

# **INSTITUTE OF MATERIALS, MALAYSIA**

## **ANNUAL REPORT OF THE COUNCIL (FOR THE YEAR ENDING 31<sup>ST</sup> DECEMBER 2021)**

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 1<sup>st</sup> January 2021 to 31<sup>st</sup> December 2021.

### **1. IMM MANAGEMENT COMMITTEE AND COUNCIL MEETINGS**

The IMM Management Committee and Council meetings held during the year were as follows:

<b>Date</b>	<b>Management Committee Meeting (Term 2020-2022)</b>
23 January 2021	4 <sup>th</sup> Meeting
24 April 2021	5 <sup>th</sup> Meeting
17 July 2021	6 <sup>th</sup> Meeting
30 October 2021	7 <sup>th</sup> Meeting

<b>Date</b>	<b>Council Meeting (Term 2020-2022)</b>
5 February 2021	4 <sup>th</sup> Meeting
7 May 2021	5 <sup>th</sup> Meeting
30 July 2021	6 <sup>th</sup> Meeting
19 November 2021	7 <sup>th</sup> Meeting

### **2. IMM ACTIVITIES CARRIED OUT IN THE YEAR 2021**

<b>Date</b>	<b>Activity</b>
20 Jan 2021	Education Committee Meeting No.2 (Term: 2020 – 2022)
27 Jan 2021	Discussion Meeting of IMM Certification Programs
27 Jan 2021	IMM-Malaysia Board of Technologists (MBOT) Meeting in Moving Forward 2021
2 Feb 2021	Northern Chapter Meeting
22 Feb 2021	Polymer Committee Meeting No.2 (Term: 2020 – 2022)

<b>Date</b>	<b>Activity</b>
25 Feb 2021	Materials Lecture Competition (MLC) 2021 Committee Meeting
25 Feb 2021	Vibration Committee Meeting No.2 (Term: 2020-2022)
26 Feb 2021	IMM Week Meeting
2 Mar 2021	Coating Committee Meeting No.1 (Term: 2020 – 2022)
5 Mar 2021	Informal Discussion on Proposed Standardization of Level / Category for IMM Certification Programs
5 Mar 2021	Education Committee Meeting No.3 (Term: 2020 – 2022)
9 Mar 2021	Polymer Committee Meeting No.3 (Term: 2020 – 2022)
15 - 19 Mar 2021	IMM Week
19 Mar 2021	IMM Annual General Meeting No.31
30 Mar 2021	Corrosion Committee Meeting No.2 (Term: 2020 – 2022)
6 Apr 2021	IMM ISO/IEC 17024: 2012 Internal Audit
27 Apr 2021	Second Discussion Meeting on Certification Course in Mix Mode
27 Apr 2021	Task Force on Upgrading Coating Certification Scheme (TFUCCS) Committee Meeting (Term: 2020 – 2022)
29 Apr 2021	Standard Development Committee Meeting No.2 (Term: 2020 – 2022)
20 May 2021	Discussion with Cloud Events Studio
20 May 2021	Coating Fingerprinting Committee Meeting No.2 (Term: 2020 – 2022)
21 May 2021	The Japan Welding Engineering Society (JWES) - IMM Meeting
29 Jun 2021	IMM ISO/IEC 17024: 2012 Internal Audit Closing Meeting
30 Jun 2021	Education Committee Meeting No.4 (Term: 2020 – 2022)
1 Jul 2021	Discussion on the Registration of IMM Trainers
2 Jul 2021	Perbincangan Berkenaan Kursus Induksi kepada Calon Penilaian Professional MBOT
7 Jul 2021	Discussion on the Registration of IMM Trainers
14 Jul 2021	MLC 2021 Semi Final
14 Jul 2021	IMM Thermal Spray Coating Applicator Certification Working Sub-Committee Meeting No.1
15 Jul 2021	Corrosion Committee Meeting No.3 (Term: 2020 – 2022)
21 Jul 2021	Thermal Spray Coating Applicator Certification Working Sub-Committee Meeting No.2
27 Jul 2021	Coating Committee Meeting No.2 (Term: 2020 – 2022)

