearly show deviating values.

b. The degradation of a coating over sections of a bridge, with 1 upside, 2 and 4 sides and 3 at the bottom. A clear difference is seen over sections of the bridge.

c. Data and Model plot for several measurements over time for another bridge, indicating the progressive degradation over time (in 2014, a touch-up of field weld coatings was done, and in 2023/24 a full overcoating was done based on these measurements). Each project consists of 1000 to 1500 measurements, conducted in 2 weeks.

d. Exceedance plots for the model are to be used for the determination of when which percentage of the surface shows corrosion underneath the coating or even visual "The CQM handheld is a significant leap forward in corrosion protection technology. Its ease of use and ability to forecast coating degradation make it an invaluable tool for asset owners seeking to prolong the life of their steel assets," remarked Tje Wei Hu, CEO at C-Cube International BV.

C-Cube's CQM handheld represents a **paradigm shift in the battle against corrosion, offering a holistic approach that combines scientific precision with practical usability. This technology enables predictive maintenance, making it much more cost-efficient than reactive maintenance. Resulting in optimized scoping, budgeting, reducing downtime and increasing certainty**.

As industries worldwide grapple with the challenges of coating degradation and corrosion in their steel asset maintenance, C-Cube's innovative solutions are poised to redefine the standards of corrosion protection via predictive maintenance to safeguard owners' assets in many years to come.

Key Summary Points:

- **Coating Condition Measurement**
- **Prognoses of corrosion underneath coating**
- **Prognoses of visual corrosion**
- **Predictive maintenance**
- **Maintenance is based on measurement values, knowing instead of guessing.**
- **Data collection for future coating selection, application optimization, and maintenance**
- **Expand operational time by restricting maintenance to where it is necessary.**
- **Budgeting/planning for OPEX decisions.**

TECHNICAL TRAINING
AND CERTIFICATION PROGRAM

CERTIFIED THERMAL INSULATION PRACTITIONER LEVEL 1

Focus on providing an overview of industrial insulation and assisting supervisors, engineers, and managers in understanding how insulation works. Insulation works refers to the activities of applying insulation materials to piping or other process equipment to control and maintain temperature and prevent heat loss, such as the application of mineral wool, perlite, or calcium silicate, as well as the application of cladding for protection against contact damage or weather.

Course Objectives

1. To train and upgrade individuals in thermal insulation materials applications as well as the trade of sheet metal shop fabrication plus field installations.
2. To understand the thermal insulation design, installation, QA/QC, HSE, repair and maintenance.

Course Content

- Insulation specifications
- Insulation materials
- Hot & cold insulation
- Corrosion under insulation (CUI)
- Measurement
- QA&QC and inspection
- Insulation installation
- (8) Cladding (metal & non-metal)
- Health, safety & environment

Who Should Apply

This course is suitable for those who wish to understand the thermal insulation for industries, prevention of corrosion under insulation (CUI), QA/QC & inspection, theoretical background & developments.

Pre-requisites

- No previous working experience required.

Certificate

- IMM Certified Thermal Insulation Practitioner Level 1

Course Duration

5 days (3 days Theory + 1.5 day Practical Workshop + 0.5 day exam)

Eligible for MBOT CPD Points

HRD CORP CLAIMABLE

Materials Technology Education Sdn Bhd

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TECHNICAL TRAINING
AND CERTIFICATION PROGRAM

CERTIFIED THERMAL INSULATION PRACTITIONER LEVEL 2

The certified course is meant for training and upgrading individuals in thermal insulation materials applications as well as the trade of sheet metal shop fabrication plus field installations.

Course Objectives

It aims to provide participants with the knowledge and skills to carry out insulation works efficiently and effectively with the clear understanding of the following:

(1) Types of thermal insulation and sheet metal materials specified by the vendors and clients in insulation specifications.

(2) Equipment and piping systems components commonly seen in the oil and gas industries.

(3) Tools and aids usage during the preparation and field installation of thermal insulation materials.

(4) Sheet metal equipment and tools used during the layouts, cutting, fabrication and field installation works.

(5) Standard insulation calculation

Who Should Apply

This program is intended for technicians, supervisors, engineers, or anyone who passed IMM Certified Thermal Insulation Practitioner Level 1 and is interested to upgrade his/her knowledge in the usage and technique of thermal insulation and sheet metal application.

Pre-requisites

IMM Certified Thermal Insulation Practitioner Level 1 or minimum One (1) year working related experiences.

Certificate

IMM Certified Thermal Insulation Practitioner Level 2

Course Duration

6 days (3 days Theory + 2.5 days @ Workshop Practical + 0.5-day Exam)

Course Content

1. Introduction to insulating and sheet metal trade
2. Equipment and piping system components in the petrochemical, oil & gas, and energy industries
3. Types of thermal insulation materials for hot, cold, and dual temperature services
4. Types of sheet metal materials
5. Equipment and tools used in the insulating and sheet metal trade
6. Basic safety for insulating and sheet metal trade
7. Plan and isometric piping drawings
8. Pattern layout/fabrication/field installation
   - Pipe and elbow
   - Equal and unequal branch and header
   - Concentric and eccentric reducer
   - Valve
   - Flange
   - Strainer
   - Elbow Trunnion

Eligible for

MBOT LEMBAGA TEKNOLOGIS MALAYSIA
MALAYSIA BOARD OF TECHNOLOGISTS
CPD Points

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STUDENT EDITORIAL

Magnetite based nanocomposite in wastewater treatment: A greener approach.

Student Editorial Board from TAR UTM-IMM Student Chapter

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Introduction

Magnetic nanoparticles (MNPs) have been a major focus in the studies of nanoscale materials due to their vast physical and chemical properties suited for specialized functional applications. Recent research targeted the magnetic behaviour, chemical inertness, compatibility to tissues, immunogenicity, surface modification friendliness, and dispersity of MNPs in solution in the applications in the fields of biology and medicine, like therapeutic drug delivery, resonance imaging and photothermal therapy (Setia et al, 2023).

Iron oxide nanoparticles (IONPs) have been one of the focus of studies ever since nanotechnology gained great interest in various fields of research regarding its properties and characteristics as well as its application in the different fields although they are less favoured compared to nickel, cobalt, and gold. Iron oxide has a chemical formula of Fe_3O_4 and occurs as a mineral magnetite in nature. It can also be synthesized as black powder in the laboratory via experimental means in the form of maghemite (γ-Fe_2O_3) or magnetite (Fe_3O_4) (Schwaminger et al., 2020).

One of the attractive features of IONPs is that they are relatively inexpensive, allowing them to be commercialized without high cost (Ali et al., 2022). IONPs have also been used as a body for functionalization with coatings of various materials like polyethylene glycol (PED), citric acid, oleic acid, lactic acid etc. to prevent aggregation while promoting a more stable colloidal dispersion (Samrot, A. et al., 2021). Not only that, functionalization of IONPs with different compounds will also allow the NPs to inherit certain characteristics of the compounds. Iron (III) oxide is perfect as a vehicle for the synthesis of magnetically recoverable nanocomposite due to its superparamagnetism (Figure 1) as well as its ability to maneuver them through an external magnetic field.

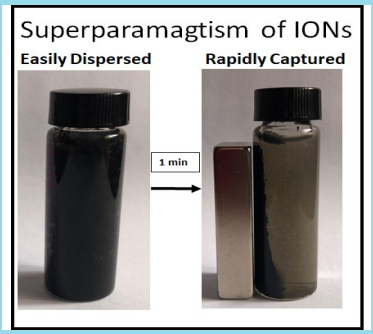

Figure 1: Nanoscale IONs stabilized with surfactants render them readily dispersible in water which is beneficial for waste treatment by maximizing the surface areas for interaction. In the presence of an external magnet, IONs can be readily captured for the next cycle without the need for filtering, saving energy cost and allowing a faster turnover time.

Recent research on IONPs aimed to discover novel properties that can be utilized in various fields, and wastewater treatment is one of those fields. Wastewater is a waste product of human endeavours that leads to the contamination of water, whose sources range from domestic wastewater, agricultural wastewater, industrial wastewater, and commercial wastewater (Yadav et al. 2023). Figure 2 shows the removal of the harmful dye malachite green using IONS related nanoparticles, demonstrating their potential in water treatment.

