

# MALAYSIA BRANCH QUARTERLY NEWSLETTER

October 2021  
Malaysia Branch

Institution of  
**MECHANICAL  
ENGINEERS**

**Dear Fellow Members,**

Despite the lock down, IMechE Malaysia with the blessing from YMS and SC, has seen very active weekend webinars. There were two major online event in this quarter: SOFe and PLC design competition.

Most of these events are approved for BEM CPD hours, and free of charge.

If you had joined us in some of these events, we hope you enjoyed it, and would continue supporting the events. If you have missed them, there are more to come, feel free to participate anytime!

**Dr. Lew Tze Ling**

## News

### 1.0 IMechE Malaysia LinkedIn is launched!

Following the IMechE YMS LinkedIn launched in Q2, the IMechE Malaysia LinkedIn page was also launched in August this year.

Various IMechE activities are shared on the LinkedIn page, please visit us today and follow us!



<https://www.linkedin.com/company/imeche-malaysia>

### 2.0 Supports and Benefits - Mentorship Scheme

Do you know the South East Asia Mentorship Scheme (SEAMS)? It is created by the IMechE South East Asia Young Member Representative to help provide guidance and tips for young professional engineers in South East Asia who wish to pursue professional registration with the Institution.

Whether you are looking for a mentor, or you would like to offer your professional help to others, feel free to visit our website for more details:

<https://nearyou.imeche.org/near-you/south-east-asia/mentor-scheme>

## Upcoming Events:

### 1.0 The Role of a Mechanical Engineer & Their Contributions in Green Building Industry

**Date:** 30 October 2021 (Saturday)

**Time:** 9:50am - 11am

**Speaker:** Ts. Ir. Cheng Yew Leong, General Manager of UOA Development Berhad

**Registration:** <https://lnkd.in/gikSsvU6>

**Details:** <https://bit.ly/3otnm3Z>

Energy demand (residential & commercial buildings) is rising around the world because of population growth and increased access to power through rapid urbanisation. These increases significantly impact the environment due to the processing of electricity from fossil fuels in heavy-duty power generation plants. There is a need to carefully examine ways to reduce the greenhouse effect and global warming by eliminating the role of fossil fuels. Therefore, public awareness in energy conservation towards the building industry is vital, especially for building owners and engineers. This sharing session will give the audience a glimpse of how a mechanical engineer contributes to sustainable development and sustainability approach in the building industry.

### 2.0 Technical - Slickline Well Intervention

**Date:** 13 November 2021 (Saturday)

**Time:** 9am - 10am

**Speaker:**

Pravin Nair A/L Venugopalan from Petronas Carigali Sdn. Bhd.

**CPD Hours:** BEM/REG/12Jld.8(358)

**Registration:** <https://nearyou.imeche.org/near-you/eventdetail/index/19362>

Slickline is one of the most widely used conveyance method in the Oil & Gas industry. Its small footprint and versatility is ideal as a cost effective solution when well intervention is required to sustain production. The versatility of slickline comes from its wide range of service tools that can be deployed downhole.

The talk will introduce the operating principles of the tools used in slickline well intervention and a typical project application. More details in the registration link.

### 3.0 Project Management Challenges of Large Construction Projects

**Date:** 11 December 2021

# MALAYSIA BRANCH QUARTERLY NEWSLETTER

October 2021  
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**MECHANICAL  
ENGINEERS**

**Time:** 9am - 10am

**Speaker:** Ir. Ts. Rajakumar A Gopal PMP from Edra Power Holdings Sdn. Bhd.

**CDP Point:** BEM/REG/12Jld.8(356)

**Details:** <https://nearyou.imeche.org/near-you/south-east-asia/malaysia-young-members/Event-Detail?id=19363>

**Registration:** Please send your name contact details to [imeche.yms.malaysia@gmail.com](mailto:imeche.yms.malaysia@gmail.com)

Ir. Ts. Rajakumar will be sharing his 25 years working experiences in project management from Oil & Gas and Power Plant industries.

The specific mention roles and responsibilities as Project Manager in the large project construction world will be shared, including fundamental project management and execution best practices.

