# HYBRID FORUM

# PRELUDE 3 : POWER TALKS

FREE ENTRY

BEM APPROVED CPD: 2
REF NO.: APPLYING

LUCKY DRAW AWAITS FOR MEMBERS ATTEND PHYSICALLY

Power Talks offers a dynamic preview of ENGINEER 2025, featuring two impactful sessions on engineering standards and transformative technologies. This forum brings together thought leaders to spark dialogue, inspire innovation, and explore the future of engineering excellence—setting the stage for ideas that will shape the industry ahead.

**18 Aug 2025 (Monday)**
**5.30pm to 7.30pm**

**Malakoff Auditorium, Ground Floor, Wisma IEM, PJ**

## Moderators

Ir. Abdul Razak Yakob
IEM Vice President & ACT Chairman

Ir. Alex Looi Tink Huey
ACT Deputy Chairman & Excomm Member

## Programme

| Time | Agenda |
|---|---|
| **5:40 PM – 5:45 PM** | **Opening Remarks**<br>Welcome Speech by IEM President, Ir. Prof. Dr. Jeffrey Chiang Choong Luin |
| **5:45 PM – 6:10 PM** | **Power Talk Session 1 -** Featuring 4 TD/SIG representatives:<br>• **ENETD** – *Zero Energy Building*<br>• **CSETD** – *Seismic Design Development in Malaysia*<br>• **CSETD** – *Concrete Forensic in Malaysia*<br>• **WE (Women Engineers)** – *Smart Building: Integrating IoT, AI & Automation* |
| **6:10 PM – 6:35 PM** | **Power Talk Session 2 -** Featuring 3 TD/SIG Representatives:<br>• **YES** (Young Engineers Section) – EV Charging Infrastructure<br>• **CETD** – Net Zero Energy Building<br>• **CETD** – Fire Protection / Safety<br>• **ETSC** – Forum on the Rise of Engineering Technologist & Technician |
| **6:35 PM – 6:50 PM** | **Summary Presentation -** PowerPoint overview of remaining TD/SIG highlights |
| **6:50 PM – 7:00 PM** | **Q&A + Closing Remarks -** Interactive wrap-up and audience engagement |

# Power Talk Session 1

## 1 Physical Power Talk on Environment Impact from Energy Transition Activities

Synopsis: This talk explores the environmental impacts—both positive and unintended—of energy transition activities in Malaysia. It highlights land use, emissions, biodiversity, and resource concerns tied to renewable energy deployment, storage systems, and infrastructure upgrades. The session aims to foster responsible engineering practices aligned with sustainability and ESG goals in the national energy transformation

Ir. Noor Iziddin Abdullah brings 21 years of leadership across semiconductors, property, data centres, and telecoms, with deep expertise in sustainable energy. He has led EE and RE programs for hospitals, government, and corporates, including Putrajaya Holdings, Sunway, Axiata, Medivest, Mesiniaga, Westports, Worldwide Holdings, DBKL and GIZ (German Development Corporation). Now at North Consult Engineering, he champions low-carbon projects aligned with SDG, ESG, KL CAP 2050, DTN, MyRER, and NETR for solar farm, battery energy storage system and energy economics beside energy efficiency. He has delivered more than 50 talk and course in the area of energy, sustainability and project management since year 2020

## 2 Physical Power Talk  Concrete Forensic For Engineers

This technical talk provides engineers with an essential understanding of concrete forensic investigation, focusing on the root causes of concrete failures and the techniques used to diagnose them. Participants will gain insight into typical material, workmanship, structural, and durability related failures, supported by real project experiences. Emphasis is placed on hands-on field investigation methods using visual inspection, non-destructive testing (NDT), and destructive testing techniques. The talk concludes with practical advice and discussion on local challenges, preventative measures, and good forensic practice.

Dr. Yeo Shih Horng, founder of YSH Concrete Technology Sdn. Bhd., is a leading expert in high-performance concrete and forensic analysis. Renowned for innovative mix designs, he has delivered specialized solutions for fast-track and harsh-environment projects, including a FAB facility in Dalian achieving 25 MPa in 24 hours without heat curing. His work spans data centers, airports, and repair applications, with mixes reaching 20 MPa in just 8 hours. Dr. Yeo also investigates structural failures, cracking, and tunnel defects. A committee member of ACI Malaysia and IEM, his contributions continue to shape advanced concrete technologies and elevate industry standards globally.

