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Greeting from Chapter Chair:

Selamat Sejahtera! Greetings to all EPS Malaysia members. I feel both excited and challenged to work with the IEEE EPS Malaysia committee to establish and execute activities for EPS Malaysia member and communities in this region. The pandemic extended to Y2021 marking it as another year with virtual activities only. Nevertheless, we continue EPS spirit to deliver the best.

Our team set two main targets this year, focusing on webinar sharing and growth our chapter from small to medium size category. We have the support from distinguished speakers who delivered good technical talks and attracted more than 100 participants on average. We see the interest in both academia and industries, this gives us the confidence on the strategy in screening the topic that focusing to growth the competency and strike for continuous learning in our professional career are well accepted. We promise to continue the webinar in year 2022 with strong demand received.

Our effort is recognized by the communities, and we notice more new members joining EPS Malaysia in the second half year. We are now under the medium size chapter. Also, thanks to all EPS members who continue active engagements in supporting EPS Malaysia!

I see the global control of COVID-19 and opportunity for in-person activities in 2022. We are planning IEMT 2022 conference which unfortunately was cancelled in Y2020 and again in Y2021. Looking forward to having the support for this long looking conference.

Last, I would like to personally thank my committees for your time and contribution in this year. There is noticeable growth in all areas, this is the effort and commitment from the committees. Without your voluntary time, it is not easy to have many successful activities. The vibrant and bonding among the committee make it a memorable moment in our life.

Best wishes for a healthy and successful 2022.



Yik Yee TAN
IEEE EPS M'sia
Chapter Chair 2021
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2020 - We WIN while having fun too! IEEE EPS Malaysia Chapter!!

2021 was a difficult and challenging year for IEEE EPS Malaysia Chapter as the whole world including Malaysia, where Covid-19 pandemic has dominated our lives. We have become to adopt a “new normal”. For the year 2021, most of our activities were done online.

IEEE EPS Malaysia Chapter started the year by holding the AGM 100% through webinar. The AGM was attended by 16 IEEE EPS Malaysia Chapter members.





The opening of the AGM was done by Dr Yik Yee TAN.

Welcome to Y2021 AGM...

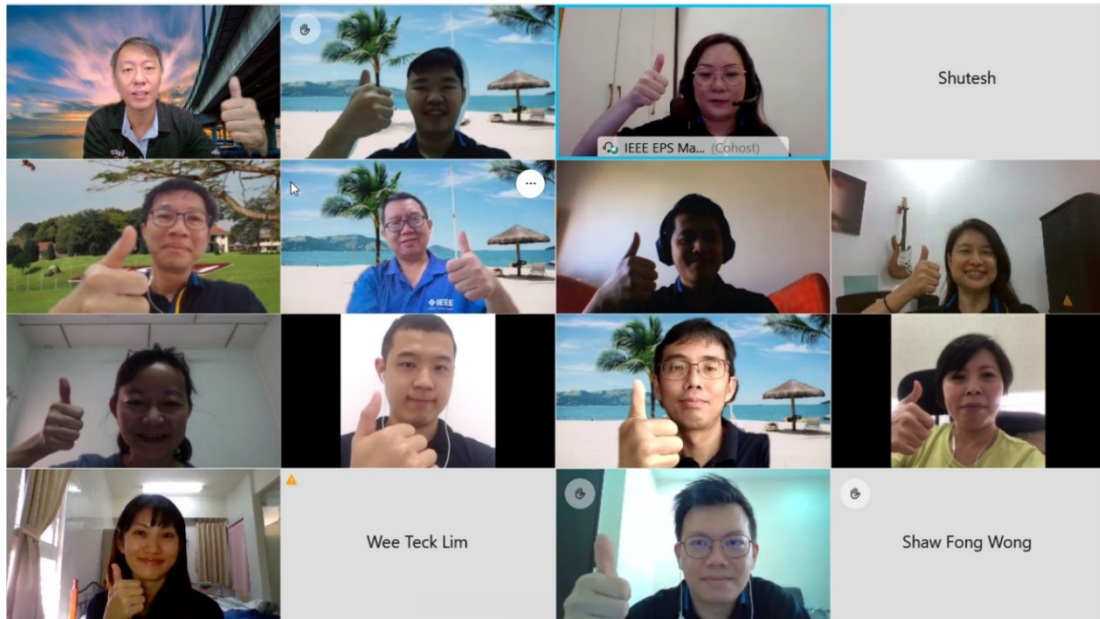
- ▶ Thank you for Everything!
- ▶ Time to be Backbenches ☺
 - Thanks to all the Founders/ Seniors... Prof Seetharamu; Intel (Teck Joo; Chandra; Chong Kooi; ...); CPMT Team (Chew; Azhar; Wee Teck; ...)
 - Further connections with Industry (YY; Poh Leng; ...) & Academia members (Prof Cheong; Prof Nasir...) → Now we all are friends ☺).
- ▶ We WIN while having fun too!
 - Rewards to our technical society → Sponsorship on Engineering (Conferences/ Workshop/ ...) & Student events (FYP/ BESA/ ...) and lately on IEEE Days + Webinar.
 - Recognized by HQ/ R10 & M'sia Sections → Best Chapter Awards/ Outstanding Young Engineer Award (OYEA)/ Regional Award/ Women In Engineering/ ...
- ▶ Opportunity to further GROW!
 - Membership development & rewards for their long term support
 - Student chapter development for our E&E industry pipeline
 - Continue the x-Chapter & regional engagement
 - Support M'sia Section with more collaboration
 - New EPS M'sia Leadership