## Past Events

### 1.0 IMechE PLC Design Competition

**Date:** 10th July 2021

**Registration:** <https://lnkd.in/ga7w7m4>

IMechE PLC Design Competition organized by IMechE Malaysia APU Student Chapter (SC) in collaboration with Republic Polytechnic Singapore. It is aimed to cultivate cross country teamwork, to come out with the best PLC design via Automation Studio / CX Programmer and CX Designer.

This was the first ever international competition held within SEA region and was opened to all student chapters in the region. The competition comprised two categories: the Diploma category and the Degree category.

The diploma category was to use Automation Studio for their design; the degree category uses CX-Programmer and CX-Designer for the PLC design.

The team were tasked to design and implement a pneumatic control system for the car final finishing process, from washing the car body, painting and blow dry.

The team must follow the sequence and requirements listed in the competition, including designing the PLC ladder logic, pneumatic control lines, electrical control showing Relay and PLC interface to the IO cards, and Human Machine Interface (HMI) control panel.

29 participants from over eight teams from Asia Pacific University, University Malaya, Universiti Tunku Abdul Rahman from Malaysia, and Republic Polytechnic of Singapore.

There was a practice workshop prior to the event to prepare the participants and iron out possible issues when using the software provided by the organizer.

The actual event was started by Prof. Dr. Vinesh Thiruchelvam from APU, and short speeches from each judges. All judges were invited from industrial, they are:

- Mr. Steven Teo, Technical Manager at Precision Control Singapore
- Mr. Kong Ye Kai, Technical Support Specialist at Festo
- Mr. Wong Jing Jie, Senior System and Project Engineer, at Precision Control Sdn Bhd

The submissions were judged based on the logic programming, selection of logical components, simulation process, adherence and arrangement of the manufacturing process, and presentation of the solutions.

The winner from the diploma category went to Team Warrior from Singapore Republic Polytechnic college; while the degree category went to Team One from APU University Malaysia. Each winning team was given MYR 1,000 cash prize with certificate of achievement.

# MALAYSIA BRANCH QUARTERLY NEWSLETTER

October 2021  
Malaysia Branch

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ENGINEERS**



*Award presentation to Diploma category winner.*

## 2.0 Speak Out for Engineering (SOfe) Competition National Level

**Date:** 21st August 2021

**Full Event Report:** <https://imeche.org/news/news-article/speak-out-for-engineering-malaysia-2021-the-new-normal>

This year's SOfe Malaysia finale went virtual, participants submitted their presentation video in advanced, which were then uploaded onto IMechE Malaysia YMS's YouTube channel, accessible to the judges and the public.

On the event day, each participant had a 1-minute pitching for their topics, followed by a 10-minute Q&A session from judges and audiences.

The event was led and managed by Ir. Dr. Chong Kok Hing (Committee of IMechE Malaysia YMS), Ms. Choong Pooi Ying (Chair of IMechE Malaysia YMS), Ms. Khei Yinn Seow (Honorary Secretary of IMechE Malaysia YMS), who the master of ceremony, and Mr. Teoh Hsien Loong (Treasurer of IMechE Malaysia YMS), as the timekeeper.

Three judges from different industrial backgrounds were invited to assess the performances of participants:

- Ir. Dr. Aidil Chee Tahir, Corporate Strategy Consultant and Sustainability Advisor and Disciplinary Committee

Member of Advocates & Solicitors Disciplinary Board (Malaysia Bar). He is also the Deputy Chairman of the Mechanical Engineering Technical Division of IEM, and a Council Member of IEM as well.

- Dr. Diana Jayasauri, PROSCI® Certified Change Management Practitioner and an Associate of International Research Association for Talent Development & Excellence (IRATDE). She is also the Associate Member of Malaysian Institute of Management (AMIM). Dr. Diana is an experienced professional in project and strategy execution in both governmental and private sectors.

- Dr. Elaine Yeu Yee Lee, Committee of Engineers Australia Malaysia Chapter (EAMC), Sub-committee of student chapters, and Sub-committee of Young engineers and women engineers. She actively involves in scientific paper reviews, organising and conducting STEM activities. Dr. Elaine is also an Associate member IMechE and IChemE.

We had 6 speakers entered this year's finale:

- Kiwan Richard from Heriot Watt University Malaysia, presented "Keep Moving Forward", regarding the three lessons he has learnt from an engineering design project on electricity energy grid for an island.

- Theng Zian Kao from the University of Southampton Malaysia, presented "Digital Transformation of Engineering" on the concept of digital transformation and impacts to future engineers.