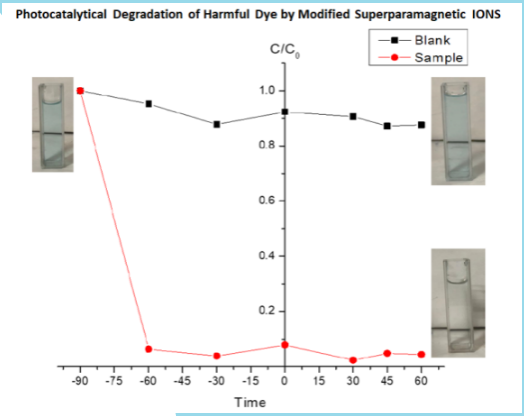

Figure 2: Near total removal of malachite green when superparamagnetic IONs-related nanoparticles were used to treat dye-contaminated water under UV.

The rise in industrialization and population growth has further worsened the situation, thus the need for action to solve wastewater treatment. One of the pollutants present in wastewater is heavy metals, which are mainly sourced from industrial and agricultural activities. These heavy metals comprise zinc (Zn), lead (Pb), chromium (Cr), copper (Cu), nickel (Ni), cadmium (Cd), arsenic (As), and mercury (Hg) that are released into the environment by dye, pesticides, fertilizers, colourants, and many more. These heavy metals are of great environmental concern and pose safety issues because exposure to these heavy metals may bring harm to humans and the environment.

Conventional wastewater treatment involves primary filtration to remove bulky pollutants followed by chemical neutralization method and precipitation, but this does not fully remove pollutants as the difficulty lies in the efficiency of removal of the heavy metals as well as the disposal of the chelating agents (Rajendran et al., 2022). Recent research thus utilizes the porous structure of adsorbents in the adsorption of heavy metals from wastewater, and the modification of the surface morphology of NPs is performed to enhance the adsorption efficiency. Metal-based nano adsorbents are gaining rising attention, with their higher adsorption ability than activated carbon (AC) in the removal of heavy metals and their photocatalytic mechanism (Jain et al., 2021), and IONPs are of no difference.

Masjedi et al. (2020) proposed a superparamagnetic IONPs that is modified with N2S tridentate ligand for the absorbance of Pb^{2+} and Cd^{2+} ions which is achieved by the functionalization using thio-(3-glucidyloxopropyl) trimethoxysilane (GLYMO(S)). Another research by Threepanich et al. (2021) combined the non-toxic, superparamagnetic IONPs and the low-cost lemon peel for the removal of Pb^{2+}. Both researches focused on exploiting the potential of IONPs in heavy metal removal (Shaheen et al., 2022) while enhancing the performance through modification and functionalization techniques.

Further, superparamagnetic modification with other active semiconductors extends UV disinfection of microbes in water by integrating a strongly UV-absorbing nanoparticle on the surface of IONS. For example, Chong et al. produced $In(OH)_3/Fe_3O_4$ nanocomposite (Chong et al. 2024) which was proven to enhance the effect of UV and hydrogen peroxide (H_2O_2) to degrade microbes (Figure 3).

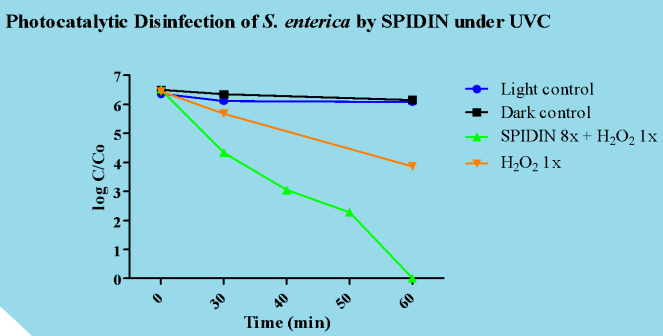

Figure 3. Photocatalytic treatment of microbes in water under UV. In the presence of $In(OH)_3/Fe_3O_4$ nanocomposite (SPIDIN), an enhanced inactivation of *S. aureus* was confirmed.

Conclusion

IONPs, along with other nano adsorbents, show immense potential in the prospect as a wastewater treatment remedy. More studies should be done on the toxicity and reusability of these NPs to understand the potential hazards associated with their usage. Also, other challenges like the removal of organic and inorganic wastes should also be explored for innovative modifications that allow for more efficient uses of these nanomaterials as well as the study of cost-benefit analysis to maximize efficiency while maintaining the cost of synthesis in the different synthesis methods.

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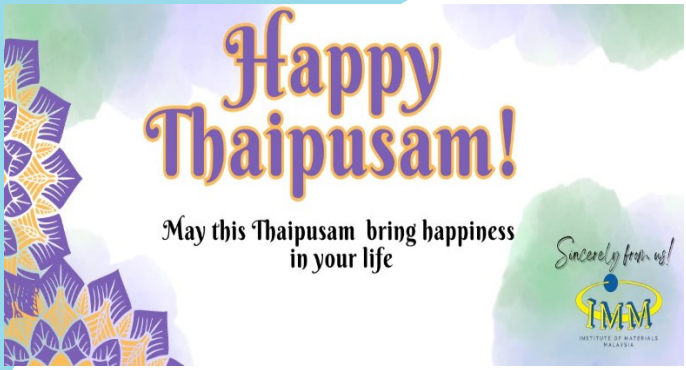


IMM TRAINING AND CERTIFICATION PROGRAM OVERVIEW

The Institute of Materials, Malaysia (IMM) offers engineering & technical professionals and practitioners a range of Certification Schemes and technical training courses to meet the requirements of the oil & gas, refining, petrochemical, transport, construction and other industries. Our programs have been developed together with the industry, academia and relevant stakeholders to ensure that the technical training and certification provided meet the relevant industry standards and requirements.

PROGRAM: COATING

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Protective Coating Technician (Blaster and/or Painter) Level 1 and Level 2 • Certified IMM-B1/B2 Assistant Blaster & Painter • Certified Coating Inspector Level 1 • Certified Coating Inspector Level 2 • Certified Blasting and Painting Supervisor • Certified Thermal Spray Coating Applicator • Certified Coating Quality Control Technician	• Refresher Course of Certified Protective Coating Technician (Blaster and/or Painter) Level 1 and Level 2 • Refresher Course of Certified Coating Inspector • Basic Knowledge on Corrosion Protection for Technicians and Engineers • Corrosion Control by Protective Coating • Basic Corrosion & Coating Course

PROGRAM: COATING FINGERPRINTING

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Coating Fingerprint Quality Controller Level 1 • Certified Coating Fingerprint Quality Controller Level 2 • Certified Coating Fingerprint Trainer	• Coating Fingerprint Foundation Course • Refresher Course of Certified Coating Fingerprint Quality Controller Level 1/Level 2

PROGRAM: CORROSION

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Corrosion Monitoring Practitioner Level 1 • Certified Corrosion Monitoring Practitioner Level 2 • Certified Corrosion Monitoring Practitioner Level 3 • Certified Cathodic Protection Practitioner Level 1 • Certified Cathodic Protection Practitioner Level 2 • Certified Cathodic Protection Practitioner Level 3 • Certified Cathodic Protection Engineer	• Corrosion Control by Cathodic Protection

PROGRAM: VIBRATION

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Vibration Practitioner Category 1 • Certified Vibration Practitioner Category 2 • Certified Vibration Specialist Category 3 • Certified Vibration Specialist Category 4	-

PROGRAM: MECHANICAL JOINT INTEGRITY (MJI)

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Technician in Mechanical Joint Integrity (MJI) for Flange Bolted Connection • Certified Technician in Mechanical Joint Integrity (MJI) for Small Bore – Piping, Tubing, Valves	• Mechanical Joint Integrity • Pressure Safety Valve • Small Bore Tubing

PROGRAM: THERMAL INSULATION

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Thermal Insulation Installer	• Introduction to Thermal Insulation

PROGRAM: WELDING

IMM Certification Schemes and Courses	Technical Training Courses (Non-certification)
• Certified Welding Inspector • IMM-JWES Certified Associate Welding Engineer • IMM-JWES Certified Welding Engineer • IMM-JWES Certified Senior Welding Engineer	• Repair Welding of Pressure Equipment in Refineries & Chemical Plants • Welding & Joining Technology for Non-Welding Personnel • Steel Technology for Non-Technical Personnel

MISCELLANEOUS MATERIALS SCIENCE AND TECHNOLOGY (NON-CERTIFICATION) COURSES

Technical Training Courses	Technical Training Courses
• Materials Selection & Corrosion • Metallurgical Failure Investigation • Basic Course on Operation of Mobile Air Compressor • Competent Mobile Industrial Compressor Operator • Competent Mobile Industrial Equipment Inspector • Practical Approach to Inspection and Maintenance of Steam Turbine	• Practical Approach to Precision Alignment Methods • Practical Approach to Precision Balancing Methods • Reciprocating Compressors: Operations, Maintenance, Inspection and Troubleshooting • Troubleshooting Techniques for Rotating Equipment • Valve Operations, Maintenance and Inspection Including Flange Breaking

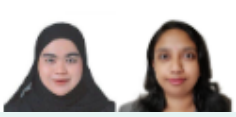
Note: A certifcate of attendance will be issued to all participants of non-certifcation professional development training courses while candidates who pass the assessment/examination of IMM-certification schemes will be certified with the issue of IMM competency certificate and IMM certification ID card in addition to the certificate of attendance.

