

36TH ANNUAL PROFESSOR CHIN FUNG KEE MEMORIAL LECTURE

RETHINKING URBAN RESILIENCE: The Role of Underground Infrastructure in Future Cities

BEM APPROVED CPD: 2

REF NO: IEM26/HQ/352/L(h)

SPEAKER:

Prof. Jenny Yan Jinxiu

Chief Expert of China Railway Academy Group Co., Ltd.

ITA Past President (2019-2022)

Foreign Fellow of the ASEAN Academy of Engineering and Technology (AAET)

Fellow of Academy of Engineering and Technology of the Developing World (AETDEW)



HYBRID MODE



24 OCTOBER 2026, SATURDAY



10.00AM – 12.00PM



WISMA IEM, PETALING JAYA

Jointly organised by:

The Institution of Engineers, Malaysia (IEM) and
Universiti Malaya Engineering Alumni Association (2017)

ORGANISING CHAIRMAN:

Ir. Yau Chau Fong

ADVISORS:

**Academician Tan Sri Dato Seri Ir. Prof.
Emeritus Dr. Chuah Hean Teik &
Ir. Dr. Chan Sin Fatt**

SYNOPSIS

Future cities are facing growing challenges from climate change, including the increasing frequency and intensity of extreme weather events, high-density urbanisation, ageing infrastructure, limited surface space, and the growing need to plan and use underground space more strategically. While traditional urban resilience has focused mainly on resisting shocks and recovering after disruption, future resilience requires cities to adapt, function, transform and create long-term value under changing conditions.

This lecture rethinks the role of underground infrastructure in future urban resilience. Underground infrastructure is no longer limited to metro systems, transport tunnels, utility corridors, drainage facilities and conventional underground spaces. It is increasingly becoming a strategic urban layer that supports essential city functions, strengthens climate adaptation and emergency response, and creates long-term value through integrated planning, efficient use of urban space and improved public environments.

The lecture develops a framework for understanding the strategic contributions of underground infrastructure to future cities. It discusses five key dimensions: spatial resilience, mobility resilience, water resilience, lifeline resilience, and social and public-space resilience. Through these dimensions, underground infrastructure can help cities move from single-purpose projects to multi-functional systems, from isolated engineering works to integrated urban resilience networks, and from construction-cost-based decision-making to life-cycle value creation.

The lecture also examines the major challenges that must be addressed if underground infrastructure is to realise its full resilience value. These include high upfront investment, fragmented underground space planning, operational complexity, climate uncertainty, governance coordination, and the need for digital asset management. Selected international and Chinese practices will be used as supporting evidence throughout the lecture, not as stand-alone case studies, but to illustrate broader principles and lessons.

The lecture concludes that underground infrastructure should be planned, designed, constructed and operated not merely as hidden infrastructure beneath the city, but as an essential foundation for safer, more adaptive, more sustainable and more liveable future cities.

SPEAKER'S PROFILE

Prof. Jenny Yan Jinxiu is the Chief Expert of China Railway Academy Group Co., Ltd., Past President of the International Tunnelling and Underground Space Association (ITA), and Special Adviser to ITA. She is also a Foreign Fellow of the ASEAN Academy of Engineering and Technology (AAET) and a Fellow of the Academy of Engineering and Technology for the Developing World (AETDEW).

With over 35 years of experience in tunnelling and underground engineering, Prof. Yan has led research teams in addressing complex technical challenges in major railway, highway, metro and undersea tunnel projects. Her work has contributed to many landmark projects in China and abroad, including the 32 km New Guanjiao Railway Tunnel, the 18 km Qinling Railway Tunnel, major metro projects in Beijing, Guangzhou, Qingdao, Chengdu and Shenzhen, and large-scale undersea tunnel projects. She is currently leading research on major highway and undersea tunnel projects, including the Qingdao Jiaozhou Bay Second Undersea Highway Tunnel.

Prof. Yan has been invited to deliver more than 40 keynote lectures and presentations in over 30 countries, sharing international perspectives and China's experience in tunnelling, underground space and infrastructure development. She has received five major awards for innovations in tunnelling. Her recent work focuses on promoting underground infrastructure as a strategic foundation for sustainable, resilient and liveable future cities.



REGISTRATION FEE (ONLINE ATTENDANCE)

Members, IEM	RM 10.00
Members, Universiti Malaya Engineering Alumni Association	RM 10.00
Non Members	RM 25.00

REGISTRATION FEE (PHYSICAL ATTENDANCE)

Members, IEM	RM 20.00
Members, Universiti Malaya Engineering Alumni Association	RM 20.00
Non Members	RM 40.00

IMPORTANT: All registration fees must be FULLY paid before commencement of the Lecture.

REGISTRATION IS COMPULSORY

Registration Deadline: **9th October 2026**

For participants who register for online participation, the Zoom Webinar link will be emailed to you 24 hours before the event.

If you do not receive the Zoom webinar link one day before the event,
please contact it@iem.org.my.