<b>Date</b>	<b>Activity</b>
28 Jul 2021	MLC 2021 Final
11 Aug 2021	Thermal Spray Coating Applicator Certification Working Sub-Committee Meeting No.3
11 Aug 2021	Student Chapter Committee Meeting No.2 (Term: 2020 – 2022)
26 Aug 2021	Corrosion Monitoring Working Sub-Committee Meeting No.4
27 Aug 2021	IMM ISO 17024 Management Review Meeting
2 Sept 2021	Coating Fingerprinting Committee Meeting No.3 (Term: 2020 – 2022)
8 Sept 2021	Continuing Professional Development (CPD) Committee Meeting No.2 (Term: 2020 – 2022)
11 Sept 2021	Miri Chapter Meeting No.4 (Term: 2020 – 2022)
13 Sept 2021	Corrosion Monitoring Working Sub-Committee Meeting No. 5
17 Sept 2021	IMM-JWES Meeting on Procedure for Remote Seminar
20 Sept 2021	Corrosion Monitoring Working Sub-Committee Meeting No. 6
23 Sept 2021	CPD Committee Meeting No.3 (Term: 2020 – 2022)
27 Sept 2021	Corrosion Monitoring Working Sub-Committee Meeting No. 7
5 Oct 2021	IMM-Construction Industry Development Board (CIDB) meeting on the draft of the Memorandum of Understanding (MoU)
7 Oct 2021	Discussion on IMM Coating Certification Programs for the new edition of the Industrial Skills Framework (IndSF)
11 Oct 2021	Corrosion Monitoring Working Sub-Committee Meeting No. 8
12 - 13 Oct 2021	Clean Power & New Energy 2021
13 Oct 2021	1-Day Rheology Workshop on Polymers
14 Oct 2021	MBOT Webinar Series 2021
16 Oct 2021	Polymer Committee Meeting No.4 (Term: 2020 – 2022)
20 Oct 2021	Membership Committee Meeting No.2 (Term: 2020 – 2022)
21 Oct 2021	Asset Integrity Committee Meeting No.2 (Term: 2020 – 2022)
28 Oct - 2 Nov 2021	Penilaian Profesional MBOT melalui IMM bagi Bidang Material Science dan Oil & Gas
28 Oct 2021	IMM-Crest Tribology & Mechanical Testing Webinar
29 Oct 2021	Polymer Committee Meeting No.5 (Term: 2020 – 2022)
2 Nov 2021	Corrosion Committee Meeting No.4 (Term: 2020 – 2022)
3 Nov 2021	IMM Zoom Meeting with Sabah Skills and Technology Centre (SSTC)

<b>Date</b>	<b>Activity</b>
3 Nov 2021	Education Committee Meeting No.5 (Term: 2020 – 2022)
8 Nov 2021	Membership Committee Meeting No.3 (Term: 2020 – 2022)
9 Nov 2021	Corrosion Monitoring Working Sub-Committee Meeting No. 11
11 Nov 2021	Discussion with Student Chapter of Tunku Abdul Rahman University College (TAR UC) on the Preparation of the Pre-Assessment Video for Thermal Spray Applicator
13 Nov 2021	Miri Committee Meeting No.5 (Term: 2020 – 2022)
16 Nov 2021	Corrosion Monitoring Working Sub-Committee Meeting No. 12
17 Nov 2021	Examination and Certification Panel Discussion
24 Nov 2021	IMM Secretariat Meeting
26 - 28 Nov 2021	Bengkel Pemurnian Bidang Teknologi, MBOT
7 Dec 2021	Insulation Committee Meeting (Term: 2020 – 2022)
15-17 Dec 2021	3 <sup>rd</sup> International Conference on Materials Research and Innovation (ICMARI 2021)

### **3. HIGHLIGHTS OF ACTIVITIES IN 2021**

#### **3.1 Election of Office-Bearers for the term 2022-2024**

An election was conducted within the Council, in accordance with Clause no. 6.2.2.2 of the IMM Constitution, for the posts of Deputy President, Honorary Treasurer and Honorary Secretary for the 2022-2024 Council term during the 7<sup>th</sup> Council Meeting (Term 2020-2022) on 19<sup>th</sup> November 2021.

In accordance with Clause no. 6.2.2.1 of the IMM Constitution, the position of IMM President for the term 2022-2024 will be retained by the current President, Dato' Dr. Ir. Hj. Mohd Abdul Karim Abdullah (HF-07442) from Serba Dinamik Group Bhd.

The office-bearers for the remaining key positions for the term 2022-2024 were filled from among the current Council members, as follows:

- i. Deputy President: Ts. Dr. Chew Khoon Hee (F-04355) from Tunku Abdul Rahman University College

Proposer : Assoc. Prof. Ts. Dr. Tay Chia Chay (F-06742); and  
Mr. Kang Kim Ang (F-00012)

Secunder : Assoc. Prof. Dr. Lim Teck Hock (F-08210); and  
Mr. Mark Hew Yoon Onn (O-07558)

- ii. Honorary Treasurer: Ts. Dr. Mohamed Ackiel Mohamed (F-08237) from Serba Dinamik Group Berhad

Proposer : Assoc. Prof. Ts. Dr. Tay Chia Chay (F-06742); and  
Ir. Ong Hock Guan (F-00792)

