

# **Report on Inaugural Training Course: Sustainable Railway Infrastructure and Its Maintenance, 21-23 November 2024, Wisma IEM, Malaysia**

**By Academician Dato Ir. (Dr) Lee Yee Cheong**  
**Distinguished Honorary Fellow Institution of Engineers Malaysia(IEM)/President,**  
**Academy of Engineering and Technology of the Developing World (AETDEW)/**  
**Honorary Chairman, UNESCO International Science Technology Innovation Centre for**  
**South South Cooperation (ISTIC)/Former President World Federation of Engineering**  
**Organisations (WFEO)**

Organisers:



Supporting Organisers:



# INAUGURAL TRAINING COURSE: SUSTAINABLE RAILWAY INFRASTRUCTURE AND ITS MAINTENANCE

 21 - 23 NOVEMBER 2024

 8.30 AM - 5.00 PM

 CSTD ROOM (2ND FLOOR), WISMA IEM ,  
PETALING JAYA

Trainer from China. Railway Academy Group Co. Ltd. (CRA) , Malaysian Railway Academy, IEM Technical Divisions and Special Interest Groups



## Registration Fee

Registration Fees	<ul style="list-style-type: none"> <li>• Group Discount of 5% will be given for registration of 3 participants and above.</li> <li>• 10% will be given to IEM Members</li> </ul>
RM1,600.00	

\*KINDLY NOTE THAT THE PRICE IS INCLUSIVE OF SST AND TECHNICAL VISIT TO ECRL SITE.

Please register at [iemta@iem.org.my](mailto:iemta@iem.org.my)

Website: <http://iemtasb.weebly.com/inaugural-training-course-sustainable-railway-infrastructure-and-its-maintenance.html>



Call for Registration

\*Please **register early** to get discount

# PROGRAMME

## DAY 1 – 21 NOVEMBER 2024 (THURSDAY)

<b>Time</b>	<b>Details</b>
<b>8.00am – 9.00am</b>	<b>Registration</b>
<b>9.00am – 9.30am</b>	<b>Opening Ceremony</b> <ul style="list-style-type: none"><li>• Welcome by AETDEW representative</li><li>• Welcome by ISTIC representative</li><li>• Welcome by MyRA representative</li><li>• Welcome by China Railway Academy (CRA), General Manager</li><li>• Opening Address by IEM President, Ir Prof. Dr. Jeffrey Chiang Choong Luin</li></ul>
<b>9.30am - 10.00am</b>	<b>Morning Coffee Break</b>
<b>10.00am - 11.30am</b>	<b>Technical Keynote Address</b> <span style="float: right;"><b>Moderator: Dr Jenny Yan</b></span> <ul style="list-style-type: none"><li>• Sustainable Railway Transport by Mr Gu Wenyu, Asian Infrastructure Investment Bank</li></ul>
<b>11.30am – 1.00pm</b>	<b>Technical Keynote Address</b> <span style="float: right;"><b>Moderator: Dr Jenny Yan</b></span> <ul style="list-style-type: none"><li>• Proposal for South-South Institution for Infrastructure Maintenance Malaysia (SSIIMM) by Academician Dato Ir. Lee Yee Cheong (AETDEW President)</li></ul>
<b>1.00pm – 2.00pm</b>	<b>Lunch</b>
<b>2.00pm - 3.30pm</b>	<b>Training Lecture</b> <span style="float: right;"><b>Moderator: Ir Khoo Chee Min</b></span> <ul style="list-style-type: none"><li>• The Inspection and Maintenance Technology for China's Railway Bridges in Operation by Mr Du Linjin (CRA)</li></ul>
<b>3.30pm - 4.00pm</b>	<b>Afternoon Tea Break</b>
<b>4.00pm - 4.30pm</b>	<b>Training Lecture</b> <span style="float: right;"><b>Moderator: Ir Khoo Chee Min</b></span> <ul style="list-style-type: none"><li>• Maintenance Strategies and Innovation Practice for Railway Tunnels in Operations in China by Mr Shi Xianming (CRA)</li></ul>
<b>4.30pm - 5.00pm</b>	<b>Questions and Answers Session</b>
	<b>End of Event</b>

