

**Training Mode:  
Virtual**



Approved Duration:  
13/02/25 - 13/02/26

HRD Corp Serial No:  
10001518865

# **VIRTUAL HALF DAY SEMINAR ON “DESIGN AND INNOVATION OF STRUCTURAL FIRE RESISTANCE FOR TUNNEL AND UNDERGROUND STRUCTURE”**

~~19 February 2025~~ Rescheduled to

**23TH APRIL 2025 (WEDNESDAY)**

**8.30AM - 1.30PM**

- ZOOM PLATFORM
- BEM APPROVED CPD: 4.0
- REF NO : IEM25/HQ/040/S (H)

**CLOSING DATE: 18 APRIL 2025**

# PROGRAMME

TIME	PROGRAMME
09:00am – 09:05am	Welcoming Address and Introduction by IEM TUSTD Representative
09:05am – 10:35am	<b>Part 1:</b> Title: “UNDERSTANDING FIRE DAMAGE TO TUNNEL LINING STRUCTURE”  <b>Speaker:</b> <b>Prof. Ts. Dr. Roszilah Hamid , Universiti Kebangsaan Malaysia</b>
10.35am - 11.05am	Q&A Session
11:05am– 11.15am	Break
11:15am– 12:45pm	<b>Part 2:</b> Title: FIRE RESISTANCE MATERIALS FOR TUNNEL LINING STRUCTURES”  <b>Speaker:</b> <b>Ir. Dr. Noor Azim Mohd Radzi, Universiti Kebangsaan Malaysia</b>
12.45pm - 1.15 pm	Q&A Session
1.15pm - 1.20pm	Closing Remarks by IEM TUSTD Representative

“IEM reserves the right to alter or cancel the programme due to unforeseen circumstances at its discretion’.

IEM SHALL NOT be responsible for any direct or consequential losses”.

For further details, kindly contact:

The Institution of Engineers, Malaysia

Bangunan Ingenieur, Lots 60/62, Jalan 52/4, P.O. Box 223 (Jalan Sultan), 46720 Petaling Jaya, Selangor

Tel: 603-7890 0134

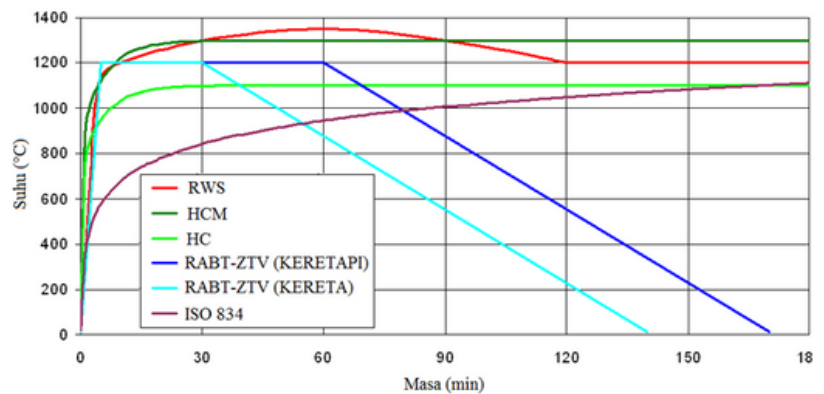
Email : shahrul@iem.org.my / syafiq@iem.org.my

## Part 1: UNDERSTANDING FIRE DAMAGE TO TUNNEL LINING STRUCTURE”

This talk will focus on understanding the effects of fire damage on tunnel lining structures, particularly how high temperatures impact concrete and steel reinforcement. It will explore key issues such as concrete spalling, loss of strength, and the degradation of materials during fire exposure. The talk will also cover methods used to assess fire resistance in tunnel linings, including thermal testing and simulations, to better understand how temperature distribution and moisture content affect the structure’s integrity. This session is designed to provide valuable insights for engineers and professionals working to enhance the fire safety and durability of tunnel infrastructure.