More information on training and certification is available on IMM's website at www.iomm.org.my.

For further enquiries:
Call : +603 7661 1591
Email : secretariat@iomm.org.my
WhatsApp : +6018 911 3480

INSTITUTE OF MATERIALS, MALAYSIA
Suite 1006, Level 10, Block A, Kelana Centre Point, No. 3 Jalan SS 7/19,
47301 Petaling Jaya, Selangor.

7th IMM Council Meeting (Term 2022-2024) & 36th IMM Anniversary Celebration



Prepared by: Nor Farahani Abdullah, IMM Secretariat
Reviewed by: Aberamy Dayalam, Manager of IMM Secretariat

Date: 10th November 2023
Venue: Kelab Golf Negara Subang, Petaling Jaya, Selangor

On 10th November 2023, the Institute of Materials, Malaysia (IMM) organised the 7th IMM Council Meeting (Term 2022-2024) and 36th IMM Anniversary Celebration at Kelab Golf Negara Subang (KGNS), Petaling Jaya, Selangor. The 7th Council Meeting took place from 3:00 pm to 5:00 pm, and then followed by the 36th IMM Anniversary Celebration at 6:00 pm.
More than 50 guests were present to grace the celebration, including IMM Council Members, VIPs from PETRONAS, Shell, and IEM, IMM Training Bodies, IMM Trainers and Examiners, and others.

The event commenced promptly at 7:10 pm with a safety briefing, welcoming remarks and an opening speech by the IMM Deputy President Ts. Dr. Chew Khoon Hee, who welcomed and thanked all the guests for making time to attend the event. The anniversary celebration continued with the IMM Honorary Fellow Awards and a Tribute Award for the late Prof. ChM Ts. Dr. Melissa Chan Chin Han (Past Hon. Secretary of IMM).

The IMM Honorary Fellow Awards were presented to Ir. Dr. Edwin Jong Nyon Tchan, Ir. Ong Hock Guan, and Mr. Kang Kim Ang. The other agendas included a group photo, a cake-cutting ceremony, dinner, and a guest networking session.

The 36th IMM Anniversary Celebration was sponsored by Materials Technology Education Sdn. Bhd. (MTE), Advance Multiskills Training Centre Sdn. Bhd. (AMTC), and Seacademy Sdn. Bhd.

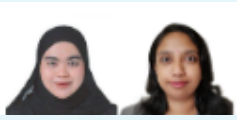
Overall, the 7th Council Meeting & 36th IMM Anniversary Celebration have created a fantastic opportunity for all IMM Members to engage and strengthen their relationships. Additionally, the event has offered guests great opportunities for networking and interaction with peers and industry professionals.

Figure 1: IMM Deputy President, Ts. Dr. Chew Khoon Hee gave the opening speech at the 36th IMM Anniversary.

Figure 2: IMM Deputy President, Ts. Dr. Chew Khoon Hee presented IMM Honorary Fellow Award to Ir. Ong Hock Guan

Figure 3: A group photo during the event.

Kuala Lumpur Engineering Science Fair 2023



Prepared by: Nor Farahani Abdullah, IMM Secretariat
Reviewed by: Aberamy Dayalam, Manager of IMM Secretariat

Date: 27th– 29th October 2023
Venue: MINES International Exhibition & Convention Centre (MIECC)

The Kuala Lumpur Engineering Science Fair (KLESF) is an initiative that offers a range of programs and activities to encourage primary and secondary school students' interest in Science, Technology, Engineering and Mathematics (STEM) fields which took place from 27th October 2023 – 29th October 2023 at the MINES International Exhibition & Convention Centre (MIECC).

The KLESF partners comprise education and industrial players such as Asean Academy Engineering and Technology (AAET), the Institution of Engineers Malaysia (IEM), the Malaysian Industry-Government Group for High Technology (MIGHT), Malaysian Invention and Design Society (MINDS), Tunku Abdul Rahman University University of Management and Technology (TAR UMT) and Universiti Tunku Abdul Rahman (UTAR).

The KLESF initiative is dedicated to fostering a deep-seated enthusiasm for STEM among students, enhancing public awareness of STEM's critical roles and importance, encouraging business engagement in educational and career development within these fields, and establishing a dynamic networking platform for schools, educators, industry professionals, and both

Figure 1: *The excitement of the KLESF event with students from various schools line up to enter the hall*

Over 6,000 students from over 200 schools were represented at the event. The Institute of Materials, Malaysia (IMM) took part in the event as an exhibitor and as one of the supporting associations. The IMM booth was located in Hall C, booth no. C97. The Materials Technology Education Sdn. Bhd. (MTE) was invited to co-jointly participate as one of the exhibitors with IMM.

Figure 2: A group photo at IMM Booth. From left, Mr Muhammad Iqram Izham, Ms Syarifah Nur Asyura, Ms. Wan Nur Elysha, Ms. Aliah Izzati (Materials Technology Education Sdn. Bhd) and Ms. Nor Farahani (IMM Secretariat)

Nearly 400 visitors, comprising students aged between 10 to 22 years old visited the IMM booth. IMM has successfully promoted and introduced its certification programs, memberships, and upcoming conferences to the students. Additionally, teachers, lecturers, and parents have shown their interest by asking several questions related to IMM's certification programs. Furthermore, IMM and MTE have successfully organized several activities to attract students.

Overall, the KLESF 2023 has opened up a great opportunity for IMM to promote and to introduce IMM courses and certification programs among students, teachers, lecturers and parents for their future planning to upskill their skills.

One-Day IMM Corrosion Conference 2023 and Plant Visit to Intertek, Testing Services (M) Sdn Bhd

Prepared by: Syarifah Nur Asyura Binti Syed Mohamad Sazly (Materials Technology Education Sdn Bhd)
Edited by: Ir. Ong Hock Guan, IMM Corrosion Committee Chairman

Date: 19th– 20th October 2023
Venue: 1. DoubleTree by Hilton Kuala Lumpur Hotel
2. Intertek, ITS Testing Services (M) Sdn Bhd

The Institute of Materials, Malaysia (IMM), Corrosion Committee successfully organised the "Paradigm Shift In Corrosion Protection & Mitigations" 1-Day Conference on Thursday, October 19, 2023, at the DoubleTree by Hilton Kuala Lumpur Hotel. There were 164 participants and 17 exhibitors at the event.

The title of this 1-day conference, "Paradigm Shift in Corrosion Protection & Mitigations" aims to explore the deployment of new and advanced technologies to address corrosion which will lead to the reduction in costs associated with corrosion and inspection activities. This can be achieved by predicting and preventing equipment failures, increasing plant and equipment availability, and optimising inspection and monitoring methods.

The day began around 9.00 a.m. with 12 presentations on various topics and areas of expertises by presenters from operators, contractors, and vendors. There were breaks in between to encourage participants to visit exhibition booths showcasing the latest technologies and innovative corrosion control solutions. There were also numerous discussions and ideas exchanged between participants and exhibitors during the discussions and Q&A sessions. The conference ended with a panel discussion which was chaired by the Chairman of IMM Corrosion Committee, Ir Ong Hock Guan and the 12 speakers of the conference.