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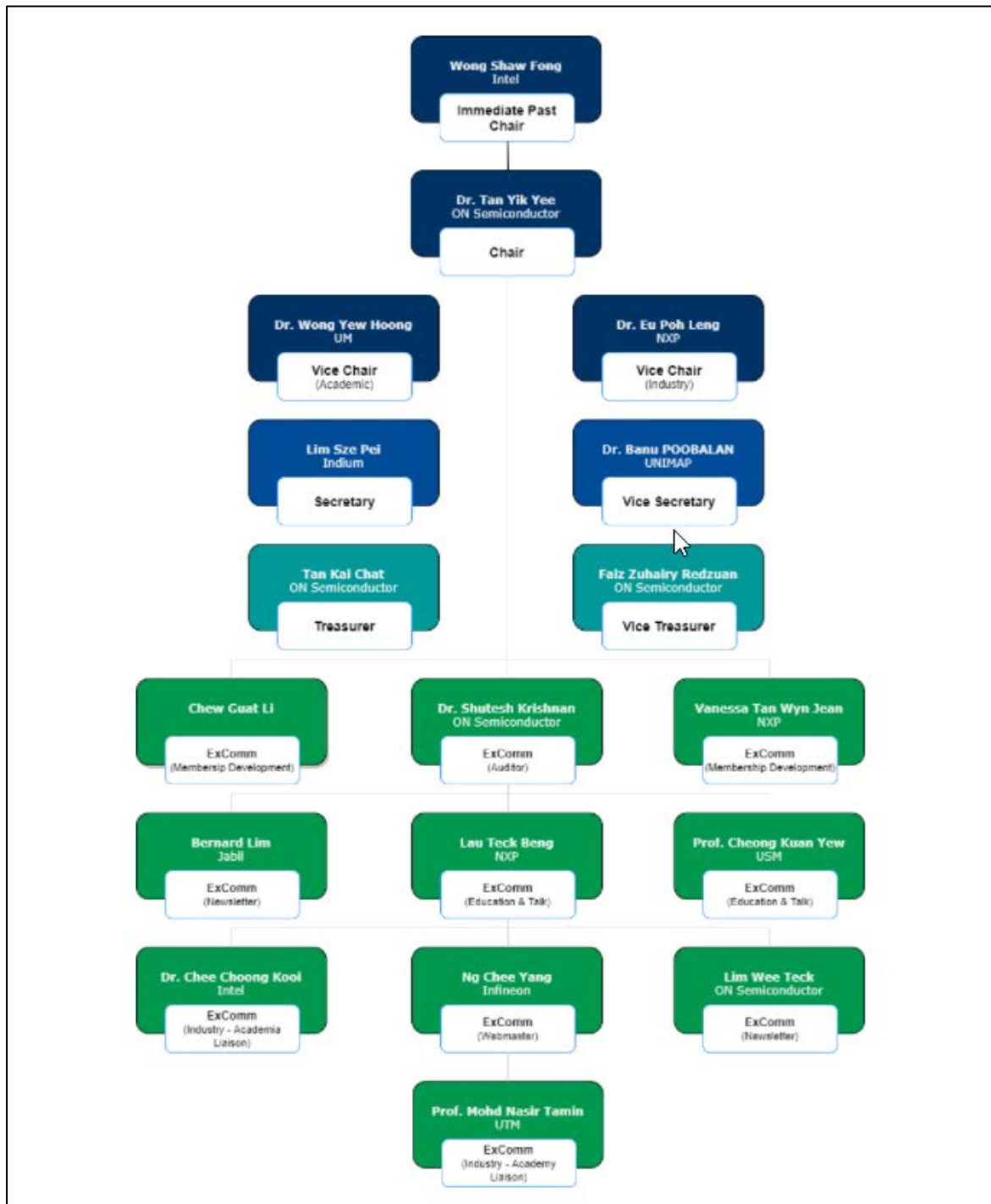




