

CERAMAH TEKNIK TECHNICAL TALK

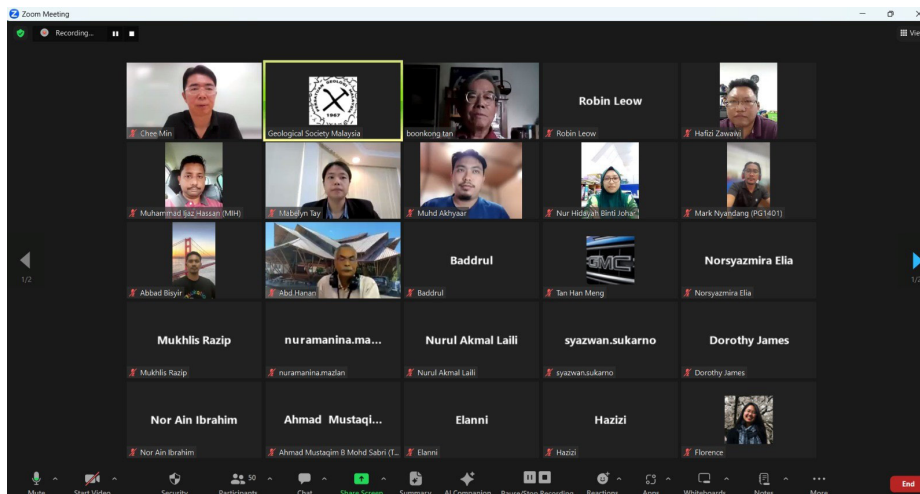
Geotechnical challenges in geologically complex urban underground construction

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Platform: Zoom

The above talk was delivered by Ir Khoo Chee Min (MRTC) on 15th November, 2023 via Zoom. Some 90 members participated. An abstract of the talk is given below:

Abstract: Like all other metro underground stations/tunnels designed as part of the urban city, the Klang Valley Mass Rapid Transit (KVMRT) underground constructions face technical (complex geology, engineering design and construction) and social (environmental and land related) challenges. Needless to say, underground construction in Klang Valley is intensified with the inherent geotechnical challenges presented by complex ground conditions ranging from hard granite, heterogenous Kenny Hill formation and extreme karstic limestone with fully developed weathered profiles to soft recent deposits including alluvium and mine tailing that is under-consolidated in places due to past mining activities. The development of this large-scale underground infrastructure project has not only opened up tremendous works and new frontier for tunnelling and geotechnical engineering in Malaysia, but it also provided a wealth of information of unique geotechnical challenges/accomplishments as well as technological breakthrough and design innovation in underground engineering. The presentation will focus on some of the geotechnical challenges and some interesting learning lessons, as well as numbers of innovations embedded into this highly complex urban underground construction project. The use of the advances in engineering geophysics to highlight the areas of potential ground risks will be described with case studies. The knowledge gained, and lessons learned from the KVMRT Line 1 and Line 2 are being effectively transferred to the design and construction of Line 3 which is expected to have even greater technical challenges.

We thank Sdr Khoo for his support and contribution to the Society's activities.



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