**Fire incident in the Mont Blanc tunnel in 1999**  
Source: Kaundinya 2007



**Temperature-time curve of tunnel fire**  
Source: EFNARC 2006



**Large-scale fire process**  
Source: Ingason et al. 2015



### Speaker 1: Prof. Ts. Dr. Roszilah Hamid

ROSZILAH HAMID, PhD, Professor and Chair at the Department of Civil Engineering, FKAB UKM, and a registered member of the American Concrete Institute (ACI). Her area of expertise is concrete technology and non-destructive testing of concrete structures.



myiem\_official



MyIEM HQ Official - General



www.myiem.org.my



## Part 2: FIRE RESISTANCE MATERIALS FOR TUNNEL LINING STRUCTURES”

The increasing frequency of fires in buildings, factories, tunnels, and chemical and gas facilities highlights the growing need to understand the fire resistance of concrete structures exposed to high temperatures. This talk focuses on the development of new fire-resistant materials, specifically High-Strength Fly Ash and Nano Silica Concrete, designed to withstand temperatures exceeding 1000°C. The session will cover advanced technologies used to assess the performance of these materials, including furnace heating, thermal conductivity testing, and finite element simulations. These new materials offer promising solutions for enhancing the fire resistance and safety of tunnel lining structures, making them more resilient to extreme fire conditions.



**Large scale fire test in SIRIM**  
Source: Radzi 2016



**Burning process: (a) small-scale laboratory and (b) small-scale portable**  
Source: Yan et al. 2013 and Vermeer et al. 2014



### **Speaker 2: Ir. Dr. Noor Azim Mohd Radzi**

NOOR AZIM MOHD RADZI, PhD, Senior Lecturer at the Department of Civil Engineering, Faculty of Engineering and Built Environment (FKAB), Universiti Kebangsaan Malaysia (UKM), and a qualified professional engineer. His area of expertise is pre-stressed concrete structures, post-tensioned concrete structures, and structural fire engineering



# REGISTRATION FORM

HYBRID HALF DAY SEMINAR ON

“DESIGN AND INNOVATION OF STRUCTURAL FIRE RESISTANCE FOR TUNNEL AND UNDERGROUND STRUCTURE”

23 April 2025 (Wednesday) **Closing Date : 18 April 2025**

Email : shahrul@iem.org.my / syafiq@iem.org.my

## REGISTRATION FEE'S (subject to 8% SST)

	<b>ONLINE (NON HRDF Claimable)</b> (Log-in for registration & payment: www.myiem.org.my/member/login.aspx)	<b>NORMAL FEE (HRDF Claimable)</b> (By Email : Payment Method by Invoice & Quotation)
IEM Student Members	<b>50.00</b>	<b>100.00</b>
IEM Graduate Members	<b>90.00</b>	<b>140.00</b>
IEM Corporate Members	<b>150.00</b>	<b>200.00</b>
Non-IEM Members (Non of the Above)	<b>300.00</b>	<b>350.00</b>

NAME	MEMBERSHIP NO. / GRADE	FEES (RM)
Sub Total:		
SST Added 8% :		
Total Amount Payable :		

### **PAYMENT DETAILS :**

☐ Cash RM\_\_\_\_\_

☐ Cheque no.\_\_\_\_\_for the amount of RM\_\_\_\_\_(non-refundable) .

**FULL PAYMENT must be settled before commencement of the course**, otherwise participants will not be allowed to enter the hall. If a place is reserved and the intended participant fails to attend the course, the fee is to be settled in full. If the participant failed to attend the course, the fee paid is non refundable. The Registration Fee includes lecture notes, refreshment and lunch.

For **ONLINE REGISTRATIONS**, please note that payment **MUST** be made **BEFORE the closing date**. If payment is not received within the stipulated time, the registration fee will be reverted to the normal registration fee.

Contact Person: \_\_\_\_\_ Designation: \_\_\_\_\_

Name of Organization: \_\_\_\_\_

Address : \_\_\_\_\_

\_\_\_\_\_

Telephone No. : \_\_\_\_\_(O) \_\_\_\_\_(Fax No.)

\_\_\_\_\_ (H) \_\_\_\_\_(HP)

Email : \_\_\_\_\_

\_\_\_\_\_  
Signature & Stamp

\_\_\_\_\_  
Date