- Benjamin Ong from University Malaya on "Solar and Anti-Solar Panels: Generating Clean Energy Day and Night", explained Solar & Anti-Solar technologies which produce electricity in absence of the sun, and a hybrid of them to solve the Solar's shortcomings.

- Mohamed Nazran Nazeer from Taylors University, presented "Cranioplasty Prosthetic Implant Materials and Manufacturing Approaches", focused on the prosthetic materials and manufacture methods for cranioplasty.

# MALAYSIA BRANCH QUARTERLY NEWSLETTER

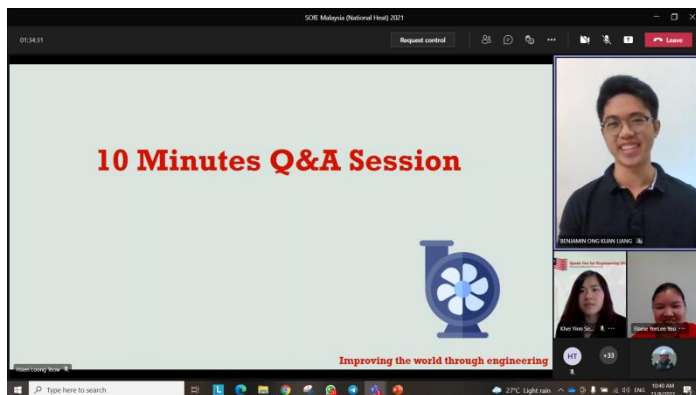
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ENGINEERS**

- Ammar Bin Zoheir from University Tenaga Malaysia, on "Tesla Turbines: An Amazing Failed Invention", covering the theory and application behind Tesla Turbines, and showed comparison between modern bladed turbines and Tesla Turbines, as well as some applications of its concept.

- Rohit Udhvani from Asia Pacific University, presented "Transistors", exploring its history, development, production, uses and the future of transistor.

The winner of this year's SOfE Malaysia 2021 was Benjamin Ong from University Malaya; and runner-up was Kiwan Richard from Heriot Watt University Malaysia. Congratulations to both of them, and wish them best of luck for representing Malaysia to participate in the Southeast Asia Regional SOfE, in 13 Nov this year.



*SOe Malaysia 2021 Champion, Mr. Benjamin Ong from University Malaya, in his Q&A Session*

## 3.0 4th International Symposium on Green and Sustainable Technology 2021

**Date:** 03 - 06 October 2021

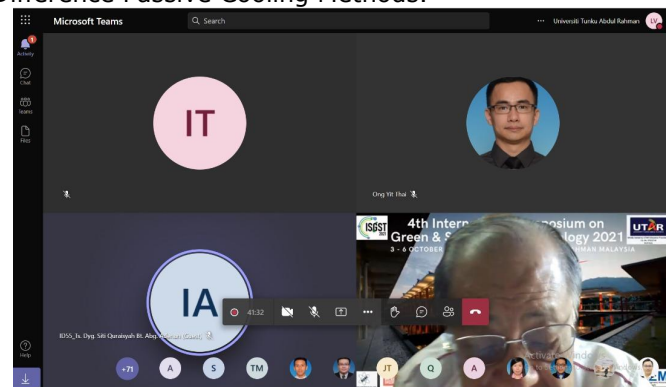
IMechE sponsored the above mentioned conference, which organized by UTAR, in providing an international collaboration platform for researchers scientists and industrial partners.

There were four conference tracks:

- Renewable Energy & Energy Efficiency
- Environmental Technology
- Green Materials
- Sustainable Development, Smart Manufacturing and Intelligent System

The event was started by Prof. Ir. Dr. Ong Kok Seng (Chairman of CEGT), welcome Remarks by Prof. Dr. Sumathi Sethupathi (Chairman of ISGST 2021) and opening speech by Prof. Ts. Dr. Faiz bin Abd Rahman (UTAR Vice President). IMechE was represented by Ir. Dr. Ee Von Lau and Ir. Dr. Aidil Chee Tahir.

There were over 20 from local and regional prestige universities and industry organizations participating this event, 90 papers were presented. our committee member, Ir. Dr. Chua Yaw Loong from UNITEN also participated by presenting his research paper, Performance Analysis of Photovoltaic Module with Difference Passive Cooling Methods.