Please join me in congratulating the incoming IEEE Electronic Packaging Society Malaysia Chapter committee that is led by Dr Yik Yee TAN from ON Semiconductor.



IEEE EPS Malaysia Chapter 2021 AGM Group Photo Conducted Online



IEEE EPS Malaysia Chapter 2021 Committee

IEEE-EPS Malaysia Chapter BEST Engineering Student Award (BESA) 2020 for Undergraduate Final Year Project – CONGRATULATIONS!!!

The winner of this award is Tain Yuan Phin (left image) from University Tunku Abdul Rahman (UTAR) supervised by Ts. Dr. Karen Wong Mee Chu (right image) from Department of Mechanical & Materials Engineering. The thick intermetallic compound (IMC) forming at the SAC solder/substrate interface is inherently brittle, compromising on both structural and electrical integrity. In this project, a patented (Malaysia & International patents) SAC-Pt alloy was used to compare against the commercial SAC solder to study the microstructural evolution after different reflow times as well as during isothermal aging.



Pt particles were mechanically mixed into a commercial SAC solder paste before stenciling on a Cu substrate. The substrate was ultrasonically cleaned and pre-coated with RMA flux before the reflow soldering process. Isothermal aging was carried out at 150°C. Samples were subjected to standard metallographic preparation before imaging and analysis using the scanning electron microscope with EDX.

It was found that multiple reflows led to thicker and coarser scallop-shaped IMC layers in the commercial SAC solder joint. When Pt reinforcement between 0.20-0.40 wt.% was added, the IMC layer was suppressed. Kirkendall voids were present in SAC samples with increasing reflow times as well as after isothermal aging. These voids were noticeably reduced in Pt-containing joints. This is attributed to the formation of the (Cu,Pt)₆Sn₅ compound on the IMC layer which slowed down the interfacial diffusion process, and thus controls the excessive growth rate.

Tain received RM 3,000, which part of it will be used to sign up IEEE and IEEE EPS membership and purchase a book by IEEE EPS Malaysia Chapter. The book will be donated to the UTAR's library under Tain's and IEEE EPS Malaysia Chapter.