## 3 Physical Power  The Advantages of using High Damping Natural Rubber Bearing Under Seismic Action for Infrastructure Project in Malaysia

Following the 2004 tsunami and the 2015 Ranau earthquake, Malaysia mandated seismic design via the National Annex to MS EN 1998 in 2017. High Damping Rubber Bearings (HDRB) emerged as a key solution, enhancing structural resilience and reducing dynamic response. Supported by global design codes like ASCE and JSCE, HDRB have proven effective in seismic retrofitting, especially for bridges. The Penang Second Crossing exemplifies HDRB's successful application. This study explores HDRB's role in seismic-prone infrastructure, analyzing structural behavior and mitigation strategies. HDRB offer a reliable, adaptive approach to resilient construction, promoting best practices for seismic preparedness across Malaysia's evolving infrastructure landscape.

Tzyy Wooi brings over 25 years of expertise in bridge and underground structure design, construction, and maintenance. He has led design and independent checks for major road and rail bridges locally and abroad, including long-span cable-stayed bridges. His experience spans concrete and steel composite structures, covering superstructure, substructure, erection, and casting engineering. A prolific contributor to industry courses, journals, and conferences, he also serves on advisory panels for local universities and the Malaysian Standards Drafting Committee for MS EN bridge codes. Recipient of the IEM Young Engineer Award 2009, he is currently Director at H&T Consulting Engineers Sdn Bhd.

## 4 Physical Power Talk on - Empowering Smarter Systems, Elevating Lives with AI

AI is transforming industries and human experiences, driving smarter systems that enhance daily life and societal progress. In this PowerTalk, Dr. Esther explores how AI empowers intelligent systems while keeping humans at the centre. She'll share practical examples and strategies for using AI to elevate lives, ensuring technology serves people, ethics, and sustainability.

Esther Loo brings together digital expertise, people-first leadership, and a future-ready mindset. As Chief Digital & Transformation Officer at Evolution Commerce, she leads enterprise-wide change across logistics and workforce platforms, embedding technology and strategic design at the core of operations. Her background in engineering and policy allows her to navigate complexity with clarity and purpose. Esther has also led transformation and talent innovation in the aviation sector, demonstrating a consistent track record of turning bold ideas into measurable outcomes. As an Adjunct Professor at UNITAR, she mentors future leaders to thrive at the intersection of innovation and impact.

# Power Talk Session 2

## 1 Physical Power Talk on Fire Safety - Fire Fighting System Selection

Fire Fighting System Selection and striking a balance between compliance with regulations, risk-informed design, and prescriptive codes. However, strategic planning in selecting the appropriate fire fighting system is essential since fire protection systems can be costly and require continual maintenance and life cycle. To support the sustainability agenda, the selection should also integrate safety frameworks that account for potential environmental impacts and human exposure

Ts. Dal Raaj Singh Sandhu has established a remarkable career spanning over two decades in the field of Health, Safety, and Environment (HSE) and fire safety. Beginning as an HSE officer in the oil and gas industry, specifically in construction and commissioning, he has gained extensive experience across various sectors, including building construction and petrochemical plants. Currently serving as the Principal Fire Safety/ER with Petronas Downstream Business, he possesses strong expertise in HSE engineering and fire safety. He is also a technical Fire Risk Assessor with the Institute of Fire Engineering Malaysia and an affiliated member of the Institute of Fire Engineering Malaysia

## 2 Physical Power Talk on Net Zero Energy Building: From Concept to Reality

"Net Zero Energy Building: From Concept to Reality" is a strategic and actionable roadmap for organizations seeking to lead in sustainability through high-performance building design. With growing environmental regulations, ESG commitments, and rising energy costs, the topic offers critical insights into how net zero energy (NZE) buildings can deliver long-term value— environmentally, economically, and reputationally.

Ar Michael Ching is a director CH&I Architecture Sdn Bhd and BGreen Associates Sdn Bhd, established in 2010. He is a professional architect, qualified Green consultant in Malaysia and Singapore. He is also a past Council Member of Pertubuhan Akitek Malaysia (PAM), Green Building Index (GBI) Accreditation Panel Member and Council Member of the Malaysia Green Building Council (malaysiaGBC). With over 23 years of experiences with several international firms, his passion and active interest are in Sustainable Design. His works were published both locally and internationally and have been recognised in the field of sustainability with several awards

## 3 Physical Talk on The Rise of Technologist & Technician

This forum aims to spotlight the growing significance and contributions of Engineering Technologists and Technicians in Malaysia's evolving engineering landscape. Through insightful sharing from experienced professionals, the forum will explore: Personal journeys in building successful careers as Technologists or Technicians Challenges faced in the field and how they were overcome Strategies for motivation, continuous learning, and professional growth The session also supports IEM's broader mission of promoting inclusivity across all engineering grades and raising awareness about the vital role of technologists and technicians in nationbuilding.

## 4 Physical Talk on EV Charging Infrastructure

Engineering Malaysia's EV Charging Network: Challenges, Innovations, and Opportunities: Explore Malaysia's EV charging growth, uncover engineering challenges, discover innovative solutions, and identify opportunities shaping the nation's transition to sustainable mobility and resilient charging infrastructure for the future.