The Institution of Engineers, Malaysia

BEM Approved CPD: 2 Hours
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YOUNG ENGINEERS SECTION

# 9 AM TO 10:30 AM

# 14 JUNE 2025

***Registration fee***
Student Member: Free
IEM Member: RM15.00
Non-Member: RM70.00

## *WEBINAR TALK ON*

# FIRST SEISMIC DESIGN CODE FOR MALAYSIA: EXPERIENCE AND LESSON LEARNT

### FEATURING
## DR DANIEL LOOI

@IEMYESHQ

IEMYES

Young Engineers Section, IEM-YES

IEM Young Engineers Section (YES)

## Synopsis

The long-distance earthquake in Myanmar that impacted Thailand has raised concerns about the seismic safety of buildings in Malaysia. Malaysia has enacted its first national code of practice for the seismic design of buildings following the release of the Malaysian National Annex (NA) of Eurocode 8 (EC8) in late 2017, and the gazette UBBL in 2021. The speaker is among the key contributors to the drafting of the NA spanning a period of around 8 years. The drafting committee experienced major issues in implementing the 20 years old EC8 framework for a country which is very far away from Europe. This seminar is aimed at sharing the lessons learnt and insight in order to give good pointers to code drafters (which include stakeholders like government officials, engineers, researchers, architects and builders) who lack seismic codification experience. The first theme is the uncontrolled use of probabilistic seismic hazard assessment (PSHA) technique for use in a low-to-moderate seismicity region which has a paucity of representative earthquake data of any form (and this has resulted in some “fancy looking” PSHA contour maps featuring hotspots which are not far away from areas that have close to zero hazard). The second theme is to do with the out-of-date EC8 site classification scheme which has not incorporated the natural period of the site as a design parameter. The third theme is to do with mandating Ductility Class Medium (DCM) detailing in areas which has been stipulated with a higher level of hazard as shown on the PSHA contour map. Given that the use of strength to trade off ductility is not allowed; ductile design requirements vary with stipulations by the contour map, which added challenges for practising engineers in low-to-moderate seismicity regions who are typically lack in knowledge and experience in incorporating ductility into the design of a structure. In this seminar, ways of pragmatically circumventing around these challenges will be presented.

## Speaker’S Profile

Dr Daniel Looi is Associate Professor, Programme Leader for the inaugural Civil Engineering Programme and Head of School of Engineering at Sunway University. He is a structural engineer with working experience in Malaysia and Hong Kong. He has a bachelor's degree in Civil Engineering from the University of Malaya and a PhD in Structural Engineering from the University of Hong Kong. Daniel is a Chartered Professional Engineer (structural) of Engineers Australia. He volunteered to develop the Malaysian national code for EC8-1 (Seismic actions for buildings), EC1-1-6 (Actions during execution), and he chaired the Working Group for the Malaysian EC2-4 (Design of fastenings for use in concrete). He served as an Associate Editor (Civil) for HKIE Transactions, Academic Editor of Shock and Vibration Journal (Wiley), Editorial Board Member (Civil) for Scientific Reports (Springer Nature) and Earthquake Engineering and Resilience (Wiley). More about his research on seismic structural engineering can be found at www.quakeadvice.org.