2021 IEEE/ECTC Award winners - 10 Years Volunteering Award – Shaw Fong WONG

Shaw Fong Wong of Intel Technology Sdn Bhd, currently part of the Assembly & Manufacturing Technology (AMT) sub-committee which he has started volunteering approximately 10 years ago to ECTC.



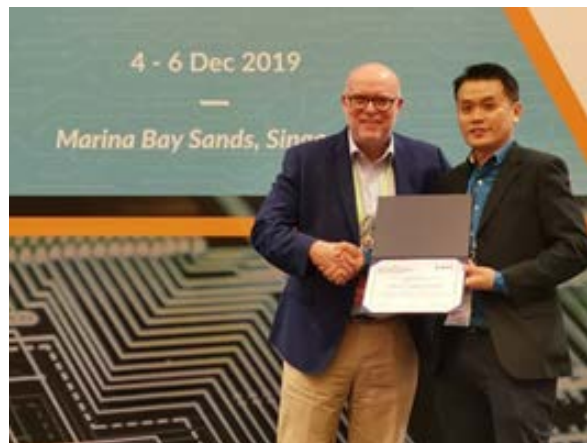
In fact, he had been engaging in a few APAC regional conferences

even earlier than that, like IEMT/ EMAP/ IMPACT/ ICEP/ EPTC and etc., which had shaped him in developing his volunteering spirit for IEEE related events. The ability for Shaw Fong to continue volunteering in IEEE conferences especially for ECTC

has rewarded him with a greater "Degree of Happiness" (technically).

It had also enhanced his professional skills and to continuously engaging in an ever-fast pace of technology world. To Shaw Fong, all this volunteering has been an invaluable experience (definitely) to contribute to the development of the local technical society,

focusing on building up more pipeline to expand the semiconductor and electronic packaging society.



2021 IEEE EPS Malaysia Chapter Technical Talks

2021 was indeed a challenging year for IEEE EPS Malaysia Chapter. A lot of the technical talk was conducted online. Here are some of the technical talks that was organized virtually.

<p>Octagonal Relationship of Engineering Materials for Advanced Packaging</p> <p>Date: 13 April 2021 Time: 9-10am</p>  <p>Prof. Ir. Dr. Cheong Kuan Yew Professor at the School of Materials and Mineral Resources Engineering, Universiti Sains Malaysia, Malaysia.</p>	<p>Optical Profiler Characterization of Electronic Devices & Packaging Using White Light Interferometry</p> <p>Date: 2 Jun 2021 Time: 10-11am</p>  <p>Christopher Ong Bruker Nano Surfaces</p> <p>Joint Organizers IEEE ELECTRONICS PACKAGING SOCIETY MALAYSIA CHAPTER BRUKER crent</p>	<p>Sintered Silver as Die Attach Materials</p> <p>Date: 6 July 2021 Time: 10-11am</p>  <p>Dr. Siow Kim Shyiong Research Fellow / Senior Lecturer Associate Fellow, Centre for Collaborative Innovation</p>	<p>Advanced Packaging for Autonomous Driving</p> <p>Date: 27 July 2021 Time: 10-11am</p>  <p>Dr. Eu Poh Leng DIRECTOR, EXTERNAL PACKAGE INNOVATION NXP</p>	<p>ML/AI for Advanced Semiconductor Packaging & Electronics Manufacturing</p> <p>Date: 2 Dec 2021 Time: 10-11am</p>  <p>Dr. Dongkai Shanguan Speaker IEEE and IMAPS Fellow</p>
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IEEE EPS Malaysia Chapter Webinar: Technical Talk on Autonomous Driving

(Compiled by Dr Eu Poh Leng)

Dr Eu Poh Leng who is the Director of External Package Innovation in NXP Semiconductors, as well as the Vice Chairman of IEEE EPS Malaysia Chapter, was invited as a Keynote Speaker in the recent Symposium by Yole Development and NCAP on Advanced Packaging for Semiconductors (SYNAPS). In view of the Covid-19 pandemic situation, SYNAPS was held virtually for participants all over the world. The event took place over 3 half-days from 18th to 20th of May 2021, with 3 different categories of topic each day:

- Day 1: Heterogeneous Integration
- Day 2: Fan Out and SiP
- Day 3: Emerging Package and Performance



ADVANCED PACKAGING FOR AUTONOMOUS DRIVING

Dr. Eu Poh Leng
Director, External Package Innovation
Package Innovation
Chief Technology Office
NXP Semiconductors
20 MAY 2021

NXP | SECURE CONNECTIONS FOR A SMARTER WORLD

PUBLISHED BY NXP SEMICONDUCTORS

SYNAPS

May 20
3pm (GMT+8)

NXP **IEEE ELECTRONICS PACKAGING SOCIETY**

YOLE Développement **华进半导体 NCAP CHINA**

in YouTube Twitter LinkedIn



Dr Eu's sharing took place on Day 3, under the topic of "Advanced Packaging for Autonomous Driving". Total 56 participants watched Dr Eu's presentation live, and 108 participants watched with the replay link. These participants are from > 20 companies worldwide, including Samsung Electronics, ERS Electronic GmbH, Hua Tian Leading Manufacturer, Fraunhofer, Applied Materials Inc., Besi, UTAC, TFME, SPTS Technologies, NCAP, On Semiconductor, ASM and so on. It was a very well-organized event with strong supports from semiconductor industry players internationally.



IEEE-EPS Malaysia Chapter Webinar: Sintered Silver As Die Attach Materials

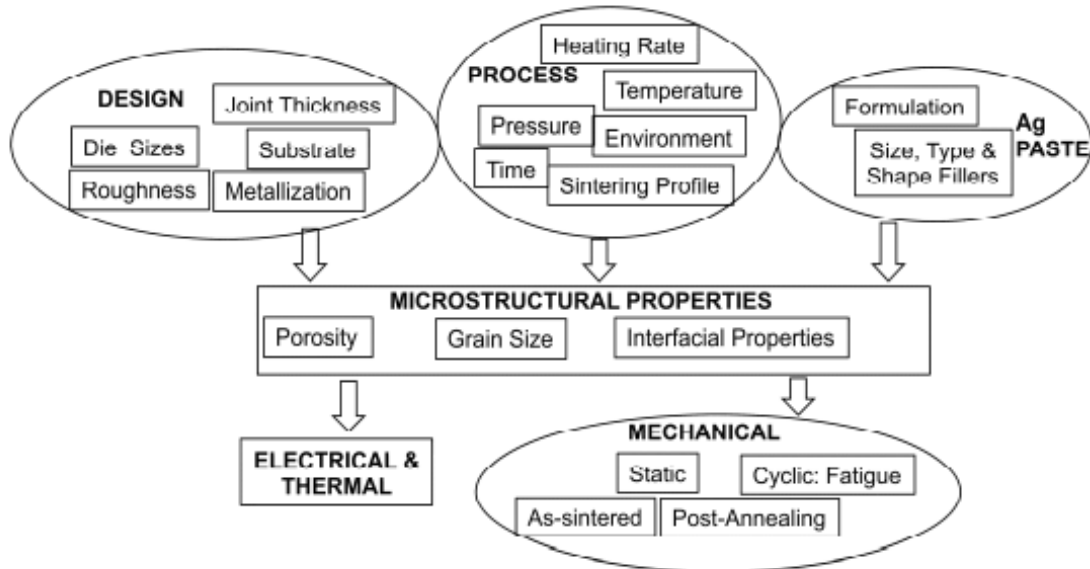
(by Dr Siow Kim Shyong)

A webinar talk was held on the 06 July 2021 on the topic, Sintered Silver As Die Attach Materials. The talk was provided by Dr Siow Kim Shyong. The talk was well received with a 90 people attended the talk.

This talk introduces the motivation for using sintered silver (Ag) as die-attach material and associated processes used in forming this Ag joint in bonding application. This talk is useful to those new to this die attach materials and is interested to explore this bonding technique further in their process.