# DAY 2 -22 NOVEMBER 2024(FRIDAY)

Time	Details
8.30am -9.00am	Sign in of Attendance
9.00am -10.30am	Training Lecture <span style="float: right;">Moderator: Ir Ong Sang Woh</span> · Detection of Railway Subgrade Service Conditions and Maintenance Reinforcement Technology by Dr Chen Xiaobin (National Engineering Laboratory for High-Speed Railway Construction)
10.30am -11.00am	Morning Tea Break
11.00am-12.30pm	Training Lecture <span style="float: right;">Moderator: Ir Kok Hee Poh</span> · Klang Valley Double Tracks Project:Railway Rehabilitation Construction Under Live Condition by Y.Bhg Datuk Mohamed Razeek Hussain(KDVT)
12.30pm -2.30pm	Lunch
2.30pm-3.30pm	Training Lecture <span style="float: right;">Moderator: Mr Du Linjin</span> · Railway Monitoring of Track by Ts Mohd Yusoff Muhamed (KTMB)
3.30pm-3.45pm	Afternoon Tea Break
3.45pm-4.30pm	Training Lecture <span style="float: right;">Moderator: Ir Yeoh Jit Shiong</span> · Rail Transport in Malaysia, Past & Present by Ir Ts Alfred Neo Boon Kheng (PDP UTEK, Malaysia)
4.30pm-5.00pm	Questions and Answers Session
5.00pm-5.30pm	Closing Ceremony · Presentation of Certificates by Ir Prof Dr. Jeffrey Chiang Choong Luin, IEM President · Closing Remarks and summing up by Prof. Jenny Yan Jinxiu, CRA
	End of Course

## DAY 3- 23 November 2024 (SATURDAY)

<b>Time</b>	<b>Details</b>
<b>8.00am – 8.30am</b>	<b>Registration</b>
<b>9.00am</b>	<b>Coach departs from Wisma IEM</b>
<b>10.00am - 10.30am</b>	<b>Arrival of IEM members Meeting point ECRL Genting Section 7</b>
<b>10.30am</b>	<b>Brief refreshment coffee and tea</b>
<b>10.30am - 12.00noon</b>	<b>Briefing and presentation by CCCC Safety Briefing Project Introduction by CCCC Technical Presentation and brief Q&amp;A session by CCCC and IEM</b>
<b>12.00noon</b>	<b>Appreciation and summing up by IEM Representative and Token presentation etc</b>
<b>12.00noon - 1.00noon</b>	<b>Halal buffet lunch (by CCCC)</b>
<b>1.00noon</b>	<b>Boarding of Coach and return to Wisma IEM PJ</b>
<b>2.00pm</b>	<b>Arrival at Wisma IEM</b>

**(Note: China Communications Construction Company (M) Sdn Bhd (CCCC))**

# OPENING CEREMONY

INAUGURAL TRAINING COURSE ON  
SUSTAINABLE RAILWAY INFRASTRUCTURE  
21-23 November 2024

Welcome by  
Prof Dr Jenny Yan Jinxiu  
China Railway Academy (CRA)



Organisers: MTA, CRRC, ISTIC, MYRA

Supporting Organisers: AETDEW, IEM



# OPENING CEREMONY



## Opening Address by Ir Prof. Dr. Jeffrey Chiang Choong Luin IEM President



Organisers:

Sporting Organisers:



INAUGURAL TRAINING COURSE ON  
SUSTAINABLE RAILWAY INFRASTRUCTURE  
21-23 November 2024

**OPENING  
CERMONY**



KELUAR

# TECHNICAL KEYNOTE ADDRESS

INAUGURAL TRAINING COURSE ON  
SUSTAINABLE RAILWAY INFRASTRUCTURE

21-23 November 2024

Sustainable Railway Transport by  
Mr Gu Wenyu

Asian Infrastructure Investment Bank  
(Presented by Prof Dr Jenny Yan Jinxiu)



Organisers:

IEMTA  
Training Academy Sdn Bhd



ISTIC  
INTERNATIONAL SCIENCE, TECHNOLOGY AND  
INNOVATION CENTRE FOR SOUTH-SOUTH  
COOPERATION UNDER THE AUSPICES OF UNESCO

MYRA  
Malaysian Railway Academy

Supporting Organisers:

AETDEW

THE ACADEMY OF ENGINEERING AND  
TECHNOLOGY FOR THE DEVELOPING WORLD





ASIAN INFRASTRUCTURE  
INVESTMENT BANK

**Gu Wenyu**

**Investment Operation Specialist –  
Transport  
Asian Infrastructure Investment Bank  
(AIIB)**

**[wenyu.gu@aiib.org](mailto:wenyu.gu@aiib.org)**



# AIIB Investment Operations

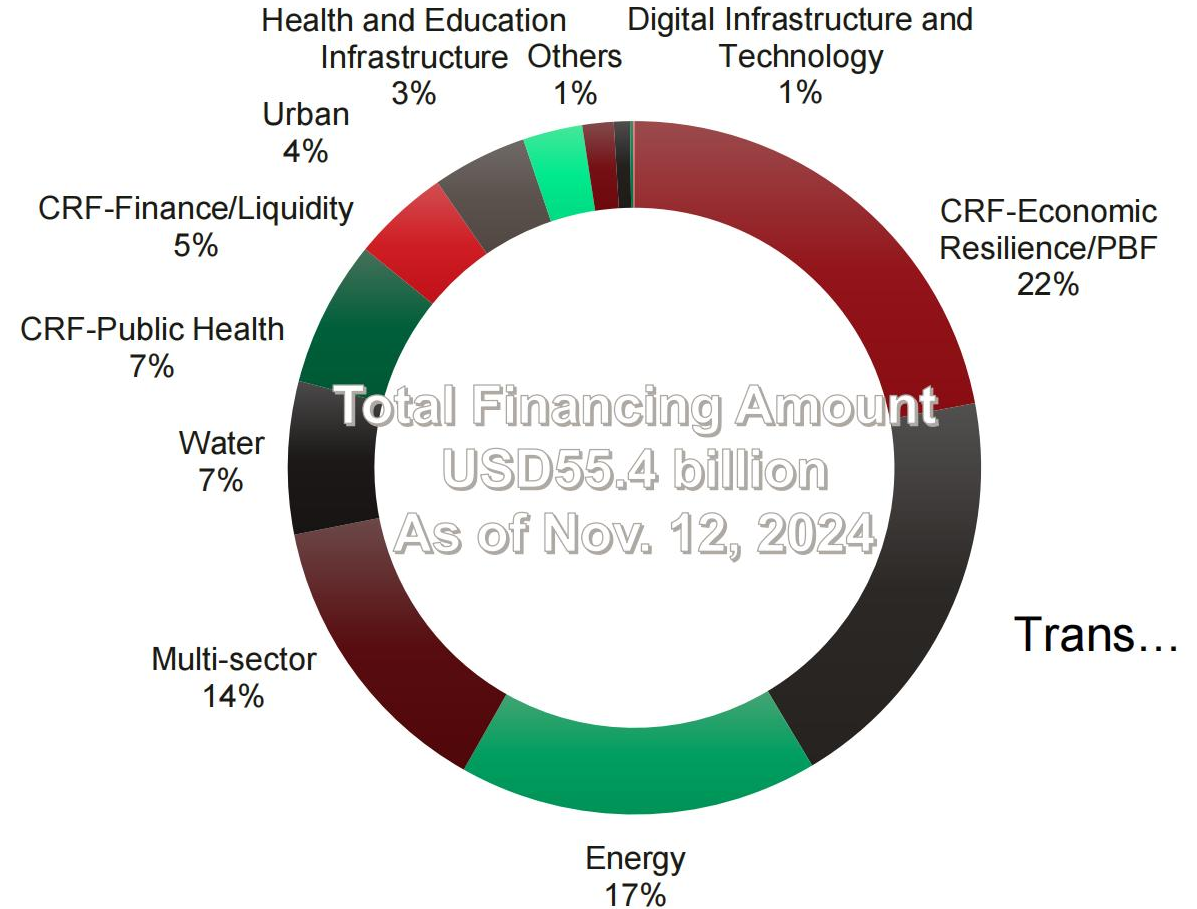
289 Investment Operations Approved — USD55.4 billion as of November 12, 2024

## SBF

- 164 projects in 31 countries
- Financing amount over USD42.2 billion

## NSBF

- 125 projects in 22 countries
- Financing amount around USD13.2 billion
- Including Loan, Fund Investment, Bond, Equity





中铁科学研究院集团有限公司

中国中铁 China Railway Academy Group Co., Ltd.

