



Pre-AGM Talk on “Dewatering and Control of Groundwater Inflows in Underground Works”, Presented By Ir. Dr Ooi Lean Hock”

by Dr Boon Chia Weng

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A Pre-AGM talk on “Dewatering and Control of Groundwater Inflows in Underground Works” was organised by the Tunnelling and Underground Space Technical Division (TUSTD), The Institution of Engineers Malaysia (IEM) on 27th April 2019 at Dewan Kuliah 2, Block U, Faculty of Engineering, University of Malaya. The talk was held prior to the 19th TUSTD Annual General Meeting (AGM) and was delivered by Ir. Dr. Ooi Lean Hock from Messrs Gamuda Berhad. A total of 71 participants comprising IEM members and university students attended the talk.

Ir. Dr Ooi presented several topics relating to groundwater control, namely:

- The need to distinguish the measurements obtained from water standpipes and piezometers, where the former measures the watertable, whereas the latter measures the excess pore water pressure which could be affected by surcharging or unloading activities.
- Permeability of soils and implications to engineering methods of dewatering.
- Reclamation of existing ponds. The difficulties in machinery movement and impact due to dewatering.
- Localised pumping tests with pumping and observation wells close to the wall/grout curtain to test the lateral hydraulic conductivity of the system.
- Methods to ensure safe excavation in ground conditions with more than one level of aquifers.
- Curtain grouting for deep excavations in karstic limestone, where a rational approach is to carry out a sensitivity check on groundwater draw-down, as against being confined to the fallible assumption that all solution channels are grouted.
- Grouting for TBM intervention and cross passages, to enable safe tunnelling works.

At the end of the talk, a token of appreciation was presented to the speaker and followed with a group photo [Figure 1].



Figure 1: The participants with Ir. Dr Ooi Lean Hock (Front row, 2nd from right) receiving a token of appreciation from Ir. Dr Wang Hong Kok, IEM Vice President