Seconder : Ts. Brian Lim Siong Chung (F-04348); and  
Mr. Nik Khairil Azman Nik Abdullah (C-07279)

- iii. Honorary Secretary: Prof. Ts. ChM. Dr. Melissa Chan Chin Han (F-04118) from Faculty of Applied Sciences, Universiti Teknologi MARA

Proposer : Assoc. Prof. Ts. Dr. Tay Chia Chay (F-06742); and  
Ir. Ong Hock Guan (F-00792)

Seconder : Ts. Brian Lim Siong Chung (F-04348); and  
Mr. Nik Khairil Azman Nik Abdullah (C-07279)

### **3.2 Accreditation to MS ISO/IEC 17024**

The Secretariat has received Certification of Accreditation to ISO/IEC 17024 with the accreditation number ACB PS 0006 on 29<sup>th</sup> March 2021 from Standards Malaysia. The schemes covered are the Mechanical Joint Integrity (MJI) and Coating Inspector (CI) certification schemes.

### **3.3 Training, Examination and Certification**

A total of (50) IMM certification examinations were conducted in 2021. Most of these examinations were carried out in conjunction with the related training programs conducted by the Associate Training Partner (ATP), Authorized Testing Center (ATC) and Authorized Training Bodies (ATBs). Please refer to **Appendix 1**.

### **3.4 Coating Committee [Chair: Mr. Devinakumar Ratanam]**

Throughout the year 2021, IMM Coating Committee had engaged in multiples activities to promote and upgrade the coating programs offered by IMM. The first was the proposal to upgrade the Thermal Spray Applicator program by the previous chairperson Mohd Iqbal bin Yaakup in January of 2021. In July 2021, the Thermal Spray Applicator Working Sub-Committee was formed. The team of Thermal Spray Applicator specialists, led by Ir. Max Ong, had completed the upgrade and provided the Upgraded Theory & Practical Assessments, Brochures and Pre-Assessment Briefing Slides to the IMM Secretariat for further action in August 2021.

Apart from that, the IMM Coating Committee had submitted the programs to be included in the HRD Corp, Industrial Skills Framework through Liaison Committee's Ir. Hisham.

Some of the matters such as the program custodian for Thermal Spray Applicator program, which are still being undertaken by the IMM Coating Committee. Mr. Chan Wai Sing is in communication with the IMM Student Chapter to develop a Pre-Assessment Video for the Thermal Spray Applicator Program. IMM PCT-CIL Working Sub-Committee, led by Mr. Terry, is working

on developing Pre-Assessment Briefing Slides for Protective Coating Technician & Coating Inspector program.

### **3.5 Coating Fingerprinting Committee** [Chair: Prof. Ts. ChM. Dr. Melissa Chan Chin Han]

IMM FP01 - Coating Fingerprinting Overall Procedures for Paints Using FTIR and Other Related Methods has been migrating to Malaysian Standard. The scope of the IMM Certified Coating Fingerprint Professional Level 3 (Professional Technologist Level) was prepared this year and the certification documents will be developed next year. A few members of the Coating Fingerprinting Committee have published four technical articles entitled:

- i. Addressing the Issues of Significant Figures for Degree of Similarity and Specific FTIR Fingerprint Regions for Paints in Materials Mind of October 2021 (Issue 32)
- ii. Application of FTIR Structural Analysis for Dried Coating Failure Investigation in Oil and Gas Industry in Materials Mind of July 2021 (Issue 31)
- iii. FTIR Qualitative Analyses for Quality Assurance and Quality Control of Protective Paints in Materials Mind of January 2021 (Issue 29)
- iv. The Effect of Storage Device of FTIR Spectra on the Degree of Similarity using Compare Algorithm for Paint Fingerprinting in Materials Mind of January 2021 (Issue 29)

Besides, the conformity testing protocols using FTIR spectroscopy raw materials of paints and dried coatings won an innovation Gold Medal under the cluster of Technology and Engineering at Invention, Innovation & Design Exposition 2021 on 1<sup>st</sup> of November 2021, organized by Universiti Teknologi MARA, Malaysia.

### **3.6 Corrosion Committee** [Chair: Ir. Ong Hock Guan]

- i. The chairman of the committee participated in the Industrial Advisory Panel sessions for Universiti Teknologi PETRONAS (UTP) on 28<sup>th</sup> - 29<sup>th</sup> September 2021.
- ii. Three technical papers were presented by the committee members at the IMM Conference during IMM Week from 15<sup>th</sup> to 19<sup>th</sup> March 2021.
- iii. Five technical papers were presented by the committee members at the World Engineering, Science, and technology Conference (ICPER), Kuching organized by UTP on 14<sup>th</sup> July 2021.
- iv. One report on the SSB participation in the ICPER was published in Materials Mind October 2021 issue.
- v. Provide technical support and input to the Universiti Tun Hussien Onn Malaysia (UTHM) for the mix-mode Materials Engineering Master Program with the incorporation of IMM Cathodic Protection Practitioner (CPT) Level 1 and Level 2. A similar arrangement has been initiated with UTP.
- vi. Cathodic Protection Working Sub-Committee (CP-WCS) was formed on 6<sup>th</sup> April 2021. The sub-committee completed the upgrade of the CPT Level 1 and Level 2 certification programs in November 2021.

