NUS National University of Singapore | Department of Civil & Environmental Engineering
Faculty of Engineering

You are cordially invited to a Seminar organized by Centre for Advanced Materials and Structures (CAMS) and Department of Civil and Environmental Engineering

First seismic design code for Malaysia: Experience and lesson learnt

By

Dr Daniel Looi

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Date: Tuesday, 25 June 2019
Time: 3:00 pm to 4:00 pm
Venue: EA #06-02
Block EA, 9 Engineering Drive 1,
Singapore 117575
Faculty of Engineering,
National University of Singapore

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Abstract

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. 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 The second theme is to do with the out-of-date EC8 site classification scheme which has not incorporated the natural period of the site as a design parameter.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.

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Speaker Biography

Dr. Daniel Looi is a Lecturer at Swinburne University of Technology (Sarawak campus), Malaysia. He obtained his B.Eng. (Civil) from The University of Malaya and Ph.D. (Structural) from HKU, trained by Dr. Ray KL Su. He specialises in the field of earthquake engineering, with particular interest in the seismic behaviour of RC structures in low-to-moderate seismicity region. He is a key contributor to the development of the National Annex to Eurocode 8 on the seismic design of building structures for Malaysia. His research in concrete structures was recognised by the HKIE Outstanding Paper Award for Young Researcher/Engineer (2015). In his earlier career, Daniel worked as a structural application engineer in a multinational company, specialised in structural analysis and design computation for buildings and plants.

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*****Seats are limited. Please register early. All are welcome and admission is free*****

Location

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