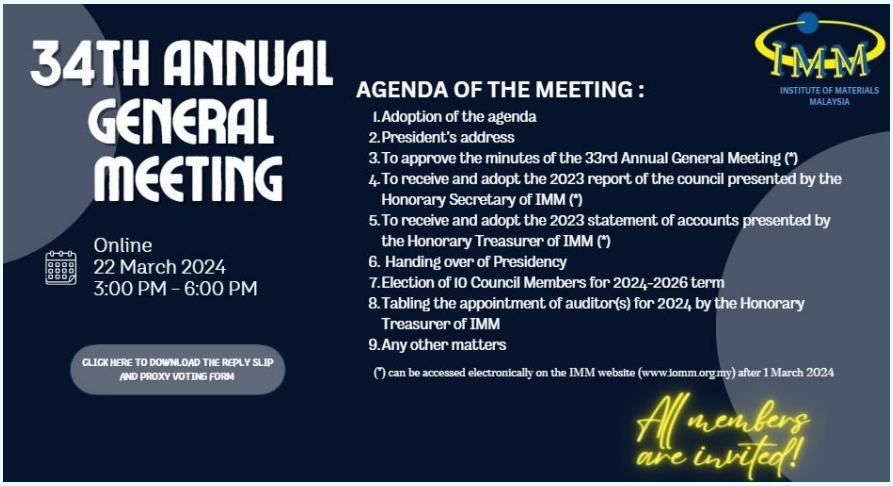
The following day on 20th Oct 2023 was a half-day visit to Intertek, ITS Testing Services (M) Sdn Bhd located at Taman Perindustrian Sobena Jaya, Pandamaran, Pelabuhan Klang Selangor. We were given a tour with extensive sharing on the latest laboratory services and technologies, it was indeed eye-opening for the participants with a lot of intriguing questions throughout the factory walkabout. Our utmost appreciation to Intertek, ITS Testing Services (M) Sdn Bhd. for offering this opportunity.

Figure 1: Plant Visit to Intertek

Figure 2: Group photo of speakers and IMM Members

The 34th IMM Annual General Meeting (AGM)

Prepared by: Aberamy Dayalam, Manager of IMM Secretariat
Checked by: Wong Wing Kiong, GM IMM



The 34th IMM Annual General Meeting was commenced by the IMM President, Dato' Dr. Ir. Ts. Haji Mohd Abdul Karim Abdullah. The IMM President thanked all the members who were participating in the IMM Annual General Meeting and expressed his gratitude towards the Management Committee, Council Members, the Chairpersons and all the members of Committees and all IMM members for their support and

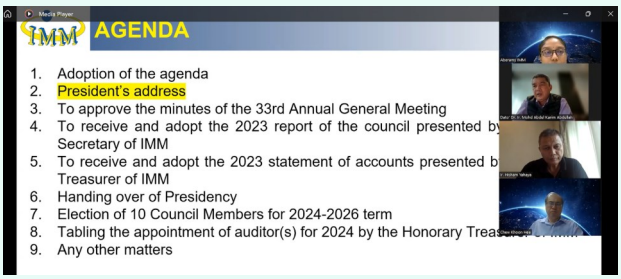


Figure 1: Opening speech by Dato' Dr. Ir. Ts. Haji Mohd Abdul Karim Abdullah (IMM President)

The meeting then continued with the presentation of the previous AGM minutes and the 2023 Annual Report of IMM. All activities conducted by the various IMM Committees were highlighted and these included:

- surveillance Audit of MS ISO/IEC 17024
- activities of the technical and working committees
- collaboration with university and training bodies
- summary of training, examination, certification, and membership admission of 2023

The presentation was followed by the statement of account tabled by the Honorary Treasurer of IMM, Ts. Dr. Mohamed Ackiel Mohamed which was then accepted by all IMM AGM attendees.

Dato' Dr. Ir. Ts. Haji Mohd Abdul Karim Abdullah handed over his presidency to the new IMM President for the next term 2024 – 2026, Ts. Dr. Chew Khoon Hee who then took over to chair the AGM. This was followed by the election of 10 Council Members for the 2024 – 2026 term which was held via an online voting platform.

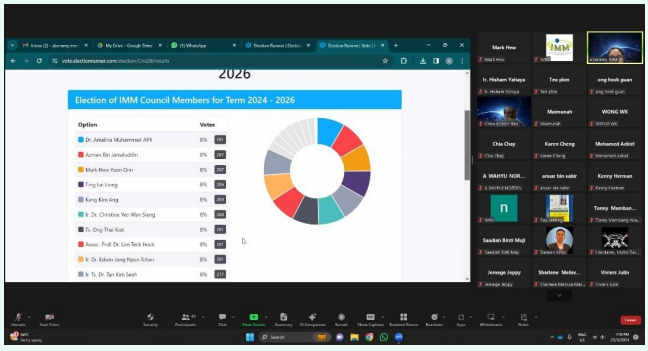


Figure 2: The Election Results for the Term 2024 - 2026

The Auditor for 2023 finance was proposed by the new term Honorary Treasurer, Ir. Ong Hock Guan and accepted by all IMM AGM attendees before the AGM was adjourned.

Department of Standards Malaysia Surveillance Audit 2023

Reported by: Ainur Afini Puaze, IMM Secretariat
Reviewed by: Aberamy Dayalam, Assistant Manager of IMM Secretariat

Date : 12th-13th December 2023
Venue: IMM Office, Kelana Jaya

IMM has established, documented, and implemented a management system to fulfil the requirements of ISO/IEC 17024:2012 Conformity Assessment - General Requirements for Bodies Operating Certification of Persons as a body operating certification of persons.

On 29th March 2021, the Institute of Materials Malaysia (IMM) was accredited as a Persons Certification Body for four (4) scope accreditations, namely Certified Technician in Mechanical Joint Integrity for Flange Bolted Connections (MJI-FL), Certified Technician in Mechanical Joint Integrity for Small-bore Piping, Tubing and Valves (MJI-SBV), Certified Coating Inspector Level 1 and Certified Coating Inspector Level 2.

IMM completed the second surveillance audit for the Persons Certification Body Accreditation Scheme by the Department of Standards Malaysia (DSM) on 12th and 13th December 2023. This surveillance audit was carried out based on the procedures and policies developed with reference to the ISO/IEC 17024 standard.

DSM appointed two (2) auditors also known as assessors, Ms. Sharifah Aishah Syed Abdullah (freelance) as the lead assessor and Mr. Basori Selamat (SIRIM Retiree) as the assessor. Both assessors completed the audit on both days located at the IMM Office in Kelana Jaya, Selangor.

Surveillance audits are conducted to assess the adequacy, efficiency and effectiveness of IMM governance principles, risk management and control mechanisms.

The auditors proposed several findings for improvement to IMM's certification system. Accreditation of IMM as a Certification Body requires the implementation of the findings within the time frame provided.

IMM has successfully maintained its status as a Persons Certification Body recognised by Standards Malaysia for the third year since its accreditation.

NEW IMM PROFESSIONAL MEMBERS

DR. ABDOLLAH BAHADOR

Age: 45 years old
Organization: Universiti Teknologi Malaysia
Position: Senior Lecturer
Working experience(s):
• 11 months as Senior Lecturer at Universiti Teknologi Malaysia
• 4 years 5 months as Assistant Professior at Osaka University, Japan
• 5 months as Research Fellow at Osaka University, Japan
• 5 months as Shop QA/QC Manager at Dialog Group Berhad (Malaysia)
• 1 year 5 months as Project QA/QC Manager at Khalkhaldasht (Iran)
• 3 years 3 months as NDR & PWHT Superintendent at OIEC & GS Consortiums (Iran)
• 1 year 10 months as Welding & NDT Senior Inspector a KANKAV (Iran)
Qualification(s):
• Doctor of Philosophy, Mechanical Engineering [Universiti Teknologi Malaysia]
• Master of Materials Engineering [Universiti Teknologi Malaysia]
• Bachelor of Materials Engineering [Semnan University]
Professional membership(s):
• Student Member (IMM), Membership no.: S-06107
• Member (JSPM)
• Member (JIM)
Involvement in IMM committees: NIL

LIAW ZHEN ZHEN

Age: 27 years old
Organization: G&P Professionals (Sarawak) Sdn. Bhd.
Position: Inspector of Work (C&S)
Working experience(s):
• 2 years 2 months as Inspector of Work (C&S) at G&P Professionals (Sarawak) Sdn. Bhd.
• 1 year 1 month as Project Engineer (C&S) at C L Services, Miri Sarawak
Qualification(s):
• Bachelor of Civil Engineering (Hons) [University College of Technology Sarawak]
Professional membership(s):
• Member (Association of Professional Technicians and Technologist)
• Member (Malaysia Board of Technologist)
• Member (Board Of Engineers Malaysia)
Involvement in IMM committees: NIL