- vii. Corrosion Monitoring Working Sub-Committee (CM-WSC) was formed on 15<sup>th</sup> July 2021. The sub-committee completed the upgrade of the Corrosion Monitoring Practitioner (CM) Level 1 and Level 2 certification programs in December 2021.

### 3.7 Insulation Committee [Chair: Mr. Danny Tan Kim Chew]

The Insulation Committee in the year 2021 are involved in 2 main projects *i.e.*, the formulation of IMM Insulation Standard and drafting the IMM Insulation Certification Program. Both projects are initiated by the Council in early 2021.

#### IMM Insulation Standard

The first draft of the IMM Insulation Standard has just been released on 1<sup>st</sup> November 2021 for review among the committee members. Working alongside Insulation Committee for this project is the Standards Development Committee. The final draft is targeted to be ready for publication in April - May 2022. Hopefully, the introduction of such a standard will elevate the overall technical knowledge and skill amongst the insulation practitioners in Malaysia. The standard will serve as a practical guide and fill in the void for the industry. Its introduction coincides with the world initiatives towards reducing carbon emission via using a more efficient energy use. Insulation, as it has always been, will play a big part in achieving those “zero-carbon” objectives.

#### Insulation Certification Programs

The following Insulation Certification Programs will be developed.

No	Certification program	Competency level
1	Level 1 -Insulation Practitioner	Beginner
2	Level 2 - Insulation Practitioner	Intermediate
3	Level 3 - Insulation Practitioner	Intermediate/Advance
4	General Certification - Installation Procedure	Beginner

At the time of reporting, these insulation certification programs were recommended to HRD Corp for its Industrial Skill Framework (IndSF).

### 3.8 Polymer Committee [Chair: Ts. Dr. Chew Khoon Hee]

- i. 3<sup>rd</sup> March 2021 - Jointly organized a “Molding Simulation” Webinar with the Faculty of Engineering and Technology, TAR UC
- ii. 16<sup>th</sup> March 2021 - eight speakers from professional bodies, government agency as well as universities were invited by the committee to share their knowledge and viewpoints on two themes, *i.e.* (a) Post Covid-19: What’s Next for Polymer? and (b) Polymer: Recycling and Sustainability at the IMM Conference during the IMM Week.
- iii. 28<sup>th</sup> September 2021 - Jointly organized a “1-Day Rheological Workshop on Polymers” with Post Graduate Chemistry Club, Universiti Teknologi MARA and Institut Kimia Malaysia.

- iv. 28<sup>th</sup> October 2021 - Jointly organized an “Introduction to Tribology and Mechanical Testing on Polymers” with Crest Nanosolutions and Bruker

### **3.9 Vibration Committee [Chair: Ir. Mohd Syukri Mohd Khalid]**

- i. Co-Organizing the ‘2<sup>nd</sup> Railway Symposium on Railway Infrastructure and Engineering’ with UTAR on 03 February 2021.
- ii. Eight (8) Speakers from Professional Bodies, Government Agencies as well as Universities joint the IMM Week events on 17 March 2021 and presented on the Vibration Technology Topics. Technical Forum moderated by Vibration Committee Chairman was organized as the closing of this event.
- iii. Participate in the JPK-MQA session with Ministry of Human Resources Malaysia for the content evaluation on the Occupational/Industrial Standard Practice for Vibration Certification.
- iv. Finalization on the Vibration Practitioner CAT 1 & CAT 2 with the preparation of additional exam sets in order to meet ISO 18436 certification guidelines.
- v. Co-jointly work on the development of Industrial Skill Framework (IndSF) to include Vibration Certification and Rotating Equipment Certification under this framework.
- vi. Forming Sub-Committee of Rotating Equipment Division to strengthen the work on the development of course topic for technician level related with rotating equipment. This sub-committee includes Professional Engineers, Universities and Industrial Players
- vii. Finalization of Vibration Practitioner CAT 3 course content to be offered in year 2022.