INAUGURAL TRAINING COURSE: SUSTAINABLE RAILWAY INFRASTRUCTURE AND ITS MAINTENANCE

# ***SUSTAINABLE RAILWAY INFRASTRUCTURE AND ITS MAINTENANCE***

*Jenny YAN Jinxiu*

*ITA Immediate Past President (2022-2025)*

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

**Inaugural Training Course on Sustainable Railway  
Infrastructure and Maintenance**

**TECHNICAL KEYNOTE ADDRESS**

**Proposal for South-South Institute for  
Infrastructure Maintenance Malaysia  
(SSIIMM)**

**by**

**Academician Dato Ir. Lee Yee Cheong  
AETDEW President**



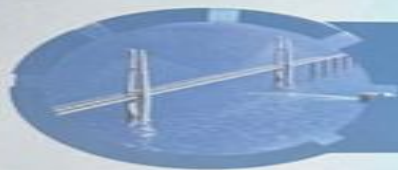


**IEM President Professor Jeffrey Chiang Moderated Q&A Session with the Two Keynote Speakers**





中铁科学研究院集团有限公司  
中国中铁 China Railway Academy Group Co., Ltd.



## Inspection and Maintenance Technology for China's Railway Bridges in Operation

Du Linjin  
Bridge Engineer & Project Manager  
China Railway Academy Group Co., Ltd.



中国中铁

中铁科学研究院集团有限公司  
China Railway Academy Group Co., Ltd.

## 2.1 The Mileage and Distribution of Railway Tunnels in China

By the end of 2023,

Railway operating mileage — 159,000 km

High-speed railway operating mileage — 45,000 km

Railway tunnels — 18,573/23,508 km

High-speed railway tunnels — 4,561/7,735 km



Railway Tunnels in Plateau Areas



Railway Tunnels in Mountainous Areas



Cross-sea Railway Tunnels



# TRAINING LECTURE

**INAUGURAL TRAINING COURSE ON  
SUSTAINABLE RAILWAY INFRASTRUCTURE**

**21-23 November 2024 (Day 2)**

**Detection of Railway Subgrade Service  
Conditions and Maintenance  
Reinforcement Technology by  
Dr Chen Xiaobin  
National Engineering Laboratory for High-  
Speed Railway Construction**



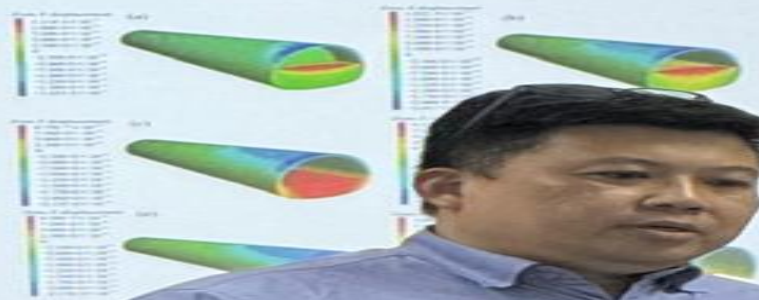
**Organisers:**

**Supporting Organisers:**



Level Defect Assessment Method

Calculation prediction  
analysis  
Comprehensive evaluation



**Professor Tan Chee Fai. IEMTA Executive Director Moderating Training Session**



The Klang Valley Double Tracks Electrified Rehabilitation Project (KVDT)



Do you have any questions?

—Thank You


B-G-28, Block Bougainvillea,  
10 Boulevard, Lebuhraya SPRINT, PJU  
6A, 47400 Petaling Jaya,  
Selangor Darul Ehsan.