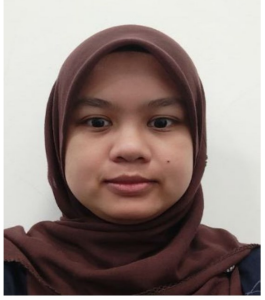
MARK HEW YOON ONN

Age: 63 years old
Organization: Kutar (M) Sdn. Bhd.
Position: Managing Director
Working experience(s):
• 2 years as Planning Supervisor at Dermaju Shinryo (M) Sdn. Bhd. & JV Perninsula Coating (M) Sdn. Bhd.
• 4 years as General Manager at Speedo Engineering (M) Sdn. Bhd.
• 3 years as General Manager at Hiap Soon Hong (M) Sdn. Bhd.
• 26 years as Founder and Corporate Partner at Universal Corrosion Engineering (M) Sdn. Bhd.
• 7 months as Managing Director at Kutar (M) Sdn. Bhd.
Qualification(s):
• Master of Science Degree (MSC) in Corrosion Science and Engineering [University of Manchester Institute of Science and Technology (UMIST)]
• Diploma in Materials Engineering [Tunku Abdul Rahman University of Management and Technology]
• Certificate in Materials Technology [Tunku Abdul Rahman University of Management and Technology]
Professional membership(s):
• Member (Institute of Materials, Malaysia)
Involvement in IMM committees:
• IMM Certified Trainer
• Members of IMM Corrosion Committee
• Members of IMM Coating Committee

DEVADAS A/L VIJAN

Age: 32 years old
Organization: NOSH Engineering Sdn. Bhd.
Position: Project Engineer / Site Safety Supervisor
Working experience(s):
• 1 year as Project Engineer at NOSH Engineering Sdn. Bhd.
• 4 years 5 months as Operation Coordinator at MYGAZ Sdn. Bhd.
• 3 months as QHSE Trainee as UMW Oil & Gas
• 8 months as Petrophysics Trainee at Petronas KLCC
Qualification(s):
• Bachelors Degree in Petroleum Engineering [Universiti Teknologi Petronas]
• Master Degree in Occupational Safety & Health Management [Universiti Utara Malaysia]
Professional membership(s):
• Member (Board Of Engineers Malaysia)
Involvement in IMM committees: NIL

SOFIYAH BINTI MOHD RAZALI



Age: 38 years old
Organization: University of Technology Sarawak (UTS)
Position: Lecturer
Working experience(s):
• 1 year 10 months as Graduate Research Assistant at Faculty of Earth Science, Universiti Malaysia Kelantan
• 3 months as Graduate Teaching Assistant at Faculty of Bio-Engineering and Technology, Universiti Malaysia Kelantan
• 7 months as Graduate Research Assistant at Faculty of Earth Science, Universiti Malaysia Kelantan
• 5 months as Research Assistant at Faculty of Earth Science, Universiti Malaysia Kelantan
• 1 year 9 months as Post-Doctoral Research Fellow at Centre of Excellence in Engineered
Wood Products (CeWEP), University of Technology Sarawak
Qualification(s):
• PhD in Materials Technology[Universiti Malaysia Kelantan]
• Master Degree in Solid State Physics [Universiti Sains Malaysia]
• Bachelors Degree in Physics [Universiti Sains Malaysia]
Professional membership(s): NIL
Involvement in IMM committees: NIL

AFIQ BIN ANWAR

Age: 31 years old
Organization: Monash University Malaysia
Position: Senior Technical Officer
Working experience(s):
• 2 years 2 months as Research Assistant at University Malaya
• Simultaneously held positions as Technical Officer (6 years 2 months) and Radiation Protection Officer (1 year 5 months) at Monash University Malaysia
• 2 months as Senior Technical Officer at Monash University Malaysia
Qualification(s):
• Diploma Industrial Chemistry [University Technology MARA]
• Bachelor of Applied Chemistry [University Technology MARA]
• Master Science (Chemistry) [University of Malaya]
Professional membership(s):
• Professional Technologist – Nanotechnology (Malaysia Board of Technologist)
• Registered Chemist – MMIC (Malaysian Institute of Chemistry)
• Radiation Protection Officer – Category 3 (Atomic Energy Licensing Board)
• Member (Malaysia Radiation Protection Association)
• Member (Malaysia Analytical Sciences Society)
• Member (Microscopy Society Malaysia)
Involvement in IMM committees: NIL

FETHMA BINTI M. NOR

Age: 43 years old
Organization: Curtin University Malaysia
Position: Senior Lecturer
Working experience(s):
• 3 months as Assistant Engineer at Beyonics Precision Machining Sdn Bhd
• 6 months as Project Engineer at TTM Technologies Malaysia Sdn Bhd
• 1 year 1 month as Trainer and Leader at STARZA Corporation Sdn Bhd
• 2 years 10 months as Graduate Research Assistant at Dongguk University, South Korea
• 2 years 3 months as Teaching Assistant at Dongguk University, South Korea
• 2 years as Senior Lecturer at Universiti Tun Hussein Onn Malaysia
• 1 year as Visiting Researcher at Changwon National University, South Korea
• 9 months as Trainee and Independent Researcher at Dongguk University, South Korea
• 3 years 2 months as Lecturer at Curtin University Malaysia
• 2 years 8 months as Part-time Lecturer at University Teknologi Brunei
• 2 months as Senior Lecturer at Curtin University Malaysia
Qualification(s):
• Bachelors Degree in Mechanical Engineering [Universiti Tun Hussein Onn Malaysia]
• Master of Engineering (Mechanical) [Universiti Teknologi Malaysia]
• Doctor of Engineering in Mechanical Engineering [Dongguk University, South Korea]
Professional membership(s):
• Member (Board Of Engineers Malaysia)
• Member (Institute of Materials, Minerals and Mining)
• Member (Malaysia Design Council)
Involvement in IMM committees: NIL

IMM AUTHORIZED TRAINING BODY (ATB)/ AUTHORIZED TESTING CENTRE (ATC)/ AUTHORIZED TRAINING PARTNER (ATP) FOR IMM COURSES & CERTIFICATION

AUTHORISED TRAINING BODIES (ATBs)

(Offer IMM Certification Training Programs and Courses)

ATBs	Training Programs & Courses
	Coating
Seacademy Sdn. Bhd. (Sarawak) **Topfields Borneo Sdn. Bhd.** (Sarawak) **Sabah Skills & Technology Centre** (Sabah) **SRC Global Resources Sdn. Bhd.** (Peninsular Malaysia) **Advance Multiskills Training Centre Sdn. Bhd.** [Excludes courses marked with *] (Sarawak)	Certified Assistant Blaster & Painter Level 1 & Level 2 Certified Protective Coating Technician (Blaster and/or Painter) Level 1 & Level 2 Certified Blasting and Painting Supervisor Certified Coating Inspector Level 1 & Level 2 Certified Quality Control Technician* Certified Thermal Spray Coating Applicator* Basic Knowledge on Corrosion Protection for Technicians and Engineers* Corrosion Control by Protective Paints* Corrosion Control by Protective Coating*
	Mechanical Joint Integrity
Sabah Skills & Technology Center (Sabah) **SRC Global Resources Sdn. Bhd.** (Peninsular Malaysia)	Certified Mechanical Joint Integrity for Small-bore Piping, Tubing and Valves Certified Mechanical Joint Integrity for Flange Bolted Connections
	Thermit Welding
Prasarana Malaysia Berhad (Malaysia)	Certified Thermit Welding Practitioner (Level 1) Certified Thermit Welding Senior Practitioner (Level 2)

Note: The respective coverage area is indicated in brackets.