#### **Additional Dates**

- |                   |  |
|-------------------|--|
| 03 June 2021      | - Vibration Sub-Committee Meeting to discuss on the additional CAT 1 and CAT 2 exam set requirements.  |
| 29 June 2021      | - First Rotating Equipment Sub-Committee Meeting. Setting up Direction and Expectation towards forming the Rotating Equipment Certification. |
| 30 September 2021 | - Vibration Certification Sub-Committee Meeting  |
| 8 October 2021    | - Rotating Equipment Sub-Committee Meeting   |
| 20 October 2021   | - Rotating Equipment Sub-Committee Meeting to finalize on the high-level course content for Industrial Skill Framework                       |

### **3.10 Continuing Professional Development (CPD) [Acting Chair: Ts. Dr. Chew Khoon Hee]**

The Committee had developed a CPD Scheme targeting for implementation in January 2021. However, in view of the Covid-19 pandemic where members may face difficulties in collecting CPD points, the committee at its meeting on 23 September 2021 decided to defer the implementation of CPD Scheme to January 2023.



### 3.11 Education Committee [Chair: Ir. Max Ong Chong Hup]

- i. Finalized the incorporation of the IMM Coating Inspector Level 1 & 2 certification programs into Universiti Teknologi Malaysia (UTM) Masters in Materials Engineering Program.
- ii. Finalized the incorporation of the IMM Cathodic Protection Practitioner Level 1 & 2 certification programs into Universiti Tun Hussein Onn Malaysia (UTHM) Masters in Materials Engineering Program.
- iii. Transferred the continuing communication of the initiative to incorporate the IMM Corrosion Monitoring Practitioner Level 1 & 2 certification programs and IMM Cathodic Protection Practitioner Level 1 & 2 certification programs into Universiti Teknologi PETRONAS Materials Engineering Master of Science and Bachelor of Science Degree Programs to the Corrosion Committee.
- iv. Collaborated with the French CETIM Mechanical Engineering Consortium to introduce a series of webinars covering Additive Manufacturing, Non-Destructive Testing, Flange Bolting, to IMM members.
- v. The 2020-2021 task of the Education Committee to encourage universities to incorporate IMM Certification Schemes into the universities' Bachelors and Masters Degree Programs has been accomplished. The Secretariat and the respective Technical Committees shall continue the communications with universities for this initiative.
- vi. Moving forward, the Education Committee shall focus on a new task for the 2022-2023 period.

### 3.12 IMM-MBOT Committee [Chair: Prof. Ts. ChM. Dr. Melissa Chan Chin Han]

The **IMM-MBOT Committee** continued with its good work and enabled five activities during the year despite the pandemic circumstances. Those five activities include Technical Webinar, MBOT-Technical Expert Panel (TEP) Meeting and MBOT Professional Assessment Sessions. Technical Webinar was delivered on 14<sup>th</sup> October 2021 as a part of MBOT Webinar Series 2021 comprising 2,200 views. Prof. Ts. ChM. Dr. Melissa Chan Chin Han was the Guest Speaker and moderated by Ts. Ir. Wan Mohd Arif bin W. Ibrahim. IMM-MBOT committee also contributed through conducting three batches of MBOT's professional assessment until November 2021 involving Ir. Ts. Hisham Yahaya and Ts Wan Mohd Arif W. Ibrahim as being panel members while Ms. Aberamy was the coordinator for those sessions representing IMM. All those online assessments of the 62 candidates were assessed by the IMM-MBOT panels involving candidates from Materials Technology and oil and gas industry. Those 5 activities were listed as follows:

- i. 16<sup>th</sup> - 21<sup>st</sup> May 2021 – MBOT Professional Assessment (1<sup>st</sup> Batch: 16 Candidates).
- ii. 2<sup>nd</sup> July 2021 – MBOT-TEP Meeting (MBOT proposed the TEP conduct “*Kursus Pembangunan Profesional*” prior to the Professional Assessment.
- iii. 11<sup>th</sup> - 13<sup>th</sup> August 2021 – MBOT Professional Assessment (2<sup>nd</sup> Batch: 20 Candidates).
- iv. 28<sup>th</sup> - 29<sup>th</sup> October / 1<sup>st</sup> - 3<sup>rd</sup> November 2021 – MBOT Professional Assessment (3<sup>rd</sup> Batch: 26 Candidates).

- v. 14<sup>th</sup> October 2021 – MBOT Webinar Series 2021: Fourier-Transform Infrared Technology for QA/QC, authentication and failure investigation of polymeric products.
- vi. 26<sup>th</sup> – 28<sup>th</sup> November 2021 – Workshop on Harmonization of the Fields of Technologies at the New World Petaling Jaya Hotel where the IMM representatives were Prof. Ts. ChM. Dr. Melissa Chan Chin Han and Ts. Wan Mohd Arif.