Factors affecting the Sintered Silver Joints and Areas of Focus in Research and Development



Ref: Kim S Siow and Y. T. Lin, JEP, 2016 138, 020804-1,

Copyright Siow KS

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IEEE-EPS Malaysia Chapter Webinar: ML/AI for Advanced Semiconductor Packaging & Electronics Manufacturing

This talk will present several important applications of ML/AI in semiconductor packaging, optical assembly, PCB assembly and other areas in electronics manufacturing. Applications such as traceability, predictive maintenance, productivity improvement, and process optimization, will be discussed. Various use cases will be discussed to demonstrate how an ML/AI platform at the Edge can be utilized to significantly improve the machine performance as well as yield and throughput for challenging processes.



In particular, the presentation will focus on the application of ML/AI for precision alignment using real-time data routinely generated by the machine. Future industry perspectives will be outlined.

EPS Webinar Series 2021

ML/AI for Advanced Semiconductor Packaging & Electronics Manufacturing

Date : 7-Dec-2021 (Tue)
Time : 10.00am – 11.00am (M'sia time, GMT +8:00)
Platform : IEEE CISCO WebEx

E-certificates will be provided to participants



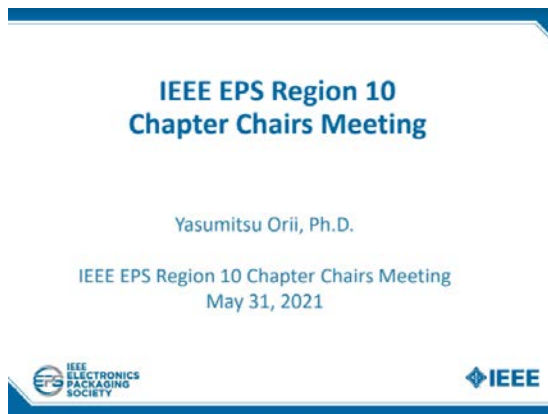
Dr. Dongkai Shangguan
IEEE Fellow and IMAPS Fellow

Organized by :  **IEEE**
Advancing Technology
for Humanity

 **IEEE
ELECTRONICS
PACKAGING
SOCIETY**
Malaysia Chapter

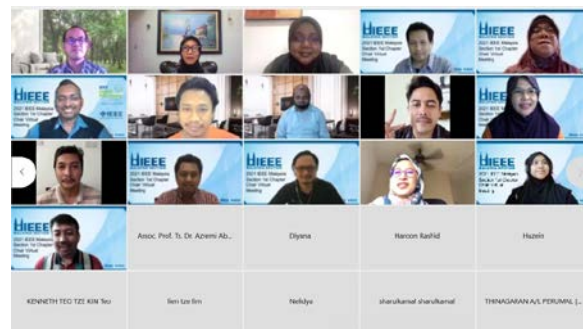
IEEE EPS Region 10 Chapter Chairs Meeting – 31st May 2021

IEEE EPS Region 10 held their chapter chairs meeting on 31st May 2021 virtually and IEEE EPS Malaysia Section Chair, Dr TAN Yik Yee attended the meeting.



IEEE Malaysia Section Chapter Chairs Meeting for 2021

IEEE Malaysia Section organize two-chapters chair meetings in 2021. The meeting was held through an online platform. The first chapter chair meeting was held on 26 June 2021 while the 2nd chapter chair meeting was held on 04 Dec 2021. The meeting was represented by different IEEE EPS Malaysia Chapter committee members.



Group photo of the 1st Chapter Chairs Meeting held on 26th June 2021



Group photo of the 2nd Chapter Chairs Meeting held on 04th December 2021

IEEE EPS Malaysia Chapter Outstanding Award 2021

Here are the IEEE EPS Malaysia Chapter 2021 Outstanding Award Winners. The award was given in recognition for their significant contribution to the chapter in 2021.