AUTHORISED TESTING CENTRE (ATC)

(Offers IMM Examination and Assessments)

ATC: JOTAC Academy Sdn. Bhd.
(Peninsular Malaysia)

Certification Examination/Assessments

- Certified Protective Coating Technician (Blaster and/or Painter) Level 1 & Level 2
- Certified Coating Inspector Level 1 & Level 2
- Certified Corrosion Monitoring Practitioner Level 1
- Certified Cathodic Protection Practitioner Level 1

ASSOCIATE TRAINING PARTNER (ATP)

(Offers IMM Certification Training Programs and Courses)

ATP: Materials Technology Education Sdn Bhd

(Malaysia and Overseas)

IMM Training Programs & Courses

Coating

- Certified Protective Coating Technician (Blaster and/or Painter) Level 1 & Level 2
- Refresher Course for Certified Protective Coating Technician (Blaster and/or Painter) Level 1 and Level 2
- Certified Assistant Blaster & Painter Level 1 & Level 2
- Certified Blasting and Painting Supervisor
- Certified Coating Inspector Level 1 & Level 2
- Refresher Course for Certified Coating Inspector Level 1 and Level 2
- Certified Coating Quality Control Technician
- Certified Thermal Spray Coating Applicator
- Basic Knowledge on Corrosion Protection for Technicians and Engineers
- Corrosion Control by Protective Paints
- Corrosion Control by Protective Coating

Coating Fingerprinting

- Coating Fingerprint Foundation Course
- Certified Coating Fingerprint Quality Controller Level 1
- Certified Coating Fingerprint Quality Controller Level 2
- Refresher Course of Certified Coating Fingerprint Quality Controller Level 1/Level 2

Train-the-Trainer

- Certified Trainer

Corrosion

- Certified Corrosion Monitoring Practitioner Level 1
- Certified Corrosion Monitoring Practitioner Level 2
- Certified Corrosion Monitoring Practitioner Level 3
- Certified Cathodic Protection Practitioner Level 1
- Certified Cathodic Protection Practitioner Level 2
- Certified Cathodic Protection Practitioner Level 3
- Certified Cathodic Protection Engineer
- Corrosion Control by Cathodic Protection

Thermal Insulation

- Introduction to Thermal Insulation
- Certified Thermal Insulation Installer

Vibration

- Certified Vibration Practitioner Category 1
- Certified Vibration Practitioner Category 2
- Certified Vibration Specialist Category 3
- Certified Vibration Specialist Category 4

Welding

- Certified Welding Inspector
- Repair Welding of Pressure Equipment in Refineries & Chemical Plants
- Welding & Joining Technology for Non-Welding Personnel
- Steel Technology for Non-Technical Personnel

IMM-JWES Courses

- Certified Associate Welding Engineer (AWE)
- Certified Welding Engineer (WE)
- Certified Senior Welding Engineer (SWE)

Mechanical Joint Integrity

- Certified Mechanical Joint Integrity for Small-bore Piping, Tubing and Valves
- Certified Mechanical Joint Integrity for Flange Bolted Connections
- Valve Operations, Maintenance & Inspection Including Flange Breaking

Loss of Primary Containment

- Mechanical Joint Integrity
- Pressure Safety Valve
- Small Bore Tubing

Rotating Equipment

- Competent Mobile Industrial Compressor Operator
- Competent Mobile Industrial Equipment Inspector
- Inspection & Maintenance of Pumps
- Practical Approach to Inspection and Maintenance of Stream Turbine
- Practical Approach to Precision Alignment Methods
- Practical Approach to Precision Balancing Methods
- Reciprocating Compressors: Operations, Maintenance, Inspection & Troubleshooting
- Troubleshooting Techniques for Rotating Equipment

Other Materials Courses

- Materials Selection & Corrosion
- Metallurgical Failure Investigation
- Basic Course on Operation of Mobile Air Compressor


IUPAC2025
KUALA LUMPUR, MALAYSIA
53rd IUPAC General Assembly (53GA)
11 - 15th July 2025
50th World Chemistry Congress (50WCC)
13 - 18th July 2025
IUPAC 2025
Kuala Lumpur, Malaysia
INSTITUT KIMIA MALAYSIA
IUPAC
INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY
https://iupac2025.org
Chemistry for Sustainable Future
We welcome you to enchanting Malaysia!

INSTITUTE OF MATERIALS, MALAYSIA

Updated on 30th December 2023

Institute of Materials, Malaysia (IMM) is a non-profit professional society that promotes honourable practice, professional ethics and encourages education in materials science, technology and engineering. Engineers, academicians, technicians, skilled workers and professionals are amongst its members exceeding 6800.

Registered with the Registrar of Societies on 6th November 1987, the Malaysian Materials Science & Technology Society (MMS) changed its name to the Institute of Materials, Malaysia (IMM) on 16th June 1997. The objectives of IMM include the training and development of individuals and companies in Malaysia to attain professional recognition in various fields of materials science, technology and engineering.

IMM is administered by a council of 30 members, with volunteers leading more than 15 materials committees and more than 4 regional chapters, and supported by a secretariat with full time staff.

IMM Vision

To be internationally recognised leading institution in Materials Science and Technology.

IMM Mission

(1) To be the technical authority on material science and technology
(2) To develop an enhance competency and skills for all categories and practitioner
(3) To become an internationally recognized certifying body
(4) To be the forum for industry and academia collaboration
(5) To positively contribute to society and quality of life

The IMM membership is categorised into 6 different grades and open to anyone above the age of 17 years - individuals and companies keen in developing and contributing towards the growth of materials science, technology and engineering in Malaysia.

Over the years, IMM have conducted courses on coatings, coatings fingerprinting, corrosion, welding, vibration etc in support of the oil and gas industry in Malaysia. Over 750 Coatings Inspectors have been trained and certified as well as more than 3300 Blasters & Painters, Supervisors, Corrosion Technician and Vibration Practitioners. Its certification programmes are recognized by PETRONAS and all oil & gas operators. Since January 2011, more than 80 Associate Welding Engineers, more than 90 Welding Engineers, more than 30 Senior Welding Engineers and more than 45 Coating Fingerprint Quality Controllers were trained and certified.

IMM has also organised 10 International Materials Technology conferences (IMTCE) on a biennial basis, and numerous technical seminars, educational programmes, technical visits, and materials awareness programmes since 1988.

Public courses, such as Microbiologically Influenced Corrosion (MIC) and Welding Technology for Non-Welding Personnel, are being offered occasionally. Training on materials awareness has also been conducted in public listed companies.

The courses and programmes are being organised by Authorized Training Body/Bodies and Authorized Event Organizer/Organizers.

Collaborations with the Asian Welding Federation, Sabah Skills Technology Centre (SSTC), and local universities continue to be part of IMM's vision and long term mission to educate, train and serve the materials fraternity.

GENERAL INFORMATION ON MEMBERSHIP

The IMM Membership is open to all individuals and companies in developing the contribution of Materials science, technology and engineering towards industrial growth in Malaysia. The technology of materials is advancing day-to-day throughout the world. Membership to the IMM will enable networking and exchange of knowledge from a very wide variety of specialised areas of expertise. Please feel free to download or print a copy of the application form together with the IMM regulations. If you have any doubt, please do not hesitate to contact our secretariat through the phone; +603-76611591 or email to secretariat@iomm.org.my

Annual subscriptions shall be payable in advance on 1st January of each year. Those admitted into the IMM between 1st July and 31st December in any year shall pay only half the annual subscription. Seniors (above 55 years old) get 50% discount off their annual subscriptions.

We have an online application for membership for selected grades. Membership application forms in document format can be accessed from www.iomm.org.my.

IMM SECRETARIAT
Suite 1006, Level 10, Block A, Kelana Centre Point,
No. 3 Jalan SS 7/19,
47301 Petaling Jaya, Selangor

IMM MEMBERSHIP BENEFITS

(1) IMM activities offer members to interact and network with representative from the industry, academia and government related to the Materials profession.

(2) Members will gain knowledge on career opportunities for their children, friends etc as IMM offers certification courses in skilled trades *e.g.* Welding, Painting, Inspection, Corrosion *etc*.

(3) IMM-JWES Welding Engineer Certification program leading to a Welding Engineer Certification which offers great employment opportunities in the oil & gas, heavy industry, marine and energy sectors.

(4) IMM publications – quarterly magazine plus annual conferences offer presenters an opportunity for their technical research or industry-academia papers to be published in ISI- and Scopus-index journals.

(5) IMM organizes many free technical events for members to acquire new knowledge and networking opportunities. Participants to these events will also receive Certificate of Attendance for their Continuing Professional Development records.

IMM MEMBERSHIP FEES SCHEDULE AS PER BELOW:

Description	Amount			
	Entrance Fee	Processing Fee	Transfer Fee	Annual Subscription
Fellow (F.I.M.M)	-	RM 300.00	RM 10.00	RM 150.00
Professional (M.I.M.M)	-	RM 150.00	RM 10.00	RM 100.00
Associate (A.M.I.M.M)	-	RM 150.00	RM 10.00	RM 80.00
Company	RM 50.00	-	-	RM 200.00
Ordinary	RM 20.00	-	-	RM 40.00
Student	RM 10.00	-	-	RM 10.00
Ordinary/ Company for affiliates	RM 40.00/ RM 50.00	-	-	NIL

Updated on 30th December 2023

REGULATIONS GOVERNING ADMISSION AND TRANSFER OF MEMBER GRADES

The Council shall establish a Membership Committee which will be responsible for these Regulations and for review of applications for new membership and transfer to other grades (upgrades). The Membership Committee shall recommend for Council approval for admission and transfer of membership. All grades of memberships are awarded at the discretion of the Council and may be withheld or withdrawn in the event of conduct likely to prejudice the standing of the Institute. Every member shall receive a membership certificate.