### 3.13 Materials Lecture Competition Committee [Chair: Dr. Nor Akmal Fadil]

The MLC 2021 was successfully organized by Universiti Sains Malaysia (USM) together with the IMM and the Institute of Materials, Minerals and Mining (IOM3) UK on 28<sup>th</sup> July 2021, virtually. The event aimed to provide a platform for young talents (below the age of 28 years old) to exhibit effective and impressive presentation skills in delivering topics in the field of material science and engineering.

Ms. Farah Hannan Binti Abd Nasir from Universiti Malaya won the first prize, while Mr. Mivolil Duinong from Universiti Malaysia Sabah and Mr. Merna Ehab Mohamed Kamel Shehata from Universiti of Nottingham Malaysia came in as the second and third prize winners, respectively. The winners walked away with a cash prize of RM 3000, RM 2000 and RM 1000 together with plaques and certificates.

The first prize winner represented Malaysia in the Young Persons' World Lecture Competition 2021 (YPWLC 2021) held virtually on 11<sup>th</sup> November 2021 and won as second place.

### 3.14 Materials Mind Editorial Board [Chair: Ts. Dr. Tay Chia Chay]

- i. A total of 4 issues were published: **Issue 29** (Jan 2021), **Issue 30** (Apr 2021), **Issue 31** (Jul 2021) and **Issue 32** (Oct 2021).
- ii. Electronic distribution (*e.g.*, eBlast and WhatsApp) of Materials Mind website book format was attempted for **Issue 27**.
- iii. These quarterly IMM magazines (ISSN no: 2289-9030) were distributed to IMM members. The content of the magazine embraced reports on the cover story, technical articles, IMM events & new IMM courses, corporate advertorials *etc.*
- iv. The content of the magazine can be accessed online on the IMM website. All the technical reports were can be openly accessed on the IMM website and Global Exchange Content (GEC).
- v. The theme of each issue has been set up and supported by the task forces and/or working committees.

### 3.15 Membership Committee [Chair: Ts. Dr. Chew Khoo Hee and Co-Chair: Mark Hew Yoon Onn]

A policy “Regulations Governing Admission and Transfer of Membership Grades” and amendments of Constitution on clauses related to membership were prepared.

### 3.16 Standards Development Committee [Co-Chairs: Asst. Prof. Ts. Dr. Yu Lih Jiun and Ts. Dr. Mahmood Anwar]

The Standards Development Committee continued with its good work and enabled quarterly meetings during the year despite the pandemic circumstances which lead to accomplishing the draft for IMM Insulation Standard. Currently, the first draft of the IMM Insulation Standard is under review & feedback stage with various stakeholders including academicians, manufacturers, installers, contractors, plant owners (PETRONAS), engineers, NIA Certified Insulation Energy Appraiser, ASTM C16 Thermal Insulation Committee Members, SIRIM and others from the industry in the working group (WG). This is steered by Standards Development Committee through forming a WG jointly with Insulation Committee. This Standard is intended to provide practical guidelines to Malaysian industries by applying acceptable and best current practices while indicating basic principles by which materials can be assessed and adapted for use under widely differing conditions. Design engineers, general contractors, fabricators and insulation contractors will find this guide helpful. This Standard emphasizes the general requirements for industrial thermal insulation systems, which apply to Malaysia's climate condition and environment. This Standard covers the general thermal insulation requirements for industrial applications for the temperature range between -200 °C to 800 °C. Such draft standard was developed through the following milestone activities:

- i. 25<sup>th</sup> February 2021 – Q1 meeting
- ii. 29<sup>th</sup> April 2021 – Q2 meeting
- iii. 5<sup>th</sup> August 2021 – Q3 meeting
- iv. 1<sup>st</sup> November 2021 – 1<sup>st</sup> Draft of **IMM IN01:2022 General Requirements for Industrial Thermal Insulation System** (35 pages)

### 3.17 Student Chapters [Chair: Assoc. Prof. Dr. Lim Teck Hock]

The year 2021 was considered fruitful for the Student Chapters despite multiple extensions of Movement Control Order (MCO) during the Covid-19 pandemic. Two new student chapters, namely TARUC-IMM and Taylor-IMM Student Chapter were established, bringing the number of active Student Chapters to eight.

	UNIVERSITY	YEAR SIGNED	MOU DURATION
1	Universiti Tunku Abdul Rahman	2012	5 years
2	Universiti Malaya	2013	5 years
3	Curtin University Sarawak	2015	5 years
4	Universiti Teknologi Malaysia (UTM)	2016	5 years
5	Universiti Teknologi MARA (UITM)	2018	5 years
6	Universiti Tun Hussein Onn Malaysia (UTHM)	2020	5 years
7	Tunku Abdul Rahman University College (TARUC)	2020	5 years
8	Taylor University	2021	5 years

Activities/events recorded in the year 2021:

- i. Five active Student Chapters (based in Curtin University Malaysia, UiTM, UTHM, UTAR, TARUC) participated in the IMM Week event in March 2021. Students benefited from the sharing of industry captains and the opportunity to meet their potential employers.
- ii. Student Chapters based in UiTM, UTAR, TARUC, UTHM, Curtin Sarawak successfully contributed a total of four reports under the Student Editorial section of Materials Mind Magazine (Jan, April, July, Oct 2021 issues) and the Outreach issue (Oct 2021 issue)
- iii. Committee met online several times and proposed activities for the year 2022. These include IMM Student Award (to be run by Student Chapters in rotation), Student Editorial Activity (continuing its good effort) and KLESF 2022 (if the situation allows).
- iv. TARUC-IMM Student Chapter is working with the Corrosion Committee on producing Pre-assessment videos based on the approved briefing notes on the certification program titled Certified Thermal Spray Coating Applicator. Student volunteers from TARUC-IMM Student Chapter and respective academics to work with industry experts from Coating Committee on the videos. Targeting four 15-min videos.

### **3.18 Miri Chapter** [Chair: Ir. Dr. Edwin Jong Nyon Tchan]

In 2021, due to the Covid-19 pandemic situations, IMM-Miri has not conducted any projects related to seminars, workshops and conferences, but managed to organize two Google-Meet Virtual Meetings.

### **3.19 Southern Chapter** [Chair: Assoc. Prof. Dr. Tuty Asma Abu Bakar]

The IMM Southern Chapter in the year 2021 organized two main projects: (i) the Role of Corrosion Engineering and (ii) Insights into State-of-the-art Mechanical Surface Characterization in May 2021.

#### **i. Webinar 1: Role of Corrosion Engineer**

A webinar entitled “*Role of Corrosion Engineer*” was delivered by Ir Max Ong from JOTAC Academy Sdn Bhd on 18<sup>th</sup> May 2021. The talk covered the materials degradation phenomenon, several standard test methods, and the importance of the corrosion engineering field in various industries. The speaker also shared the necessity of being skilled certified through recognized certification programs locally [*e.g.* IMM, Association of Materials, Vibration & Insulation Practitioners, Malaysia (AMVIP), *etc*] or internationally [*e.g.* NACE, The Welding Institute (TWI), *etc*]. We hoped that the talk would be an “eye-opener” on the practical guide for fresh graduates/undergraduates in becoming responsible and competent Corrosion Engineers. The speaker highlighted that in the next 5-10 years, simulation in corrosion inspection and monitoring will be an important area to be explored for the reduction of cost and time. Yet, big data is indeed needed for the reliability of the simulation. Not only knowledge in corrosion, but students should be equipped with excellent communication skills, marketing skills, financial and people management skills *etc* especially during a challenging situation.

ii. Webinar 2: Insights into State-of-the-art Mechanical Surface Characterization

The second webinar entitled Insights into State-of-the-art Mechanical Surface Characterization was held on 25<sup>th</sup> May 2021 and delivered by Anton Paar experts, Mr. Phillip Gumpl (the former General Manager of Anton Paar Malaysia Sdn. Bhd.), Ms. Evelin Frank (Global Product Management Indentation Testing) and Dr. Maryam Bahrami. More than 250 participants from various backgrounds and institutions participated in the webinar. The talk introduced a novel nano-indentation test characterizing the mechanical behavior down to nanoscale over the classical hardness test method. The flexibility of the nano-indentation method makes it applicable in various industries, not limited to thin coating but also in glass, biomedical, aerospace, electronics, *etc.* The sharing provided the participants with a better understanding of the working mechanism, capability of indentation and scratch test.

### 3.20 Collaboration

#### 3.20.1 MoA between ATP, ATC and ATBs

The following Associate Training Partner (ATP), Authorized Testing Centre (ATC) and Authorized Training Bodies (ATBs) have signed a Memorandum of Agreement (MoA) with IMM to manage, conduct training and provide support services for IMM's training programs and courses.

No.	ATP/ATC/ATBs	MOA (3 years validity)	
		Signed Date	Expiry Date
1.	Materials Technology Education Sdn Bhd (ATP)	10 <sup>th</sup> February 2021	9 <sup>th</sup> February 2024
2.	JOTAC Academy Sdn Bhd (ATC)	16 <sup>th</sup> March 2021	15 <sup>th</sup> March 2024
3.	SRC Global Resources Sdn Bhd (ATB)	1 <sup>st</sup> February 2021	31 <sup>st</sup> January 2024
4.	Sabah Skills & Technology Centre (ATB)	1 <sup>st</sup> February 2021	31 <sup>st</sup> January 2024
5.	Seacademy Sdn Bhd (ATB)	1 <sup>st</sup> February 2021	31 <sup>st</sup> January 2024
6.	Topfields Borneo Sdn Bhd (ATB)	1 <sup>st</sup> February 2021	31 <sup>st</sup> January 2024
7.	Advance Multiskills Training Centre Sdn Bhd (ATB)	1 <sup>st</sup> February 2021	31 <sup>st</sup> January 2024
8.	Prasarana Malaysia Bhd (ATB)	5 <sup>th</sup> February 2021	4 <sup>th</sup> February 2024

### **3.20.2 MoA between IMM and Taylor’s University**

Taylor’s University has signed a Memorandum of Agreement (MoA) with IMM for the establishment of the Taylor University-IMM Student Chapter.

