



Report on CCES-IEM Joint Southeast Asia Symposium & Exhibitions on the Challenges and Strategic Solutions of High Profile Projects on Tunnels 2018 (SEASET 2018)

by Ir. Dr Ooi Teik Aun

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A symposium and exhibition on “Challenges and Strategic Solutions of High Profile Projects on Tunnels 2018” was jointly organised by The China Civil Engineering Society (CCES) and The Institution of Engineers Malaysia (IEM) from 18th to 19th August 2018. A total of 250 participants attended the symposium and exhibition.

There were in total 18 keynote lectures presented, namely:

1. Hong Kairong – Construction Technologies for Gaoligongshan Tunnel on Dali-Ruili
2. Charles Ng (material presented by Kelly Lim) – Three-dimensional Interaction Mechanisms: Twin Tunnels and Pile Foundation; and Basement Excavation and Existing Tunnel
3. Lin Ming – Key Technology of Island and Tunnel Project of HZMB
4. Chen Debin – Experience on the Construction of Karst and Large Deformation Tunnel in Complex and Dangerous Mountainous Areas in Southwest China
5. Lu Gang – Beijing Zhangjia Kou High-Speed Railway Badaling Underground Station Design Innovation
6. Zhong Changping – Risk Analysis and Countermeasure Study of Shield Tunnelling at Karst Stratum in China
7. Poh Seng Tiok – Design Management of Single Largest Underground Construction Contract in Malaysia – A Client’s Perspective
8. Leslie Pakianathan – Advances in Tunnel and Underground Construction Technology
9. Gus Klados – A Leap in Tunnel Boring Technology; the Variable Density Slurry TBM
10. Ong Chee Wee, Victor – A Review of Interfaces between Railway Infrastructures and Adjacent Developments, Singaporean and Malaysian Perspectives
11. Ng Chew Cheat, David – Challenging Geological Conditions in Kuala Lumpur and Its Impact to Underground Space Developments
12. Ooi Lean Hock – The Challenges of Diaphragm Wall Construction in Complex Geology
13. Boon Chia Weng – Ground Response due to Underground Construction and Impact to 3rd Party Structures
14. Jeyatharan Kumarasamy – Geotechnical Challenges in the Design and Construction of Singapore Land Transport Underground Infrastructure

15. Yan Jinxiu – Technical Challenges of Super-Long Mountainous Tunnels at Great Depth
16. Feng Shouzhong – Multifunctional Energy-Storage and Luminescent Material for Sustainable and Energy-saving Lighting for Tunnels
17. Zhang Zhiguo – How Innovative Engineering Equipment Promotes Underground Space Development
18. Ooi Teik Aun – Challenges and Advances in Tunnelling in Malaysia

The lectures presented consist of challenges in geological conditions, construction processes, designs, site investigations as well as innovations in equipment and tunnel boring machines (TBMs). The symposium allowed both China and Malaysia to better understand the challenges unique to each country, and at the same time provided a platform to exchange solutions to common challenges. The presentations from China showed some difficult rock conditions under high stresses in mountainous regions leading to rock spalling and the need to accommodate fault zones in underground cavern construction. In Malaysia, the geological challenges in deep excavation and tunnelling in the Klang Valley were mainly from the solution channels and cavities in the karstic limestone formation. The variable density slurry TBM was developed to overcome the challenge of slurry loss to solution channels. Common ground conditions in China could also be seen from the examples in Guangzhou and Dalian, where modifications to the TBMs were made to achieve better mining performance. The subjects of impact assessments were also discussed in terms of both authority requirements and design practices in both Malaysia and Singapore. In the symposium, some interesting case histories were also presented as well as both general contractual practices and emerging trends were discussed.

The participants had benefited from the 2-day symposium, as the speakers had presented wide ranges of subjects relevant to the tunnelling industry.



Group Photo taken after the closing Ceremony