Every application for membership, individual or company, shall be proposed and seconded according to these regulations and shall be forwarded to the IMM Secretariat who on behalf of the Honorary Secretary will process for consideration and approval of the Membership Committee before tabling for Council's endorsement. The Council may at its discretion reject any application without assigning any reason thereof. The Council may use its discretion to exempt the need for proposer and seconder for Student, Ordinary and Company membership.

Each company on admission as a member shall be entitled to nominate one representative to exercise all rights of membership. Only representatives of Company membership, as well as Fellows (F.I.M.M.). Professional Members (M.I.M.M.) and Ordinary members shall have the right to vote and to hold office in IMM.

Only Malaysian Citizens can become Ordinary Members, Associate Members (A.M.I.M.M.), Professional Members (M.I.M.M.) and Fellow Members (F.I.M.M.) with voting rights. Foreigners can have membership to similar grades but shall have no voting rights.

MEMBERSHIP GRADE & REQUIREMENT

Honorary Fellow (Hon. F.I.M.M.)

The Council shall have the power to elect Honorary Fellows who shall be persons of eminence in science or industry. The election shall be based on a majority vote within the Council. Honorary fellows shall enjoy such privileges as may from time to time be determined by the Council.

Fellow (F.I.M.M.)

A person at least 35 years of age with approved academic qualifications, training and 8 years relevant responsible experience who has made significant contributions to the science and practice of profession of Materials Science and Engineering or has given distinguished service to industry or education.

Professional Member (M.I.M.M.)

A person at least 25 years of age, with approved academic qualifications and training, having at least 3 years responsible experience in Materials Science and Engineering, or a person at least 40 years of age, with at least 15 years of experience with practical responsibility, as demonstrated by thesis/dissertation or report and interview.

Associate Member (A.M.I.M.M.)

A person at least 25 years of age, who possesses an interest in Materials Science and Engineering but have not acquired the necessary experience or obtained the qualification, governing entry to Member grade. An Associate Member, on obtaining the necessary qualifications, may apply for transfer to Member grade.

Company Member

Any company that is involved or has interest in Materials Science and Engineering will be qualified to join as a company member.

Ordinary Member

Any Malaysian Citizen and above the age of 18 years engaged in activities related to research, development and applications in Materials Science and Engineering shall qualify for Ordinary Membership. Only Ordinary Members who meet the necessary minimum requirements may apply for transfer to membership grades of Fellow, Member and Associate Member and may use the abbreviated titles upon transfer.

Student Member

A student member shall be a person not under 17 years of age who at the time of application satisfies the Council that he has received a good general education and is studying subjects related to Materials Science or Engineering. A student member shall transfer to the grade of Ordinary Member after graduation provided he or she is suitably qualified and as soon as he or she is earning a full-time salary. A Student shall not become member of the IMM without the prior approval of the Vice-Chancellor or Head of Department of the university or relevant authority concerned.

7th IMM Council Meeting (Term 2022-2024) & 36th IMM Anniversary Celebration

Kuala Lumpur Engineering Science Fair 2023

One-Day IMM Corrosion Conference 2023 and Plant Visit to Intertek Services (M) Sdn Bhd

FREE Ordinary Membership for Affiliates:

The Institute of Materials, Malaysia will recognize members of various professional institutions and societies for membership at "Ordinary Grade" without any annual subscriptions. Such members shall submit to IMM proof of their current membership of the respective institutions together with their application.

Members of the following institutions and societies are eligible to apply for affiliate membership:

1.American Welding Society
2.Asian Welding Federation
3.Board of Architects Malaysia
4.Board of Engineers, Malaysia
5.Engineering Institutes under the Engineering Council of UK
6.Geological Society of Malaysia
7.Institut Kimia Malaysia
8.Institute of Corrosion UK
9.Institute of Materials Singapore
10.Institute of Physics Malaysia
11.Institution of Engineers, Malaysia
12.Jabatan Minerals & Geoscience
13.Malaysian Medical Association
14.Malaysian Nurses Association
15.Malaysian Society for Non-Destructive Testing
16.Malaysian Welding & Joining Society
17.Persatuan Arkitek Malaysia
18.Plastics & Rubber Institute of Malaysia
19.Singapore Welding Society
20.Society of Petroleum Engineers

FREE Company Membership for Affiliates:

The Institute of Materials, Malaysia will recognize various professional institutions and associations for membership at "Company Grade" without any annual subscriptions.

Companies registered with the following Trade Associations are recognized for Affiliate Company Memberships:

1.Federation of Malaysian Manufacturers (FMM)
2.Malaysian Offshore Contractors Association (MOCA)
3.Malaysian Oil & Gas Engineering Council (MOGEC)
4.Malaysian Oil & Gas Services Council (MOGSC)

The companies shall submit to IMM proof of their current membership at the respective trade associations together with their application.

NOTE: The above provisions for affiliate membership for individuals and companies was approved by the IMM Council in accordance with the powers vested in the Council as per Clause 6.1.3 of the IMM Constitution and was subsequently endorsed by members at its 21st Annual General Meeting held on 19th March 2011.

ANNUAL REPORT OF THE COUNCIL

(FOR THE YEAR ENDING 31ST DECEMBER 2023)

Dear IMM Members,

On behalf of the IMM Council, I am pleased to present the report of the activities of IMM covering the period from 1st January 2023 to 31st December 2023.

(I) IMM MANAGEMENT COMMITTEE AND COUNCIL-MEETINGS

Date	Management Committee Meeting (Term 2022-2024)
13th Jan 2023	4th Meeting
19th Apr 2023	5th Meeting
22nd Jul 2023	6th Meeting
21st Oct 2023	7th Meeting

Date	Management Committee Meeting (Term 2022-2024)
10th Feb 2023	4th Meeting
5th May 2023	5th Meeting
4th Aug 2023	6th Meeting
10th Nov 2023	7th Meeting

(II) IMM ACTIVITIES CARRIED OUT IN THE YEAR 2023

Date	Activity
9th Jan 2023	Amendments of the IMM Constitution Meeting No. 10
11th Jan 2023	IMM Materials Failure Investigation Practitioners Skill Meeting No. 16
2nd Feb 2023	IMM Materials Failure Investigation Practitioners Skill Meeting No. 17
2nd Feb 2023	IMM Insulation Committee Meeting No. 1 (Term: 2022 – 2024)
7th - 8th Feb 2023	The Future of Digital Economy through 5G
8th - 9th Feb 2023	ASEAN Finance Innovation Summit
15th Feb 2023	IMM Materials Failure Investigation Practitioners Skill Meeting No. 18
17th Feb 2023	IMM SAC Committee Meeting No. 1 (Term: 2022 – 2024)
21st Feb 2023	Lawatan Muhibbah KKTM Kemaman to IMM Office
21st Feb 2023	Enrichment Program for New IMM Members
1st Mar 2023	IMM - UTM Joint Conference Meeting
8th Mar 2023	IMM Materials Failure Investigation Practitioners Skill Meeting No. 19
9th Mar 2023	IMM Corrosion Committee Meeting No. 1 (Term: 2022 – 2024)
16th Mar 2023	One-Day IMM Facility Integrity & Maintenance Conference 2023
17th Mar 2023	IMM Annual General Meeting No. 33
24th Mar 2023	IMM Student Chapters Meeting No. 1 (Term: 2022 – 2024)
28th Mar 2023	IMM Materials Failure Investigation Practitioners Skill Meeting No. 20
10th Apr 2023	IMM-UMP Meeting (Virtual)
18th Apr 2023	IMM Materials Failure Investigation Practitioners Skill Meeting No. 21
3rd May 2023	ADS Meeting No. 1
3rd May 2023	IMM Materials Failure Investigation Practitioners Skill Meeting No. 22
10th May 2023	MLC 2023 Meeting No.1 (Term: 2022 – 2024)
15th May 2023	ADS Meeting No. 2
23rd May 2023	IMM Corrosion Committee Meeting No. 2 (Term: 2022 – 2024)
23rd May 2023	IMM Materials Failure Investigation Practitioners Skill Meeting No. 23
8th – 9th Jun 2023	10th SOGCE, Sabah Oil & Gas Conference & Exhibition
12th Jun 2023	ADS Meeting No. 3
14th Jun 2023	IMM Materials Failure Investigation Practitioners Skill Meeting No. 24
4th Jul 2023	IMM Materials Failure Investigation Practitioners Skill Meeting No. 25
13th Jul 2023	CPD Meeting No. 1 (Term: 2022 – 2024)
14th Jul 2023	IMM SAC Committee Meeting No. 2 (Term: 2022 – 2024)
26th Jul 2023	IMM Materials Failure Investigation Practitioners Skill Meeting No. 26
28th Jul 2023	IMM Student Chapters Meeting No. 2 (Term: 2022 – 2024)
31st Jul 2023	IMM Insulation Committee Meeting No. 2 (Term: 2022 – 2024)
31st Jul 2023	MLC 2023 Meeting No.2 (Term: 2022 – 2024)
1st – 11th Aug 2023	Internal Audit by Standard Assurance Committee
2nd Aug 2023	National Materials Lecture Competition (Semi-Final)
21st Aug 2023	Closing Internal Audit
23rd Aug 2023	One-Day IMM Materials Failure Investigation Conference
28th Aug 2023	MFIP Q&A WG Meeting No. 1
4th Sept 2023	Management Review Meeting
8th Sept 2023	Mou Signing Ceremony at IEM Convention