[dmiagr.com.my](http://dmiagr.com.my)  
+603 7726 1189






99684002  
54



# Railway Monitoring of Track

Presented by : Ts. Mohd Yusoff bin Mohamed  
Chief Engineer Track Engineering Department  
Keretapi Tanah Melayu Berhad (KTMB)

22 November 2024



© KERETAPI TANAH MELAYU BERHAD

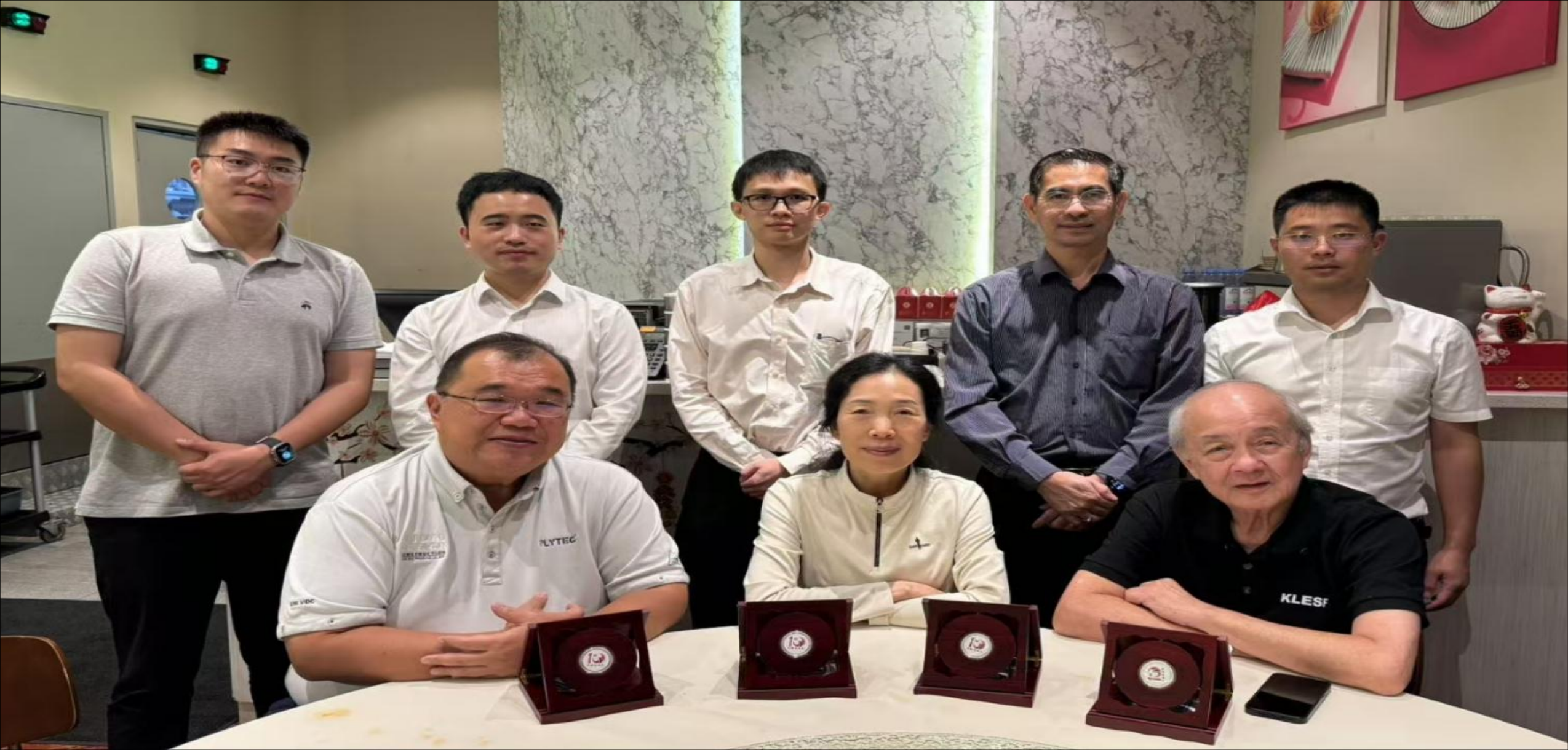




**Professor Jenny Yan Closing the Training Course**



**Group Photo After Closing of Training Course**



**AETDEW Incoming President Choo Kok Beng and AETDEW Secretary General Louis Tay Hosted Dinner for Professor Jenny Yan and Trainers from China after Close of the Training Course**



**Technical Visit to East Coast Rail Link at Genting**

隧道逃生体验  
PENGALAMAN MELARIKAN DIRI DALAM TEROWONG





中国交建

CHINA COMMUNICATIONS CONSTRUCTION



IEMTA

IEM Training Academy Sdn Bhd

TECHNICAL EXCHANGE MEETING BETWEEN CCCC ECRL SECTION 7 AND IEM MALAYSIA  
中交马东铁项目总经理部第七分部与马来西亚工程师协会  
技术交流会