*Event opening speech by Prof. Ir. Dr. Ong Kok Seng (Chairman of CEGT)*

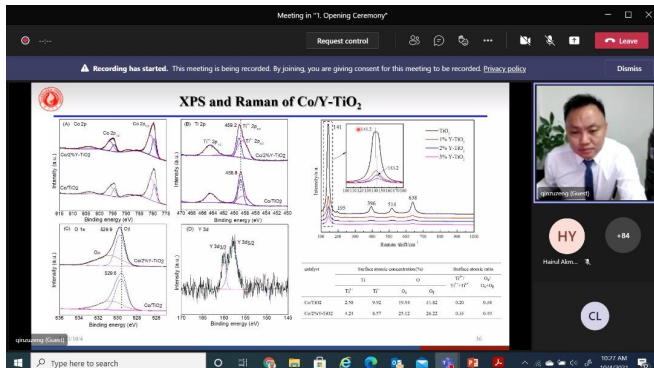
**Improving the world through engineering**



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ENGINEERS**



Keynote speech by Prof. Dr. Zuzeng Qin, from China Guangxi University, on Activation and Catalytic Conversion of Carbon Dioxide.

## 4.0 Role of Mechanical Engineer in Oil and Gas Design Office: Case Study of a Simple Offshore Platform

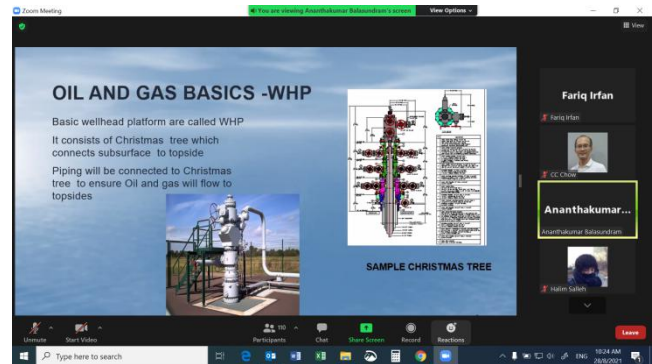
**Date:** 28th August 2021 (Saturday)

**Speaker:** Mr. Ananthakumar Balasundram

**CPD Hours:** 2

The webinar was received over 100 audiences from academic and industries.

In this event, Mr. Balasundram shared the pipework design from oil and gas office, he shared design procedures, and insights that are similar to other industries, such as power plants, waster water treatments etc., to ensure the audience understands the project and industrial requirements.



Speaker sharing some common terms and components used in oil and gas industries.

## 5.0 SKF Bearing Technology and Bearing Selection Processes in Machine Design

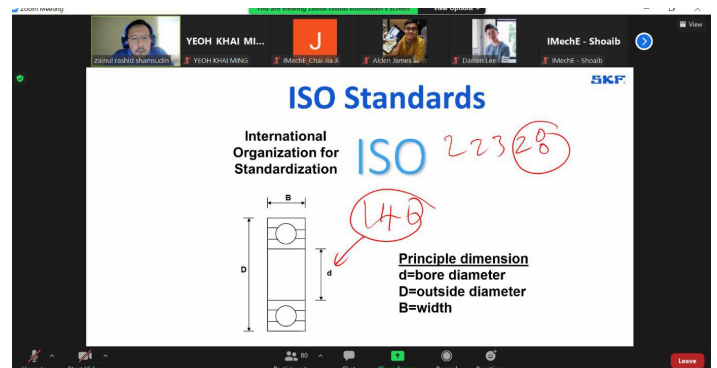
**Date:** 28th September 2021 (Tuesday)

**Time:** 9:45am - 12pm

**Speaker:** Mr. Zainul Rashid Shamsudin

This was a technical talk on bearing technology of SKF, there were over 70 participants joining this event despite held in the week day morning.

Mr. Zainul explained the advantages and disadvantages of various bearing types; shares the bearing numbering system as well as the selection process to determine suitable bearing to match the required loading condition.



The speaker explained the basics of bearing numbering system

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ENGINEERS**

## 6.0 Commercial Vehicles - An Overview in Malaysia






**Date:** 24th July 2021 (Saturday)

**Time:** 9.45am - 11.30am

**Speaker:** Dato Ir. Foong Choy Chye

The event received around 80 audiences, nearly 30% are non-IMEchE members / general public.