13th – 15th Sept 2023	Oil and Gas Asia Conference & Exhibition
14th – 15th Sept 2023	ADS Briefing to ATBs, ATP & ATC
22nd Sept 2023	6th Regional Materials Technology Conference & Exhibition
2nd Oct 2023	MFIP Q&A WG Meeting No. 2
3rd Oct 2023	USM Visit to IMM Office
4th Oct 2023	IMM Corrosion Committee Meeting No. 3 (Term: 2022 – 2024)
19th – 20th Oct 2023	One-Day IMM Corrosion Conference & Plant Visit
25th Oct 2023	MFIP Q&A WG Meeting No. 3
27th – 29th Oct 2023	Kuala Lumpur Engineering Science Fair
5th Nov 2023	Official Mock Presentation Session for Malaysia Representative of YPWLC 2023
10th Nov 2023	36th IMM Anniversary Celebration
12th – 13th Dec 2023	DSM Surveillance Audit
12th Dec 2023	IMM Coating Committee Meeting (Term: 2022 – 2024)

(III) HIGHLIGHTS OF ACTIVITIES IN 2023

FULL REPORT ON SECTION (III) CAN BE ACCESSED ELECTRONICALLY ON IMM WEBSITE (www.iomm.org.my).

(IV) SUMMARY AND MOVING FORWARD

The IMM Management Committee and the IMM Council would like to express their heartfelt gratitude to all the Working Committee members, Regional Chapter members, IMM Secretariat staff, and other parties for their ongoing efforts and support in achieving the goals of IMM in 2023.

IMM will continue to develop new initiatives and enhance current systems to stay relevant and competitive. We anticipate a prosperous 2024.

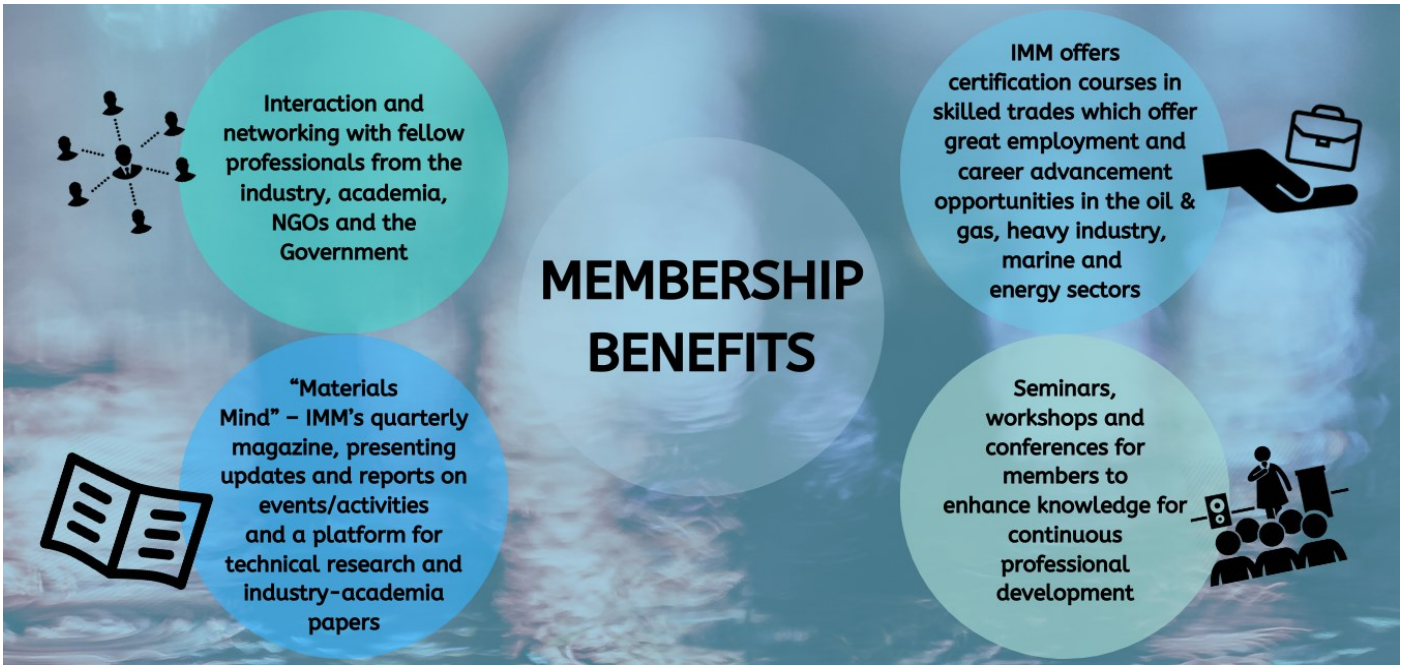
On behalf of the Council

Assoc. Prof. Ts. Dr. Tay Chia Chay Honorary Secretary, IMM

Date: 28th February 2024

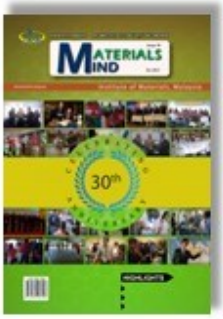
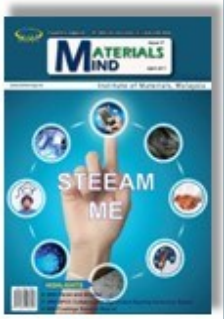
Due to limited printed pages, full article can be accessed electronically on IMM website or through scan the QR code given.

Scan the QR Code



MATERIALS MIND

Quarterly Magazine of Institute of Materials, Malaysia

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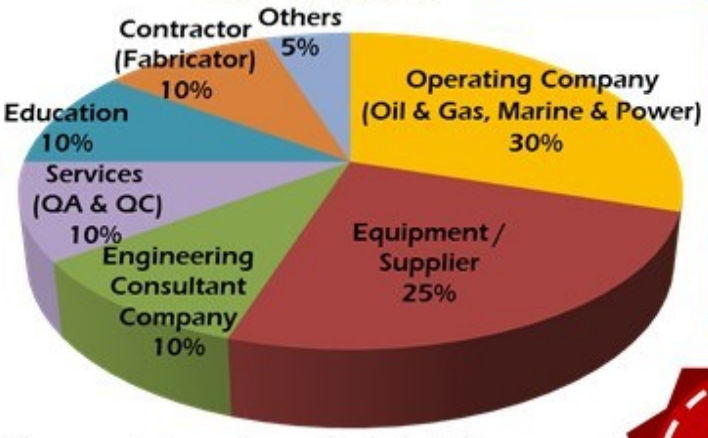

General Information

Frequency: Quarterly Magazine
Format: Print & Online Editions
Reader: ~ 8000
ISSN: 2289-9030

Magazine Content

Event & Activity Reports, Conference Information, Technical Papers, Information on IMM, IMM Course Details, Advertorial, IMM Supporting Events and many more…..

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MATERIALS MIND

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2) Payment can also be made by IBG, GIRO or Cash Deposit Machine (CDM) as follows:

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