### **3.20.3 Cooperation Agreement between JWES and IMM**

IMM has signed and renewed the Cooperation Agreement with the Japan Welding Engineering Society (JWES) on the implementation of the JWES certification system of welding coordinators in Malaysia.

## **4. SUMMARY AND MOVING FORWARD**

The IMM Management Committee and the IMM Council would like to express their sincere gratitude to all members of the Working Committees, Regional Chapters, staffs of the IMM Secretariat and other parties for their continuous effort and support in fulfilling the objectives of IMM despite Covid-19 pandemic situation.

To remain relevant and competitive, IMM will continue to keep moving forward with new initiatives and improving existing systems. We look forward to a successful 2022.

**On behalf of the Council,**

Prof. Ts. ChM. Dr. Melissa Chan Chin Han  
Honorary Secretary, IMM  
Date:

## APPENDIX 1

### IMM CERTIFICATION EXAMINATION 2021

NO.	EXAMINATION DATE	CERTIFICATION SCHEME
1.	26 January 2021	Coating Inspector Level 1
2.	29 January 2021	Coating Inspector Level 1
3.	30 January 2021	Assistant Blaster & Painter
4.	30 January 2021	Coating Inspector Level 1
5.	8 February 2021	Coating Inspector Level 1
6.	10 February 2021	Protective Coating Technician Level 1 & 2
7.	26 February 2021	Protective Coating Technician Level 1 & 2
8.	20 March 2021	Coating Inspector Level 1
9.	25 March 2021	Coating Inspector Level 1
10.	25 March 2021	Coating Inspector Level 1
11.	7 April 2021	Blasting And Painting Supervisor
12.	23 April 2021	Protective Coating Technician Level 1 & 2
13.	17 April 2021	Protective Coating Technician Level 1 & 2
14.	22 April 2021	Coating Inspector Level 1
15.	6 May 2021	Assistant Blaster & Painter
16.	23 May 2021	Protective Coating Technician Level 1 & 2
17.	24 May 2021	Protective Coating Technician Level 1 & 2
18.	28 May 2021	Coating Inspector Level 1
19.	29 June 2021	Vibration Practitioner Category 1
20.	29 July 2021	Coating Inspector Level 1
21.	23 August 2021	Blasting And Painting Supervisor
22.	26 August 2021	Coating Inspector Level 1
23.	27 August 2021	Vibration Practitioner Category 1
24.	28 September 2021	Welding Inspector
25.	30 September 2021	Coating Inspector Level 1
26.	2 October 2021	Coating Inspector Level 2
27.	8 October 2021	Coating Inspector Level 1

<b>NO.</b>	<b>EXAMINATION DATE</b>	<b>CERTIFICATION SCHEME</b>
28.	16 October 2021	Coating Inspector Level 1
29.	23 October 2021	Coating Inspector Level 2
30.	28 October 2021	Coating Inspector Level 1
31.	31 October 2021	Protective Coating Technician Level 1 & 2
32.	1 November 2021	Protective Coating Technician Level 1 & 2
33.	3 November 2021	Coating Inspector Level 2
34.	9 November 2021	Blasting And Painting Supervisor
35.	10 November 2021	Coating Inspector Level 2
36.	19 November 2021	Coating Inspector Level 1
37.	19 November 2021	Protective Coating Technician Level 1 & 2
38.	20 November 2021	Protective Coating Technician Level 1 & 2
39.	20 November 2021	Protective Coating Technician Level 1 & 2
40.	26 November 2021	Coating Inspector Level 1
41.	1 December 2021	Coating Inspector Level 2
42.	8 December 2021	Blasting And Painting Supervisor
43.	10 December 2021	Protective Coating Technician Level 1 & 2
44.	11 December 2021	Protective Coating Technician Level 1 & 2
45.	15 December 2021	Coating Inspector Level 1
46.	16 December 2021	Coating Inspector Level 1
47.	17 December 2021	Protective Coating Technician Level 1 & 2
48.	17 December 2021	Protective Coating Technician Level 1 & 2
49.	24 December 2021	Protective Coating Technician Level 1 & 2
50.	31 December 2021	Protective Coating Technician Level 1 & 2