Congratulations to the winners!!!!



Up Coming EPS Conferences & Meetings

Networking and constant knowledge advancement opportunities are always an important part of any conference. EPS chapters have lined up an outstanding program with top tier speakers and timely topics for 2021. Below is a sample of what's in store for us. Mark the dates!!

IEEE Electronic Packaging Society Conferences in 2022

Stay tuned for more updates on the upcoming IEMT 2022.

IEEE IEMT 2022 invites you to submit your work to the 39th IEMT 2022 that will be held in Le Meridian, Putrajaya, Malaysia. It is an international event organized by the IEEE-EPS, Malaysia Chapter, with co-sponsorship from IEEE Electronic Packaging Society (EPS). The IEMT typically attracts more than 400 attendees over the world. The last IEMT 2018 (Melaka, Malaysia) hosted 600 attendees, with 100 accepted papers and interactive presentation featured in 16 sessions. IEMT 2022 welcomes papers covering electronics packaging technology in diverse semiconductor market. This segment includes telecommunication, data center, automotive, EV, healthcare, aerospace, defense and others.
[<https://www.iemt.com.my/>]



SCOPE OF PAPERS SOLICITED

Abstract should include original and previously unpublished, non-confidential and non-commercial information on new developments, technology and knowledge in the areas including, but not limited to those given below.

- ☐ Advanced Packaging – 2D, 2.5D, 3.0D, Chiplets, WLCSP, FOWLP, FOPLP & HI
- ☐ Thermal/Mechanical/Electrical Simulation & Characterization
- ☐ Material & Processing
- ☐ Emerging Packaging – Opto, Medical, Nano Technology, Wearable Electronics
- ☐ Interconnections Technologies – TSV, μ -bump, hybrid bond, FC and embedded
- ☐ LED, MEMS, NEMS & Sensor Packaging & IoT
- ☐ IC Testing Technology
- ☐ Surface Mount Technology
- ☐ Quality, Reliability & Failure Analysis
- ☐ High-Speed, Wireless & Components

KEY Dates for Upcoming IEMT Conference 2022

- | | |
|-------------------------------------|------------------------|
| 1. Abstract Submission Due | : 15th March 2022 |
| 2. Abstract Acceptance Notification | : 1st May 2022 |
| 3. Full Paper Submission | : 15th July 2022 |
| 4. IEMT 2022 Conference | : 19th – 21st Oct 2022 |

Abstract is limited to 250-750 words that describes the scope, content, and key points of your proposed paper. Additional details on how to submit abstract electronically can be found on the IEMT 2022 website under the 'Author' tab. Abstracts must be received electronically by March 15th, 2022, through the link <https://in.explara.com/submix/iemt-2022>.

If you have any questions, contact:

Conference Secretariat

E-mail: iemtmalaysia@gmail.com

Conference Web: <https://www.iemt.com.my/>

Appreciation Memento for IEEE EPS Malaysia Section Members

Dear Member,

Thank you for your commitment and contribution to IEEE EPS Malaysia Chapter Society as a loyal member. Your membership has greatly support IEEE EPS Malaysia Chapter's growth. We have now grown to a medium chapter.

To express our upmost gratitude, we would like to present you a token of appreciation. Amid current Covid19's situation, many of us are still working from home. To promote good ergonomic workplace, we decided to present each member an adjustable-angle laptop stand. The stand can be adjusted to tilt the laptop to the most ergonomic angle for each user and works well on all surfaces. We hope that this souvenir benefits you, other than acts as a remembrance.



Lastly, we would like to thank you again for always being mindful towards IEEE EPS Malaysia Chapter, and your continuous support as a member.

Thank you.

Best regards,
IEEE EPS Malaysia

Some Important References:

- Official IEEE website: <http://www.ieee.org>
- Official IEEE/EPS website (HQ) <https://eps.ieee.org>
- IEEE EPS Malaysia website: <https://ieee-epsmalaysia.org>