Dato Ir. Foong eagerly shares the rules & regulations that governs the design of commercial vehicles (e.g. usage, weight, dimension, and safety features) in Malaysia, provided in-depth understanding on the necessity to conform to regulations imposed by local authority in the design of commercial vehicles. His talk received active participations from the audience from Q&A, and answered various discussions well.

Category L - Motor vehicles with less than four wheels			
Category	Definition	Term	Drawing
L1	A two-wheeled vehicle with an engine cylinder capacity in the case of a thermic engine not exceeding 50 cm <sup>3</sup> and whatever the means of propulsion a maximum design speed not exceeding 50 km/h.	Moped	
L2	A three-wheeled vehicle of any wheel arrangement with an engine cylinder capacity in the case of a thermic engine not exceeding 50 cm <sup>3</sup> and whatever the means of propulsion a maximum design speed not exceeding 50 km/h.	Moped	
L3	A two-wheeled vehicle with an engine cylinder capacity in the case of a thermic engine exceeding 50 cm <sup>3</sup> or whatever the means of propulsion a maximum design speed exceeding 50 km/h.	Motorcycle solo	
L4	A vehicle with three wheels asymmetrically arranged in relation to the longitudinal median plane with an engine cylinder capacity in the case of a thermic engine exceeding 50 cm <sup>3</sup> or whatever the means of propulsion a maximum design speed exceeding 50 km/h (motorcycles with sidecars).	Motorcycle with side car	
L5	A vehicle with three wheels symmetrically arranged in relation to the longitudinal median plane with an engine cylinder capacity in the case of a thermic engine exceeding 50 cm <sup>3</sup> or whatever the means of propulsion a maximum design speed exceeding 50 km/h.	Motorcycle (tri-cycle)	
	A vehicle with four wheels whose unladen mass is not		

The speaker went through various categories of motor vehicles in the talk.

## 7.0 Meet the Engineer: Ir. Dr. Hasril Hasini

**Date:** 24th July 2021 (Saturday)

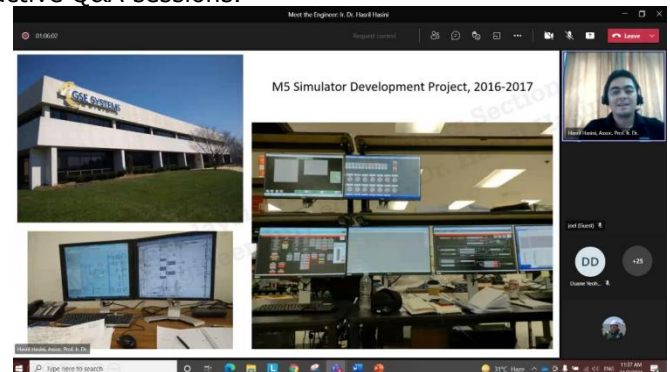
**Time:** 11:00am to 12:00pm

**Speaker:** Ir. Dr. Hasril Hasini

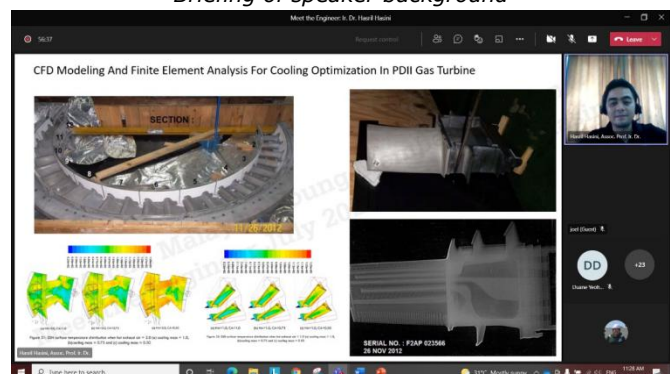
Ir. Dr. Hasril Hasini is currently Deputy Dean (Academic & Research) in the College of Engineering Universiti Tenaga Nasional and Associate Director (Mechanical) for the Engineering Accreditation Council, BEM.

He involved in the construction of 3x700 MW coal-fired power plant in Manjung, Perak, and he shared various invaluable insights in Power Plant research, design and optimizations.

There were around 25 participants in the call, and had an active Q&A sessions.



Briefing of speaker background



Case study sharing

## Contact Us

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