安全在心 事故出于

BAS ERSIA

**This Inaugural Sustainable Railway Infrastructure and Its Maintenance Training Course with Trainers from the China Railway Academy led by Professor Jenny Yan and Malaysian Trainers is the beginning of the realization of my proposal for the South South Institute for Infrastructure Maintenance Malaysia (SSIIMM) 2016 when I was the Chairman of UNESCO International Science, Technology and Innovation Centre for South South Cooperation (ISTIC).**

**Under the Belt and Road Initiative BRI, China has been building major infrastructure projects in developing countries and completing them in five years or so, whilst the host countries have to operate and maintain these very expensive infrastructure assets from 30-50 years. In my opinion, building institutional and human resources capacity in operation and maintenance of infrastructure in South countries is most urgent. So also the provision of adequate annual financing resources for infrastructure operation and maintenance.**

**Infrastructure Projects under BRI are built to Chinese engineering standards, Chinese designs, Chinese manufacture and Chinese construction using AI, robotics and associated advanced digital technologies. SSIIMM cannot operate without partners from infrastructure corporations from China.**

**I am very grateful that Professor Jenny Yan of the China Railway Academy (CRA) has come forward to consider positively to be the China Partner in SSIIMM. Professor Jenny Yan is the former President of the World Tunneling Association and the foremost tunneling expert in China and in the world. I am also indebted to IEM President Professor Jeffrey Chiang and ISTIC Chairman Professor Basyaruddin for their strong support of SSIIMM. SSIIMM can now be seriously considered to be set up under ISTIC and IEM with the support of CRA from China.**

**Why SSIIMM in Malaysia? Many infrastructure projects in Malaysia have been undertaken by the private sector in BOT mode. Project funding is by “Non Recourse Financing” with only the project as collateral . Thus, banks would insist that every infrastructure asset is kept in good repair and maintenance to assure that adequate revenue is generated throughout the project economic life to repay the project loans.**

**Infrastructure Assets and their Operation and Maintenance in Malaysia are up to world standard.**

**Malaysia has the added advantages of being active member of the UN, the Commonwealth, the Organisation of Islamic Cooperation, APEC, ASEAN etc. Malaysia is a multi-ethnic, multi-culture, multi-language, multi-religion nation whose people interact with ease of peoples from all over the world.**

**Malaysia's international relations is anchored on "Prosper Thy Neighbours".**

**By The Way, ISTIC Chairman Professor Basyaruddin (Left) Met Up with WFEO President Mustafa Shebu in St Petersburg Russia mid November 2024. WFEO agree to support ISTIC's Maintenance of Infrastructure Program under SSIIMM. This is a happy coincidence as I first met Professor Jenny Yan in WFEO General Assembly in Prague, October 2023!**

**Outcomes from this very successful Inaugural Training Course on Sustainable Railway Infrastructure and Its Maintenance :**

**The Next Sustainable Railway Infrastructure and Its Maintenance will be held in CRA Head Office, Chengdu China during the first half of 2025**

**IEM/ISTIC propose a high level ASEAN-China Conference on Sustainable Railway and Urban Metro Network Development in Kuala Lumpur, August 2025. Malaysia is ASEAN Chairman 2025**

**CRA will explore the holding of the Railway Infrastructure and Maintenance Training Course in Nigeria in 2025**

**On behalf of IEM, ISTIC and AETDEW, I would like to offer my grateful thanks to (i) Professor Jenny Yan for bringing such a competent team of trainers from China and for getting AIIB interested in the Sustainable Railway Infrastructure and Its Maintenance Training Course; (ii) AETDEW Fellow Goh Peng Ooi for his generous donation enabling IEM Technical Divisions to participate ; and (iii) YTL Power Berhad for sending the largest number of participants to the Training Course.**

**Finally my deepest appreciation to the staff of IEMTA for tirelessly working to assure the success of the Training Course.**

**All the training course lectures are available from:**

**[https://drive.google.com/drive/folders/1uxuq6bjSb2lh57EOzCdKYUVHEL\\_a\\_3D5B?usp=sharing](https://drive.google.com/drive/folders/1uxuq6bjSb2lh57EOzCdKYUVHEL_a_3D5B?usp=sharing)**